"THE FARMER IS THE FOUNDER OF CIVILIZATION."—WEBSTER.

A MONTHLY NEWSPAPER:

DEVOTED TO

AGRICULTURE AND HORTICULTURE, PRACTICAL ENTOMOLOGY, DOMESTIC ECONOMY AND GENERAL MISCELLANY.

EDITED BY PROF. S. S. RATHVON.

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Nov.-15
EDITORIAL

THE NEW YEAR.

"As Webster says," as "Mrs. Barton says," as the day before was Christmas morning; as "a lady," and we believe its fact. We have at least this consolation, if a thing is a fact practically, it makes little difference who says it. But a fact, held and believed by nobody else believes in it or not. Perhaps there are but few who have missed their aim in life, who would not be willing to admit in this we "believe" was not contem- platively and mainly due to a "faintness of heart;" or, as Dr. Collier puts it, "to a want of "spirit." (Proverbs) "The farmer," says Mr. A. C. Phases, "is a---" ( grab "and "grab);" be all this, however, as it may, what we desire to say is, that casting away all faintness of heart, the FARMER and the FARMER desires to answer to the great roll of the seasons and to the will of the Almighty, and he especially in the present organization of society, must incur some risk—some venture; for even the sharpest can't see much beyond the horizon. And as far as they go, it may exercise a rational judgment; ambition must take counsel of discretion, and leave results to Him who shapes our ends, rough them as he wills them, and preserve his soil, he has no certainty that he is going to realize a crop, not even when he gives it all the cultivation his reason may suggest. And the farmer to-day, as he looks back upon the present year, because the last one may have been a failure. He has faith in the ultimate omnipotence of agriculture, however it may be temporarily thwarted through adverse contingencies. In this respect the farmer is the peer of any other occupation in the land. He has no "ambition," no "ambition," no "ambition;" "shut down," and drive out their employers upon the cold charities of the world, but the farmer continues in the field, day and night, "as a man to hew a spoon or spoil a horn." The farmer is, therefore, not only the founder of civilization, but he is also the "belter of the nation," and it is on account of this responsible status that he needs a literary monument of this civilization. Under the auspices of his sympathy and support, we, with this issue, begin the thirteenth volume of our journal, and we desire, and hope to deserve, as much of that support, morally, intellectually, and pecuni- ously, as it is in our power to give. We are the "man with a spoon or a spoon or a horn." The farmer is, therefore, not only the founder of civilization, but he is also the "belter of the nation," and it is on account of this responsible status that he needs a literary monument of this civilization. Under the auspices of his sympathy and support, we, with this issue, begin the thirteenth volume of our journal, and we desire, and hope to deserve, as much of that support, morally, intellectually, and pecuni- ously, as it is in our power to give. We are the "man with a spoon or a spoon or a horn." We warmly praise them, and we are not only the publisher of this issue, but, in the name of the "man with a spoon or a spoon or a horn," we hereby announce our New Year's compliments, with a hope for many happy returns of it. We ask this all for the present; for the present will become the past, and the past, a lesson. May this year be a happy one for all, and a prosperous and Happy New Year.

ABOUT OUR LATE FAIR.

In nothing over freight and Witmer's address, delivered at the January meeting of the society, and especially his comments on the last fair of the society at the Northern Market House, and also in reading over the "Brief History" of the old county societies, we are reminded of the great labor and anxiety experienced by those who originated and conducted them; in which they expended much time, labor, and expense, physical energies, and never experienced a real success. People forget these things; new generations spring up that know nothing about the old, and are prone to compare our late "failure" with the unrequited efforts of the past, ours sinks into insignificance. We well remember how some of our former leaders and those men who alone carried those exhibitions through. How they went from house to house in the city of Lancaster and in the surrounding districts and impertinent—yes, nor impertinent, but to seek work on their exhibits out to the fair ground and home again at the close, and all at their own expense. Since then agricultural fairs have become common all over the county—many of them successful, but of the labor and ex- pense it cost to make them so we never could know, for that part never was published. Instead of them being sold and their effects were finally seized and sold by the sheriff. A fair, doubtless, might succeed in Lancaster county, as our fair did, and there are ways, and we can feel now convinced, until there is a such a unity than now exists, and until the people themselves become more liberal patrons than they have been heretofore.

HOW TO TREAT FROZEN PEOPLE.

"Somebody who knows what he is talking about writes as follows in the American Agriculturist: "If any part of the body gets frozen the very worst thing to do is to apply heat directly. Keep away from the fire. Use snow if you can get it; if not, use the coldest possible water. Last winter our little boy of five went through an experience of considerable distance from the house. He cried all the way home, and the case seemed pretty bad. I brought a big 'painful' snow and rubbed it into the feet. Out of the snow. But my hands could not stand the cold. I was alarmed to see him keep his feet so long, but they did not freeze, nor did they suffer them out of it. It was half an hour be- fore he would take them out, and then the pain was all gone, and when I had washed them they were quite red, but just as warm and quite comfortable, put on his stockings and shoes and went to play. He never after- ward had any trouble with his feet on account of this freezing. His sister got her feet ex- tremely cold, and put them at once to the fire. Her case at first was not so bad as her brother's, but the result was much worse. Her feet were very swollen, and she suffered from chills. Her toes had a swollen, purple look, and she had to take a larger size of shoes."
and infamed, and itched intolerably. Beef gall ointment was applied, and two applications performed a cure. It was a habit among some fruit-growers to put full or rare beef, to carefully cut out the gall and hang it up for future use. There it would hang for several months, until the liquid portion evaporated, leaving the solid residue and the coagulated mass of the sate of the debris. They believed this was a silver mine, and moderately slender—not much unlike an overgrown "cherry-bug." Now, it is within the pale of possibility that we may ultimately arrive at the second of these mists, and just as we now do the introduction of the "cabbage-worm," the "certain sawfly," and the "apranus-cattle." The Americanan Beetles, however, do not all burrow in the ground and feed on roots. Some feed on much decayed wood, others feed on plant roots, but many beetles—especially Passalus, Pfellina and Melitopel—range from larvae that we have taken decen wood. Therefore, it seems to a number of half-heaps left, the logs of wood remain undisturbed "year in and year out," until it is decayed and becomes the seeding places of these beetles. They always have numerous, and destroys the foliage of the grapes. On one occasion we saw so numerous on a Wild Fox grapevine, in a vicinity of where they bred, that they stripped it entirely of its foliage.

A cording to the "clipping" at the head of this paragraph, we are in the presence of a breed—the Anthogry is destructive to the grain crops of Russia; from which we infer that the larvae destroys the roots, and, perchance, the Passalus, Pfellina, and Melitopel,在那里 the foliage or the bloom, and although it may not be likely that we would import the larvae, yet unnecessarily we might import the mature festivals or its eggs.

ADDITION ET CORREGENDIUM.

We think Warwick, in his communication in "The Lancaster Farmer," has omitted one society that was the immediate forerunner of the present one, of which we think Mr. H. M. Engle was President; Henry B. Wicks, Secretary and Treasurer; President; and Christian H. Lefevre, Secretary, and perhaps Librarian. This society met in a back room, and in an upper room of the Court House during the summer season. It was organized about, or a short time after, the outbreak of the rebellion—in 1860 or 1861—but in consequence of that event it became moribund. It left a library, kept at the office of Mr. Lefevre, and we were one of a committee authorized to make a disposal or distribution of it. It was the Zoological, the Entomological, and Mr. Staufter with that of Botanist.

We regret exceedingly the misunderstanding between Warwick and the management of the Merchants' Bank of this city. That matter is as transparent as glass. No one, if we feel convinced, meant any disrespect or took any action which did grow out of one of those informalities which often disturb the harmony of societies wherever they exist. As societies increase in importance and extend to larger enterprises, they become more complicated in their organization, and hence are under the necessity of adopting certain rules for their government; and unless men are in duty bound to observe those rules as outsiders are, if they have the success of the society at heart. We had previously been members of the Board of Managers, and under the rules of the society all that relates to public exhibitions is under the control of that board. But, owing to circumstances over which we have no control, we were unable to attend the meeting of Wednesday evening, and were not in a position to vote, and thus the society was not able to adopt the rules which we felt exceedingly kind, and still feel so. But we supposed he had complied with the rules, and we felt gratified by the attention and care he had taken to the matter, feeling that all was right. Now, it is both a written and an unwritten rule in all societies that hold exhibitions, where there is a competition for premiums, for exhibitors—managers, or others—that no one may be favorably impressed with the attitude of the society at the office or department of the secretary and his assistants, and any entries otherwise made, of course, can come into the competition. There was no objection made by anyone to the entry, according to the rules, and the matter was set aside.

The judges are usually men who do not covet the office, and hence confine their labors to the entries in the books and not in the exhibitions. If no entry at all is made in the books, no matter how meritorious an exhibit may be—be it one of the first, second, third, or fourth premium, or whether special, a diploma, or honorable mention. The books are then returned to the officers and they carry out the amounts according to the premiums list. If we clearly understand Warwick's statement, he, no doubt with the best intentions, had omitted the matter of the premium, which had been omitted from our book. If the matter would have been brought before him officially, in due form of law, before he could decide upon premium, then he might have been correct. But as he did not, he was in error. If he did not see how often "confusion becomes worse confounded" on such occasions—when every one wants to be served first. Under such circumstances, very little harmony is to be expected, and such omissions may occur, without intentional disrespect to any one.

In regard to the demand of Admission fee, we think Warwick merely for going in to get his baskets to take them home; the act was hardly warranted by the circumstances of the case, because if the clerk had known the doorkeeper did not know that that was his only purpose, or, he might have acted too literally under his instructions as to admissions. We should like to have the clerk misapprehend the import of the rule he quoted. That rule relates to exhibits and not to exhibitors, and if any one was charged a fee for an entrance of his goods, it was clearly against the rule, or was done in a misunderstanding of the rule. As to "exhibitors' tickets," that had been agreed upon by the Board of Managers when their office was opened. This is the usual custom where there are liberal premiums offered, a large number of exhibitors, and high expectations. If anyone at any time, else a person might carry an apple in on a plate, have it entered, draw an exhibitor's ticket, and receive a premium. We were not present when this rule was adopted, but having accepted the position of a manager, we do not hesitate to bear our share of the responsibility. When the clerks are concerned, in order to take the "shortest cut," they make their reports from the entries on the books of the clerks. If an exhibit does not appear, they are not then in their printed reports. We have volunteered these remarks, because we believe the whole thing was coterminous with events that may occur among the best of friends.

Subscribe for the Farmer for 1881.
KIEFFER'S HYBRID PEAR.

"This remarkable pear was raised from the seed of a blight-proof Chinese Sand Pear, supplied to Dr. C. A. Kieffer, at Madison, Wis. Two years ago this pear bloomed for the first time, when it was planted near Philadelphia, 'a model for form, beauty and productiveness.' The fruit averages ten to fifteen ounces, and the flavor, being a more intense, heartier, and productiveness of the tree, with the large size, good quality, fine form and beautiful color of the fruit, makes the Kieffer the most promising introduction into American horticulture. In season October and November, "


The above pear has received the endorsement of the American Gardener's Monthly, the American Agriculturist, the American Farmer, and Edwin Set- terthwait, Esq., than whom none are more competent to express an opinion on the quality and value of the fruit. They describe it as being quite as productive as the old-fashioned varieties, but more vigorous, better bearing, and more productive than the old-fashioned varieties. It is a large, fine-flavored, and good-looking fruit, being improved both in color and size. It is a true hybrid between a Chinese and an American pear. We feel prepared to initiate this pear as being the most promising introduction to American horticulture."

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By the "way passenger," leaving Hanover at 1:10 A.M. on the Philadelphia and York Railroad, you will reach Columbia at 5:15 A.M. and Gettysburg at 12:10 noon. By leaving Philadelphia at 12:20, noon, Columbia at 3:10 P.M. passenger train and leaving Harrisburg at 5:10 P.M. leaving Pittsburgh at 11:45 P.M. at 9:10 P.M.

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ESSAYS.

ANNUAL ADDRESS.*

Fellow members of the Lancaster County Agricultural Society,

In accordance with the requirements of the by-laws of the society and in conformity with the time-honored custom of my predecessors, present the report of this year.

The year which has just closed has been one long to be remembered by the agriculturist and horticulturist of our country. They have made us feel and see to what extent we can produce enough to supply the world.

The year just closed has been the first full year of the society under its charter. I fear that I am not excessively sanguine. The principal reason for obtaining the charter was to enable us to hold a fair more successfully. Last year our fair was a success financially, and this year, although the exhibition was better in most respects, was a failure financially.

The exact cause of our failure may never be exactly known to us, but our very apparent cause was the late political campaign, the warmth of the recollection of many a political issue.

It may have been that the management was too dif, but I truly believe they all did all they conscientiously could do. The most of the days of our fair were lost, and the time we had possession of the building entirely too short. Since our fair closed I wanted a long talk with one of the managers on the subject of the one in the neighboring county, and the amount of work required to bring it to a successful termination was staggering.

Whether we can have a successful fair or not remains to be seen, but I am fully satisfied that we cannot unless we can get the business men of Eastern Pennsylvania to support us, and then we must go into the open grand, must confess that the farmers of the county did not give us the support and assistance at either of our fairs last year.

For my part I am opposed to holding any more fairs, unless it be on a very small scale, of cereals, fruits, vegetables and flowers. I think that the fairs generally have too much labor for the benefits received, and, secondly, I think our society was in a much more flourishing condition when we did not have the fairs at all—at least our meetings were much better attended.

And I have frequently noticed that as we commence talking about the fair our feelings are different from what they are when we say, let us have no fairs, but let us get down to good solid work and try to make

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*Read before the Lancaster County Agricultural and Horticultural Society by President Joseph F. Waterman on Monday, January 3rd, 1861.

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the Lancaster County Agricultural and Horticultural Society one of the best and most practical societies. I wish to make our meetings more interesting, and induce our friends and neighbors to meet with us at them. I wish to arrive at the benefit of the profession, not to induce them to believe, that I do not wish to dispense with anything that has been done by this society, for I know the reports of our meetings are read by a great many members and, I presume, by many of the readers of these essays read before this society are republished in the most advanced agricultural papers in the country.

"Agricultural interest is assuming a much greater importance than heretofore. It was formerly supposed that any one who was not interested in the things of this world would not do, but the time has come when the members of the best minds in the country are given the calling, and, as in all other branches of business, it is seen that there is a place for us, where we can do good service, and where we can do good work, and where we can do good service.

We cannot produce enough to supply the world; but the difference in value at maturity is very much in favor of the grade.

To keep cattle profitable on land as valuable as Lancaster county farms are we may soon have to resort to some other method than pasturing them during the summer. Some one has said that we cannot raise a grade Jersey or Shorthorn that is not worth raising, and I believe this, and an article must be required which we cannot produce.

I think it would be well for us to turn our attention a little more towards producing such articles as will not bear transportation, and to take the specific things which we can do and supply ourselves. Such articles as the raising of seed, the growing of small fruits in the near future be sources of profit. By the establishment of creameries in different parts of our country we can make the article of butter manufacture of more uniform quality, and which will sell much more readily at a higher price than the one that is made here, which I think we nearly all neglect, is recreation. We are such a thorough-going, go-ahead sort of people that we scarcely know what to do with our time, and the growing of small fruits in the near future be sources of profit. By the establishment of creameries in different parts of our country we can make the article of butter manufacture of more uniform quality, and which will sell much more readily at a higher price than the one that is made here, which I think we nearly all neglect, is recreation.

In conclusion, I desire to express my thanks to the Lancaster County Agricultural and Horticultural Society for the uniform courtesy and kindness with which I have been treated ever since I came amongst you, and I hope that the uniform good feeling which has existed amongst us may continue until life closes.
 Contributions.

For THE LANCASTER Farmer.

A BRIEF HISTORY OF THE AGRICULTURAL SOCIETIES OF LANCASTER COUNTY.

A society was organized about 1850 (the first to my recollection) of which the Hon. John Strojan was President, and his co-managers Benjamin Herr, Abraham Peters, L. S. Reist, John Miller, J. HERSHEY and J. HARTMAN HERSHEY. Several other Agricultural exhibitions were organized. The main object of this society was to hold a fair, proper place, giving the county society a certain interest therein, and from the proceeds of this exhibition the county society was to be the receipt of all expenses, and to make a more liberal and energetic effort.

The first exhibition, however, seems not to have been successful, although the management did not discredit the "World's Fair," and a fair premium list, by thousands. On looking over the premium list for this year, one feature is prominent, the competition is open to all, except when otherwise provided for. No charges will be made for selling and entering articles for competition, and in the case of an entrance fee was charged, and also a charge was made for exhibitors' tickets. I had spent some days before the fair in gathering and arranging my express, to the extent of 300 articles, and also two bushels of apples, comprising upwards of fifty varieties. These I brought in on Tuesday morning, with my own labels attached, for an exhibition. I went then to Mr. S. S. Rathvon and told him that he was to have my entire exhibition, except one or two varieties, and in exchange for them I proposed to allow him to draw also to the benefit of the LANCASTER FARMER. As I did not expect to be absent from the fair, I went right from his place to the LANCASTER FARMER. As I did not expect to be absent from the fair, I went right from his place to the Northern Market House to get my baskets, when I was refused admission without paying, to which I demurred, and went home to find out that there was no exhibition, my collection receiving no notice whatever, not even from the reporters. Still, hoping future success to the society, I am—Warwick.

For THE LANCASTER Farmer.

HOTCH-POTCH.

I always see some new recipes in the LANCASTER Farmer for cooking, baking, stewing, &c., but there is one article that I feel very fond of that I have never seen mentioned in this paper. It is simply a potted stomach of a pig filled with meat and potatoes. Cut a slit in the stomach about four inches long, across the natural aperture, and after having put in some potatoes and meat, the slit to an inch from the inner skin off, and when it is thoroughly cleaned fill it with meat and potatoes—about two parts of potatoes and one part of meat, according to taste. The stomach could not be taken if desired. The meat should be cut into small pieces, from half an inch to an inch square, and the potatoes should be sliced. Very good—next to turkey. —G., Warwick, Jan., 1881.

That's so," and we thank G., for this revival of a good old dish, that somehow in the minds of so many our children have been forgotten. We were gotten up without premium lists or posters, and only ordinary newspaper advertisement; but the members themselves verbally advertised the fair, and the subscription was $100, which was collected on the fair ground itself. "Well, I had forgotten all about it, but I will now go and see it." The whole object of the society was a spectacular display, and the question of financial success was only a secondary matter, if it was considered at all. But a new departure was made in connection with the custom of other societies all over the country, and under all the circumstances liberal premiums were offered. This, of course, involved a greater responsibility than the former exhibitions, and not everyone felt inclined. Some persons felt that the society, up to its last exhibition, realized sufficient to cover all its expenses, and this, if a "success," was at least not a failure, and was encouraged to make a more liberal and energetic effort.

The second exhibition, however, seems to have been successful, although the management also did not discredit the "World's Fair," and a fair premium list, by thousands. On looking over the premium list for this year, one feature is prominent, the competition is open to all, except when otherwise provided for. No charges will be made for selling and entering articles for competition, and in the case of an entrance fee was charged, and also a charge was made for exhibitors' tickets. I had spent some days before the fair in gathering and arranging my express, to the extent of 300 articles, and also two bushels of apples, comprising upwards of fifty varieties. These I brought in on Tuesday morning, with my own labels attached, for an exhibition. I went then to Mr. S. S. Rathvon and told him that he was to have my entire exhibition, except one or two varieties, and in exchange for them I proposed to allow him to draw also to the benefit of the LANCASTER FARMER. As I did not expect to be absent from the fair, I went right from his place to the Northern Market House to get my baskets, when I was refused admission without paying, to which I demurred, and went home to find out that there was no exhibition, my collection receiving no notice whatever, not even from the reporters. Still, hoping future success to the society, I am—Warwick.

For THE LANCASTER Farmer.

JAPAN PERSIMMONS.

Mr. Editor: Only a few years since there was much interest felt in the above fruit. Many statements were published in the papers of the great desirability of introducing and cultivating this fruit in this country. It is called a persimmon fruit in Japan, and afterwards in California, all of whom declared it a most valuable and delicious fruit. The result, of course, was that many trees were introduced and sold at high prices; but unfortunately it was soon found that the trees were too tender to withstand the winter weather, and so far as we know disappointment was the result in the Middle States, at least in many instances.

In Jan., Commissioner of Agriculture, at Washington, imported many trees, and he informs us that some varieties have been killed on the experimental ground, while others have been left, though at least, remaining green and sound to the top shoots. It thus appears that some of the varieties are more hardy than others. It is very probable that the trees from the more northerly localities of Japan might withstand the climate of our Middle States, especially if planted on high ground. Further trials should be given, as many varieties may yet be found to suit our variable climate.

Some years ago, I received four small plants from Hon. THOS. HOGS, of Brooklyn, New York. He had brought them with him from Japan, and had planted some on his own place, and a few others as far as to get his trees to bear. Thinking if the trees were hardy there, they would, of course, be hardy here; so I planted my trees in a sheltered place, near our house, which is extra cold, and my little trees froze down, and I afterwards found that Mr. HOGS' trees were also killed. However, two of my plants appeared to be growing from the top, and were later planted in pots; one died; the other I still have growing in a nine-inch pot. In the winter I simply place the pot in the cellar; as there are habitations, it is not always the way in an ordinary cellar, where they keep in a fine, healthy condition. The ground in the pot of the former tree was good as a rock, the plant was not injured in the least.

This last season my plant ripened four persimmons in an orange, measuring 7 by 7 in circumference; and as to quality of the fruit, I can fully confirm all that has been said in praise of the deliciousness of this new fruit. If it is not quite as large as the Chinese persimmons, they might well be "eaten with a spoon," as some had said. Even before fully ripe, they have none of that astringency of our native persimmons.

If we cannot grow this new fruit out of doors, we certainly can grow them in tubs or boxes quite as easily as orange trees, and during the winter place them in the cellar out of the way.

Still, I hope some varieties will be found as hardy as the above, and that we shall continue to grow them so that they can be grown in the open air, the same as our other fruit trees. This delicious fruit is certainly worthy of a place in our fruit gardens.

G. G., Washington, D.C.

For THE LANCASTER Farmer.

A FOOT-WARMER.

In such cold weather as we have had this winter it is the practice of some people, when they go away from home, to take hot bricks and wrap them in a substance of carpet, or
something of that kind, and lay them on the bed or in the carriages to keep their feet warm. Now, I have something else much better, and that is a tin can, 15 or 16 inches long, 12 inches wide, and 5 inches across, the top and bottom of which were first rounded with the edges rounded a little on the sides, but the ends square. Of course the reader will understand why I have these very peculiarly shaped vessels, and I will tell him. When I go to market I fill it with boiling water, and wrap a piece of carpet around it, two or three times. Then I lay it in front of the stove, or place it in the market box to stand 3 and 4 o'clock in the morning, and when I get home again, about 12 o'clock, the water is still warm enough to wash the hands, The pores of the foot are not only not burned at the toes, but the soles, is more comfortable than where they rest on a level surface. — F. G. Warwick, Jan. 1881.

Selections.

TWO REMARKABLE APPLES.

About twelve years ago I became acquainted with a young seedling apple which promised to be an acquisition to the apple family. I am not sure to what district the tree came, but I am sure that every grower who is interested in the apple, should examine this tree. In the grafting business, I began to propagate the variety as rapidly as possible; and now, after twelve years’ experience, I can truly say it has proved an acquisition. I have called this apple the “Yoke Apple,” by which name it is known in these parts. The history of the apple is as follows: About the year 1800 and 1802 a young seedling apple tree on the farm of Benjamin Yoke, of Paradise, Jefferson county, Pa., was grafted in the top prior to its having borne fruit. This was done to the natural branches, through neglect or otherwise, permitted to remain till they bore fruit, which proved much superior to the grafts on the same tree. The locality was known as the world the “Yoke Apple.” It is in season from the first of September to the middle of October. It is a large, round, sub-acid apple, and in color very much similar to the fall rambo. I have had forty years’ experience in the grafting business; have become acquainted with and grafted almost the whole of my orchards, and have brought the country from far and near, from more than a dozen nurseries for forty to twenty-five years, and will say that in my opinion, and for all practical dry purposes, stands at the head; and is also very good when fully ripe for eating, and all the above should not be overlooked for drying. About the 8th of October last I bought a bushel, which I gathered from trees which I had grafted about six or seven years before, and which was as ready for table use as any that would lay in and on each half bushel. A portion of these I took to the Punxsutawney fair, where they were as much or more admired, and the localities of our large collection of varieties there exhibited. It is without exception one of the best and most regular bearers that I ever knew among apples. It bears early, and has been in my possession of eight pieces to dry, and when dry is of a rich, whitish-yellow color. This apple has but one drawback, or fault. When the grafts are young and growing very thrifty, or when the tree stands in damp very rich ground, they are somewhat disposed to rot, but when grown on high, dry chancy ground, suitable for

OLEOMARGARINE.

Fully 100,000 pounds of oleomargarine are weekly produced at the works on the grounds at the West Philadelphia abattoir. This is at the rate in round figures of 5,000,000 pounds per annum, or an output of 1,500,000 pounds was sufficient to meet the demand. Now the call is in excess of the supply. The oleomargarine is guaranteed to sell at 15 cents a pound for a week if a sufficient supply of necessary materials were forthcoming. From 25,000 to 30,000 pounds of beef fat, 1,500 quarters of milk, and 10,000 pounds of butter are daily consumed in the works in the manufacture of artificial butter. Two-thirds of the entire output of oleomargarine manufactured in the United Kingdom, France, London, Liverpool and Glasgow are the principal markets. A few consignments have been sent to Italy, China, and even to Calcutta. This article would be quite valuable to the American article. A good trade is growing up with South America, and large shipments are made to Rio de Janeiro, Paro, and Perpamewo. Some of the West India Islands are also customers. In this country the bulk of the supply is taken by New Orleans, and most of the oleomargarine is made to New York and Boston. Only a small percentage of the entire production is put upon the Philadelphia market. The Iowans, who are large producers of oleomargarine, do not get the manufactured product in a complete state. Instead, they take the oil before it is churned and do all the processing at home. The new crop was shipped in tiershing holding 350 pounds, and by this method thrifty Iowans have sold the profit on the salt, milk and other ingredients which enter into the complete process.

ROBBING THE SOIL.

The following is taken from the London Farmer: "After all, the soil is the most fertile leg of nature. American farming has taken the best out of the New lands of half the continent. What wonder that we are flooded with American grain? But when little new land shall remain for the seeding of grain, and where once productive acres on old land shall show a steady diminution, who will wonder then if the United States should find their agricultural export permanently reduced to be also an insult to agriculture to dignify this process with the title of farming. This has been but an operation of sowing the wheat or planting the corn and then reap- ing the harvest. The English farmer has been how to get rid of the refuse. The operation of simply plowing it under the soil was too laborious, and it was found that the stereotype stuff was wanted. Fifty years ago this process was in vogue even in New England, and when one plan of ground was exhausted of its fertility, and the land was abandoned to other uses; another piece submitted to a similar exhausting system; but this was not farming; it was not agriculture; it required no brains, no thought. Agriculture means cultivation of the land. Cultivation implies the improvement of the soil, not exhausting it. In these days it is not a question how to fertilize this field or the other, but how to keep this old land productive. The man who was found too poor to produce the crop required it was abandoned for another that would produce it. Now the question is: How shall we be able to fertilize it so that its fertility shall be increased in place of being decreased? Then one crop was obtained perhaps every two years. We want to understand how to obtain two or three crops in one season. Then any novice could examint the sol, and it is no wonder that be who laid claim to the title of farmer.
was looked down upon and considered an ignorant laborer. But this is not the farmer of to-day. Our farmer must know how the land is exhausted by the crop, and how to re- store them; how to cultivate the land to increase resources of his farm so as not to exhaust it, and yet obtain a living from it.

And now let us consider the difference between the farmer of the East and the one of the West. By the system pursued in the West the rich land is becoming every season poorer, while in the East the lands are becoming richer every year, and the farmer himself is becoming better cultured year by year; the more he cultivates the land the more he becomes acquainted with the laws which govern the waste and supply of the soil, the requirements of the plant, the wants of his cattle and how to render them more capable of administering to his wants, and so becomes more capable of understanding his own social, moral and physical nature; in other words, the more of a farmer he becomes the more of a man he is.—American Cultivator.

WELL-WATER.

Wells in these parts have often been low, but never before have they been so low as nearly all of the most of the past summer and autumn. Many were looking anxiously for rain, so that the springs might rise again. But local rains have occurred, and the wells have been dug. It may be seen by anyone who has anything to do with digging the ground. It makes no difference how dry or how wet may be the soil, this sort of digging will soon dig a few feet we find the ground dry. No rain penetrates to any great depth after the springs have ceased before the regular autumn-saemers commence. Sometimes we have rain several days in the week, and considerable of it at a time, yet, after all this, perhaps not a dozen wells have been dug to as a depth as six inches from the surface. In fact, the earth has as much as it can do in any season to meet the demands on it from the vegetation growing on or near the surface; the ground dries from the heat there is a continual flow from the lower portions to supply the waste, just as water in a saucer will flow to the top of a saucer. It would be better wetter, but drier than the sponge in it. Thus the substratum in a dry season is often drier than the earth loosened by cultivation on the sponge.

The water which feeds springs and wells does not come from local rains, except they are very shallow, but often hundreds of miles away. In digging they come into rocky faces of mountains, and the rains and melting snows—sometimes many feet in depth. In fact, a mystery how many, but not absorb water as earth does. Collected in this way, the water sinks deep into the earth in the fissures, following the strata to long distances and appearing only when the rocky veins crop up near the surface. Those, therefore, who are looking for deep water in their wells and high water in their springs, have only to look for the source to the rocks. The local showers—serve our crops, nothing more—after summer weather once sets in.—German Telegraph.

EGGS AS FOOD.

Eggs are an article of cheap and nutritious food which we do not find on farmers' tables in the quantity economy demand. They are very cheap food and yet constitute the disposition which too many farmers make of them. They probably do not fully comprehend how valuable eggs are as food; that, like corn, they contain everything necessary for the development of a perfect animal, as is manifested from the fact that a chick is formed from it. What eggs lack in bones, feathers and everything that a chick requires for its perfect development are made from the yolk and white of an egg; but such a fact, and it shows how complete a food an egg is. It is also easily digested, if not damaged in cooking. A raw or soft boiled egg is always as easy assimilated as is milk, and can be eaten with impunity by children and invalids. A dozen eggs cost but little, and yield a thousand grains, and is worth more as food than so much beefsteak. Indeed, there is no one article that can be so immediately, so cheaply, and so efficiently for a man, and good enough for a king. An ordinary hen’s egg weighs from one and a half to two ounces, a duck’s egg from two to three ounces, and the egg of the goose from four to six ounces. The solid matter and the oil in the duck’s egg exceeds those in a hen’s egg by about one-fourth. According to Dr. Edward Smith, in his treatise on “Foodstuffs,” an egg weighing an ounce has about two-thirds of its weight in water dined and twenty; grains of carbon and eighteen and three-quarter grains of nitrogen, or 15.25 per cent, of carbon and 2 per cent of nitrogen. The egg is a perfect food for sustaining the active forces of the body, is to the value of one pound of lean beef as 1,364 to 900. As a flesh producer, one pound of eggs is about equal to one pound of beef.

A hen may be calculated to consume one bushel of corn yearly, and to lay ten dozen or fifteen dozen eggs. It is not probable that the farmer, in the present state of agriculture, saying that three and one-tenth pounds of corn will produce, the eggs from the hen, five and one-tenth pounds of pork requires about five pounds of corn for its production. When eggs are one shilling per dozen and pork five shillings per pound, it is evident that the farmer should have a sufficient supply of eggs to finish the leather. In harness care should be taken to all straps to hang their full length; bridles, pads, gags, saddles and other harness should be well ventilated, and when possible they should be well lighted. To clean plaited mountings use a brush with a little trip oil or soap, to keep them soft, and use dog's fur on little as possible. Rubber covered goods are cleansed in the same way. Leather covered needs to be washed, and rubber with a brush. If a harness is thoroughly cleansed twice a year, and when unduly exposed treated as we have recommended, the leather will retain its softness and be velveteen for many years.—Harren Journal.

WHITE VEINS IN TOBACCO.

A correspondent, writing to the American Cultivator, remarks: Among the many evils which afflict the tobacco crop, white veins are generally considered the most objectionable. It makes an unattractive wrapper causing the cigarmaker to reject it even if satisfactory in other respects. A leaf that cures with white veins is generally defective in other respects. It is often thick, leathery and greasy, burning badly. In short, for a cigar leaf it is worthless, and every tobacco grower should be careful to guard against its occurrence.

What produces white veins is a question often asked, but seldom, I think, correctly answered. Having investigated the subject for many years, I am disposed to the following conclusion: White veins are not the result of any peculiar conditions in the curing process. There are many parts of the plant that a dry cure will produce white veins, and this was probably the basis of the opinion, held by many packers, that the 1880 crop was the worst ever made. The 1880s have had a comparatively dry season for cur-

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ing it. But the 1880 crop has fewer white veils than any that has been raised in the valley for many years. There are growers who never have white veils in their crops, no matter how carefully they cultivate their mangoes, but those possessing white veils are caused by an imperfect growth of the plant and an immature leaf. The causes of these imperfections are many. A lack of proper fertilization is the cardinal point of all these evils. Late setting, high toping, and careless cultivation will almost certainly result in white veils, or in fact any one of the causes given will likely produce this unfavorable result. The growers should use fertilizers that contain all the elements of nitrates food required by the bath fruit, and take care to follow the right proportions and in such forms that they can be readily taken up by the plants. Set plants early, say not later than the middle of June, cultivate carefully, top low, keep the suckers off and allow the crop to get ripe before cutting. White veils will then be fewer of the fruit.

The reasons why the 1880 crop is generally so free from white veils are that it has had a more intelligent cultivation than those of former years, and also that the weather this season was remarkably fine one for growing tobacco. In short, most of the crop was well ripened.

MINNESOTA FLOUR.

Wheat is cracked and mashed at Minneapolis and not ground into flour. Burr stones are things of the past and Hungarian stone rollers have taken their place. The rollers are arranged in a row one behind another in a circular diameter. It takes five sets of steel rollers to finish the flour. Each set of rollers run closer than the preceding. After the wheat passes through the four sets of rollers it is sifted or strung coarse. Cloth this lets the disintegrated particles of wheat through, and passes off the bulky and larger pieces, which are run through again and again. The last rollers have little else but wheat hulls and waxy gerns of the wheat, which do not crack up, but mash down like a piece of wax. The germ of a kernel of wheat is not good food. It makes flour black. By the old millstone process this waxy germ was ground up with the wheat and mixed with the flour. By the new system of cracking the kernel instead of grinding it, this germ is not ground, but flattened out, and sifted or strung coarse. Portions of the wheat are crushed into powdered wheat or flour.

OUR EXPORTS.

The annual report of Joseph Nimmo, Jr., Chief of the Bureau of Statistics, on the foreign commerce of the United States, says: "The five leading articles of export during the years 1883 to 1885 inclusive are: (1) Wheat and breads and breads; $288,036,835; cotton manufactured, $211,535,903; provisions, $127,043,243; mineral oils, $36,281,623; tobacco, $13,700,000.

The United States," he says, "already surpasses every other country in magnitude of its exports, both of breadstuffs and provisions."

The report claims that the market for American breadstuffs and provisions in foreign countries is enormous, and representing tables showing the percentage of the various commodities imported into Great Britain and Ireland, the report deals with the market for our breadstuffs. The tables proceed to show that the building of ships and banks employed in our foreign commerce fell from an annual average of 23 million dollars during the ten years from 1851 to 1860 to an annual average of 55 from the year 1871 to 1880. During the year ended June 30, 1880, there were only 29 ships and banks built. The report continues: "The total tonnage of the United States employed in foreign trade fell from 2,579,306 tons in 1860 to 1,314,492 tons during the year ended June 30, 1880. During the year ended June 30, 1880, the total number of vessels of American and foreign vessels (imports and exports) amounted to the sum of $1,589,472,093, of which the value transported in American and foreign vessels amounted to $1,396,466,496, or 17.6 per cent., and the value transported in foreign vessels amounted to $1,396,466,496, or about 83 per cent.

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refuses to wield, or what is much more likely does not know how to wield these harvest instruments of a former age. Improved machinery has revolutionized almost every operation in tobacco farming. In fact, the swift sounding thud was once heard as thump after thump it went down upon the full sheaves of grain, or the slow measured tread of many, that toiled over the rows of the crops of grain entire, and cost the farmer a winter's work to prepare the grain for market. Today, when the harvester-machine that does not take off the stalks but only the whole grain, makes the wheat entirely ready for the miller, and all at one operation. Even the horse has been consigned to the country for the off grain by the potent agency of steam that has been so harnessed as to be innocuous to to combustibles usually stored in barns.

The old method is, as the husbandman now cuts the harvest and stores the several crops of the year, the improved drills that now seed whole fields with accuracy and speed surging him business and most entirely, leaves the farmer more leisure than he has ever enjoyed before. But it is with the farmer as with the printer: or any other mechanical, more outlay of capital is needed than ever before to carry on a business successfully. Machinery costs in the first place; and the labor that is saved is then paid to operatives in all departments of human industry than was formerly the rule. Contrary to what it may seem that the invention and introduction of so much labor-saving ma- chinery has had the effect to enhance the wages of labor, yet I believe it is a problem in the political economy of this age that can be solved.

There is probably as much labor-saving ma- chinery in the United States as in all the civilized world together. The American farmers, rich in agricultural implements of a labor-saving character than are the most advanced nations of the old world. The new labor-saving machinery is accom- plished than by the unaided manual, and yet this very fact is potential in stimulating to greater effort. We strive after other goods in this country, but we seem to have a more dense length of the building, and at one end the to- bacco is placed, after being brought from the field in a large cart, and when it is damp enough to handle. It is then carried to the foreman, who weighs it and records the weight in a book kept for that purpose. The tobacco is then piled and put upon a long table, at which sixteen men are at work assorting the leaves into piles of uniform length. The leaves are then put into boxes of eight or ten leaves—no leaf in a ‘hand’ being half an inch longer than another. After being put into hands the to- bacco is carried to the foreman, who carefully counts out the leaves to a certain number, and he then sizes them, being careful to put each lot in the proper bin, so that when the bins are filled the leaves can be done expeditiously. After the assorting is all done the casing commences.

Exercising the same care in packing as in assorting, each case is filled with tobacco of the same size and quality, so that when a buyer comes to examine the crop one “hand” will show the contents of the entire case. The cellar in which the tobacco is kept is heated by a large stove and is as comfortable as any dwelling house.

Col. Duffey has done more to provide the town with the most complete and remunerative stable of machinery than any other man in the county. Not content with the tobacco as raised twenty-five years ago, he has experi- mented with new kinds of tobacco, and has secured the best he has ever grown. The leaves of this year’s crop have not the coarse texture, but the former covering that most of the tobacco has latherto had, being very fine and soft to the touch as a piece of silk.

One great saving which the Colonel has made is the cutting of the tobacco. It is the matter of scaffolding. Heretofore he had scaffolding erected in the field, on which the tobacco was hung after being spread on the ground and allowed to dry. After that all hanging at all. After being spread the leaves are immediately hung upon the wagon and hauled into the shed, and thus a great deal of time and labor is saved.

The proper hanging of tobacco in the shed is one of the most important points in the curing. This tobacco, which Col. Duffey is now assorting, was hung eight inches apart from the row to a lady it shows any sign of burning. It is poor economy to crowd your tobacco into a small house, as it will always burn, as the air cannot properly circulate.

The crop of Col. Duffey’s “Haines” farm is all assorted, and the average weight per acre reaches eighteen hundred pounds. This indi- cates that the tobacco is improved, and it needs any other large patch in the county. There were twenty-two acres in the patch.

The result of this is that all our farmers were to follow the lead of Col. Duffey, and that the rate of the growth of the weed, from the selection of the seed to the curing and packing of the tobacco, is much better than double the amount it does for its tobacco crop. Whatever is worth doing at all is worth doing right. Maretka Register.

FRESH SHAD ALL THE TIME.

A new enterprise has recently been organized, with headquarters in Philadelphia, under the name of the Fresh Shad Fish Preserving Company, with a paid-up capital of $200,000. The officers of the company are: President, Jacob J. Hilscher; Treasurer and Secretary, M. W. D. Davis; Directors, W. G. Rupert, D. W. Davis, W. J. Turner and J. S. Worman. The object of the company is to secure and preserve fresh shad and other salt water fish in the United States, and market them at times when such fish are not in season.

The enterprise is peculiar, and has for its object to preserve two kinds of shad, the black and the white, in a fish can of the exact size and shape of a barrel saved in half, are filled with pulverized ice and fish thoroughly shaken down to a compact mass. A wood box or a tin can is filled with ice and the fish run through ears on opposite sides of the tub, is put on, and the package placed in coarse ice and salt. There it remains for twenty-four hours. It is then taken out, placed with the cover down on the wood, put in the salt, and left, with a little water. Another patent provides for placing a single fish in a galvanized iron can just large enough to hold it, and covered with salt and ice, and it is contended that in three hours the fish is frozen sufficiently to warrant its preservation indefinitely if kept in a temperature of eight degrees above zero. The idea of the East is not new. South Delaware avenue has been leased to a firm of five years, and has been fitted up for the purpose of the company. In the four square work, if properly treated, are air coolers or refrigerators, with a capacity of storing 200,000 shad, while the first floor will be appropriated to the preliminary process with a capacity of 200,000.

It is expected to procure enough shad during the fishing season from the Delaware and Potomac rivers for the enterprises to carry on the business successfully. In sea- sons of plenty the superintendent of the company states that shad can be purchased in quantity, at $0.10 per hundred, and his last report of the New Jersey Fish Commissioners show that the average price obtained for Delaware shad was about $0.10 per hundred. After obtaining all they can procure, the company contend that they can make a success of the enter- prise.—Philadelphia Ledger.

PREPARING POULTRY FOR MARKET.

The simplest things are oftentimes the most difficult of accomplishment. For instance,
the picking of a duck or goose may appear easy to the uninitiated, while to do this neatly and with dispatch, so that the feathers and the carcass are left in perfect condition, requires a knowledge of the business beforehand. While duck and goose feathers are of more value than those of the turkey or hen, it is a little more difficult to skin them and to leave the dead bodies in good order. In the first place the fowls should be slaughtered in such a manner that the plumage is not soiled or ruffled. The operator should wash his hands with soap and water, and the dead bodies are then left in rutilation, of there this is scalding in with cool water, and the head is then removed by the beaks. When dead, the bodies are to be carried and carefully laid on a clean table in the picking house, the head of the fowl being left on the table, with the blood dripping into the little saucers. This should all be plucked away, or as much of it as is possible, before the fowl is scalded.

The ins and outs of this are that every one should be before slaughtering, much of this may be preserved in a natural state. Before beginning operations, everything should be as cool as possible, and it should be made, and of such material in which the feathers are to remain, as by shifting much of the valuable down and softer feathers are to be preserved, and to be made with some old or inexpensive material, so that it may be preserved from being soiled in the process of filling. Where there are large numbers to be slaughtered it would be of help, that all may proceed in regular order and with dispatch. After the fowls are all dried, the feathers may be chosen for the best, and to place in a scalding room, and give a gentle dip in boiling hot water, and take out the quill feathers, and the other feathers that remain, care being taken to ensure the best. It is also true, as a customer gives it a bruised look. When putting away to cool, fold the wings under and lock them together on the back, and place the fowl on a box or shelf, for the best effect. This practice as before, thus preserving the smooth plumpness of the breast. Before packing to send to market, remove the head and about an inch of the neck, and place it in a can, which has been severed as near as possible. In this manner any one may have attractive poultry, while we are not considering the body of the fowl will be more than compensate by their value either in sale or for home use. Many have large flocks to slaughter, and a little care and forethought will make much labor and disappointment in the future.

OUR GRAIN TRADE.

Colonel John W. Foster, American Minis- ter to the Russian Empire, writes to the State Department, which, in view of the interest felt by the people of this country in our foreign grain trade, will be considered sufficiently important to call for of it worthy of constant attention. Col. Foster says:

The important part which the United States is now taking in the commerce of Europe in its various branches and with all countries where attracting greater interest than in Russia, where it attracts the greatest concern. This concern as a result, is the cause of our importance in the trade. European markets for breadstuffs, and there are various reasons why our rapidly growing predominance should cause alarm. The imports into Russia are largely in excess of the exports, and while the former are increasing, the latter are annually decreasing. The government finances are by no means in a satisfactory condition; a deficit is annually reported in the receipts, compared with the expenditures, and the country laborers under the embarrassment of a forced paper currency more than 30 per cent. below par, with a threatened suspension of specie payments.

Cereals have been the chief article of export, whereby to keep down the balance of trade in so heavily against her, to make the necessary foreign remittances. This export carries with it and maintain the paper currency and government credit. Added to the unprecedented shipments of American grain to Europe, to the sale of which this year the United Kingdom contributed 10 per cent. of the exports for the six months of the current year, showing a heavy falling off, is a most important item of export. From this publication I extract the following, showing the comparative exports of the leading cereals for the first six months of the years 1879 and 1881.

<table>
<thead>
<tr>
<th>Year</th>
<th>Wheat (bush)</th>
<th>Barley (bush)</th>
<th>Oats (bush)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1879</td>
<td>12,790,000</td>
<td>3,691,000</td>
<td>5,943,000</td>
</tr>
<tr>
<td>1881</td>
<td>14,126,000</td>
<td>3,709,000</td>
<td>6,133,000</td>
</tr>
</tbody>
</table>

The effect of this heavy decrease in the most important article of export is noticeable in all other directions than the government finances. The business statement of Russian railways for the six months of the present year, as compared with the period of 1879, shows a fall of $4,000,000, or 13 per cent., and $7,000,000 less than for the first half of 1878, and this decline is almost entirely attributed to the exportation of grain. A depression is also felt in almost all industries and interests.

It is true that various natural causes, as the devastation of insects, the unseasonable winter, etc., have this year greatly operated through the failure of crops to produce this fall in the value of flour and rye meal, but it is becoming apparent that unless some radical improvements are made, both in the methods of cultivation and transportation, the grain growers of Russia cannot compete with those of the United States in the markets of Europe. The report of the British Commissioners, Messrs. Read and Pell, giving the result of their investigations, where the growing districts of the United States, has been published here, and has attracted much attention.

An intelligent writer in the Journal of St. Petersburg says: "The conclusion of this report, points out the absorbing interest which it has for his country. It is, to us, of no interest, as has been the case for the two years past—that is since we felt for the first time in a serious manner the effects of American rivalry—if we remember the panic for flour and rye meal, while the grain of America and Australia overrun Europe, then we will have nothing to do but to contemplate not only the ruin of our commerce but of our great land-holders." He concluded as follows:

"The situation is too grave, the interests involved too important, not only to appeal to the attention of the public but also to all the elements of the country, to the end that measures may be taken against American competition. Importation alone is not enough; it is duty of the Russia, while exporting, to compete fairly with the grain of the United States and Australia overrun Europe, then we will have nothing to do but to contemplate not only the ruin of our commerce but of our great land-holders."

THE OYSTER.

Dr. William Roberts, in his interesting lectures on the digestive ferments, writes: "Our practice in regard to the oyster is quite exceptional, and furnishes a striking example of the unfortunate effect of a popular prejudice on dietetic questions. The oyster is almost the only animal substance which we exclude from our table, whether raw or cooked, or uncooked state; and it is interesting to know that there is a sound physiological reason at the bottom of this preference. The meat of the oyster is not eaten fresh. The delicacy of the oyster is its liver, and this is little less than a heap of glycogen. Associated with the glycogen, but withheld from the flesh, is another substance of an appropriate digestive ferment—the hepatic diastase. The mere crushing of the delicacy between the teeth brings those two bodies into contact, which, while the oyster is uncooked state, or merely warmed, is in fact, self-digestive. But the advantage of this is that the oyster is wholly lost by cooking; for the heat employed destroys the liver substance, and a cooked oyster has to be digested, like any other food, by the eater's own digestive powers.

TAKING COLD.

There is an old saying, "When the air comes through your door, the cold comes in your soul!" and I should think almost anyone could get a "cold" with a spoonful of water, or the wrist held to a key hole. Singular as it may seem, in my judgment it is a great deal more dangerous than the reverse; everyone has noticed how soon the handkerchief is required on entering a heated room on a cold day. Everyone is aware of the coldness of the air on entering a warm room. The reason for this. As the Irishman said, on picking himself up, it was not the fall, but stopping so suddenly that hurt him. It is not the lower part of the body that is injured, but its subsequent elevation, that devitalizes the tissue. This is why rubbing with snow, or washing in cold water, is required to restore the injured part. The hands should be rubbed to a white heat, but must be very gradually re-established, or inflammation, perhaps mortification ensues. General precautions against taking cold are almost self-evident in this light. There is ordinarily little, if any, danger to be apprehended from wet clothes, so long as exercise is kept up, for the "glow" about compensates for the extra cooling by evaporation. Nor is
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F. Dr. Hennel fatally. He is said to have been taken ill in a place of publick entertainment; during this process the body is in a somewhat critical condition, and a sudden arrest of the function may result disastrously—very fatiguing and unhealthful. The cold and the capriciousness of the weather is equalizing bodily temperature, and it must not be interfered with. The secret of much that is to be said about baking, heating, and breathing, lies in this, that this condition is sometimes not far from a "stavrope." Under these circumstances a person of fairly good constitution may plunge himself into trouble and take to the bed. But if the body is already cooling by sweating, rapid abstraction of heat from the surface may cause internal congestion, and a sudden change in the weather, etc., may have the effect of a red water, offers a somewhat parallel case; even on sopping to drink at a brook, when flushed with heat, it is well to bathe the face and hands first, and to take the water before a full sunset. —Cook's Field of Ornithology.

TOXIC EFFECTS OF TEA

W. J. Morton, M. D., of New York, gives in The Journal of Nervous and Mental Disease a remarkable instance of the toxic effects of tea. They were carried on in the case of five tea-tasters suffering from disease who came under his care, and who had varying amounts of tea during the six weeks preceding the disease. As a result of this, the following remarks are made:

The following was the history of the patient: Joseph F. Winner, Pardee; M. D. Kendig, Crescent; Henry K. Hare, Mountain; Simon F. Hare, Warwick; W. W. Grant, City; E. R. D. Innes, City; E. L. Brooker, Brinkleyville; Dr. A. A. Freer, Mr. Hoven, Smith, Con- ten, City; C. L. Hunsucker, Manchester; Calvin Cooper, Birdville; Edward Driscoll; J. J. Wilson; Washington L. Herkey, Chickas; John G. Renshaw, West Willow; William McComsey, Lancaster; and C. A. Gast, City; Henry R. West Willow. The offending substance was tea. In motion, the reading of the minutes of the last meeting was discussed.

New Members

Cyrus Neff, of Mountville, was proposed and elected to membership as a new member.

Special Committee

Dr. Greene reported that he had not yet succeeded in securing any one to deliver a lecture before the society.

Crop Reports

Johnson Miller reported that some cherry trees had been injured by frost. The damage was not serious, but it was a warning to gardeners.

Casper Miller said a tree might split and yet bear fruit. Some fruit birds are killed when the mercury goes below zero. In 1815 and 1833 the apple trees were so badly frozen that some never recovered. Apple trees take a good deal of leaf off when injured. M. D. Kendig proposed that each district report the average yield of apples during the past year at the next monthly meeting.

The President's Address

President Witmer then read the annual address to the members, the principal topic of which was The Farmer.

Essay on Windbreaks

Casper Hiller, whom this question was referred, discussed the subject in the following essay:

As far as my experience goes, it is well known that wind breaks would be of some practical benefit to orchards in our country. Our orchards are not often injured by severe frosts, but the wind often covers the orchard with the still cold, and that is always greater in sheltered and low places than on high and exposed situations. The wind is the greatest enemy of the home, and one of the principal causes which indicates the quality below zero, while in a low, sheltered situation, half a mile distant, it was below zero. In the former place, peach trees were but slightly injured, while in the latter they were entirely destroyed. At this season or early April will start vegetation quickly in those sheltered nooks, oftentimes starting the biosphere, which is still unexpected ground the rays of the sun are continually cooled by the breeze, and vegetation is started along and settles in those sheltered places, and causes frequent white frost, while in open places it prevents the frost. These influences would not be so marked on the apple orchard as they are on the peach, as the apple is seldom injured in the wood by winter weather, and is so late a bloomer that spring frosts do not often hurt it. Shelter belts have the effect of ripening the fruit. If the general per- ceptibility earlier, which, in an apple orchard, would be a great objection, as the fruit already ripens too soon in our locality.

Legislation on Forest Culture

S. P. Eby, esq., to whom the discussion of this subject was referred, said:

We suppose it is no longer a disputed fact that, within the last forty years, the State of Pennsylvania has undergone great climatic changes, a few of which may be briefly mentioned:

1. The temperature of heat and cold have become more sudden and intense.

2. That our climate is changeable, with less snow.

3. That the flow of our larger springs has decreased, and the well of our smaller ones has disappeared altogether; consequently wells have to be deepened, and water power supplied during dry seasons.

4. That our rivers and streams are no longer in regular in their flow, but rise high in spring and become lower in dry seasons.

5. That the winds blow with greater force. That we have fewer local rules during the hot seasons, and more frequent hail storms.

6. That the fine-fruit bearing orchards our ancestors had forty years ago.

The principal cause of all these changes, as well as the one we are now discussing, but to enumerate, has by close observation and careful investigation; Lebanon had both in 15; this climate of our country, and been satisfactorily cut to the cutting away and the destruction of the forests and belts which are necessary to our health.

It needs no argument to prove that these changes are injurious to both animal and vegetable existence; they are not only harmful to the human population, but also to the natural associate pleasant groves, fruitful gardens, fertile grain fields and springs of pure water. It is the opinion of most people that these means to restore as many of those blessings as we can by preserving the forests which yet remain, by planting trees on the rim of the old lands, by new timber belts for windbreaks and for shelter for livestock, and by the introduction of some new species to be understood that when timber trees have grown to full maturity they should not be destroyed; and that we should plant as many others should be planted and partly grown to take their place. We should learn from nature, and have an idea of the amount of ground that should be cleared before we cut down the full grown timber.

Lancaster county had in 1777, and 1871, 42 per cent. of the population, with its clear land, some of which has since been cut down. Of the ad-joining counties, Lebanon had both in 15; 14; York, 18; and Dauphin, 24. Forty years ago Lancaster county had six furnaces and ironworks; today, there are eight, and the amount of timber mostly growing in the county. At the present time, we have but one charcoal furnace, and it is located outside of our county. We think it is wise in saying that more than one-half of the clear land of this county, is now cleared off. The whole of this need not be restored. An increase in the amount of trees remaining, if judiciously distributed, is sufficient, making the forest area of Lancaster county about 15 per cent. of the area, which is not an excessive amount. In the value of the timber twenty years hence, and the important bearing newly-planting belts of forests will have upon the crops of other kinds of crops.

While individual effort, and the agricultural soc- iety's help in advocating the cause, are admitted, it is plain we must have legislation on the subject, and this brings us to the question of the various parts of the globe which the community is dependent for its fuel, have charge of and adopt it. It is well known that the people have in mind the incorporation of companies for that purpose, and allowing members and individuals who pay the tax on the amount of their county tax for encouragement and compensation. Dr. Edgar also read an essay from Harper's Magazine, published twenty-six years ago, on this subject, which was at once valuable and interesting. This would be got by an act of legislation. He is afraid of such a bill. He is afraid of such, that we have had a good deal of trouble to compel compliance with the new laws. He believed it
must be left to individual effort. He believed the trouble to be that we have only recently awakened to the reality of the great issue. Perhaps now that all beginning to realize that trees are so important, and to begin to plant, more caution will be used in this matter.

Mr. Elly said his proposed act was not intended to interfere with the pastimes and pleasures enjoyed upon the estate. Some indulgence, he thought, should be held out by the management to the wants of the families and the evia that have come upon other lands from the cutting down of timber.

Committee on Roads: In this county a large area is still covered with forests. This was the case at the early settlement of the State. The early settlers had to cut down their timber. Most of our oaks are under two hundred years old. What will be the result of such a law as the one proposed? It will destroy on the estates, to the present, the danger of fire. He was opposed to tree planting, but was too valuable to be left in the wild.

Henry Kurtz was not opposed to tree planting. He believed that forests might be preserved with the private, if not the public, interest, and could probably be agreeable or desirable.

Mr. Johnson Miller took the ground of Mr. Kurtz. He was opposed to give any company the right to take away your property and plant trees on your place. He was opposed to any act dated in two hundred years of his farm buildings.

Mr. Greene called attention to the great needs of the county in the matter of roads, and probably their different. When it is all gone then it will be too late to lament the matter. If things are not so bad now as in the past, yet the time will come when they will be. There can certainly be no harm in such a law as the one proposed, and if it will enable any apta its views, so much at least will be gained.

Mr. Eby wished to have the sense of the society on this matter. He hoped some action would be taken in the matter.

Mr. Johnson Miller moved for the appointment of a committee to frame a resolution to be presented to the Legislature, asking that some action be taken in the matter.

Calvin Cooper asked for immediate action. If left to a committee, there would be delay; no time could be lost.

That portion of Mr. Eby's bill allowing the proposed companies to take lands at will be stricken out, and the act not generally applicable to private individuals.

On motion, the society then adopted Mr. Eby's act and it will be accordingly laid before the Legislature.

A motion was then made to go into an election for officers to serve for the coming year.

John H. Tushy was elected President. He made a speech of declination, which was not heeded, and he was unanimously re-elected.

Hansard was nominated for Secretary and Treasurer.

Mr. Hansard was elected Secretary and Treasurer.

John H. Linds was nominated for Corresponding Secretary.

For Managers, Johnson Miller, Calvin Cooper, Ephraim B. Hogg, W. H. Brotsius and John C. Laneville were nominated.

It was moved that Mr. Eby cast the vote of the society for the managers then endorsed. This resulted in the election of all the above named gentlemen.

Treasurer's Report

Messrs. Eby and Miller were appointed a committee to audit the accounts of the Treasurer. They reported the accounts in order and declared a balance of $47.58 to be in the treasury.

On motion, the report of the auditors was accepted.

Miscellaneous

A number of small bills were presented and ordered paid.

Dr. Hathorn, to whom was assigned the duty of paying the awards made at the late fair, reported having paid the sum of $100 into his hands of which he paid out $124.59, leaving in his hands $27.34. He also reported two certificates as uncolled for $100 each and $125, and charge $75.00.

On motion the society adjourned.

POULTRY ASSOCIATION

The regular monthly meeting of the Lancaster County Poultry Association was held Monday evening, January 3rd.

The members present were: William W. Grant, city; Christian A. Gung, city; F. W. K. Dillenburger, city; Jacob B. Lith, city; Chas. E. Long, city; H. H. Tushy, Littitz; William H. Amsler, city; W. A. Schowengerdt, city; J. B. Long, city; Charles Lippold, city; Dr. E. H. Witmer, Neffsville; George A. Geyer, Spring Garden; J. B. Garnam, Lebanon; A. A. Egly, Acme; John C. Molaro, City; W. E. B. M solder, East Freedom; Edward C. Bruckhiller, Strasburg; J. W. Buehler, Ephrata; J. F. Herbener, New Oxford; J. D. Hickin, Philadelphia; J. M. Johnston, city; Joseph F. Witmer, Paradise.

In the absence of President Warfel, the meeting was called to order by Vice President Geyer.

Minutes of previous meeting were read and approved.

Reports of Officers

Treasurer Evans made a report for the past year, from which it was seen that the total receipts during the year amounted to $515.46, leaving a balance in his hands of $75.13.

On motion, the report of the Treasurer was accepted.

Report of the Secretary

Secretary Lichly read his annual report, in which he stated that he had held the office for nearly six years, during which period he had been active in the work of the association.

On motion the report of the Secretary was accepted.

Unfinished Business

The principal business of the evening was the business of the paid for the year previous.

New Business

Nelson Dyer, of New Providence, and Charles A. Garber, of Lebanon, were nominated and elected to membership.

A committee was appointed to nominate officers for the current year, to be elected at the next meeting, and present the same for the action of the society.

The chairman moved that Lippold, Engle and Bruckhart on this committee.

After retiring for consultation they returned and reported the names of J. B. Long and J. B. Long; for first Vice President, S. A. Geyer and W. A. Schowengerdt; for second Vice President, J. B. Lichly and Charles E. Long; for Corresponding Secretary, J. F. Reid and Colin Cameron; for Recording Secretary, J. B. Lichly and Charles E. Long; for Executive Committee, H. H. Tushy, W. A. Schowengerdt, John E. Schum, M. L. Greider and John A. Stover.

Hansard was appointed to be the Secretary and Treasurer.

President, H. H. Tushy; First Vice President, Geo. A. Geyer; Second Vice President, M. L. Greider; Corresponding Secretary, John F. Reid; Recording Secretary, J. B. Lichly; Treasurer, T. Frank Evans; Assistant Treasurer, W. E. B. Molder, J. B. Lichly, T. Frank Evans, J. K. Trissler, John E. Schum, J. B. Long, W. A. Schowengerdt, Charles Lippold.

The secretary stated he had received a number of letters and telegrams from various parts of the country stating that they would permit entries up to certain dates, to accommodate exhibitors at our association, thus giving them the opportunity of showing at both places with the same bird.

There was a willingness shown to permit such as desired to exhibit at two places to have special favor in order to enable them to do so.

Chas. E. Long was in favor of receiving birds from the Reading exhibition after our own has been opened, thereby delaying the judging, which has been done in the past for a certain date, and with which it would interfere.

It was finally agreed to allow birds from the Reading exhibition after our own has been opened, and those from our own show to be withdrawn on the 18th for exhibition at other places, if exhibitors choose to keep their birds.

On motion of Charles E. Long, it was decided to offer a third premium of $3 for birds on exhibition, in the shape of honorable mention.

It was also revived to hold a special meeting of the Executive committee the next Monday week. It was ordered by the society that a dozen additional coops for turkeys and geese be procured for use in the future.

On motion the society adjourned.

FULTON FARMERS' CLUB

The December meeting of the Fulton Farmers' Club was held at the residence of Franklin Tollinger, Fulton township, quite a number of visitors being in attendance.

F. Tollinger exhibited a patent open link. William P. Haines a number of reports and public docu-
ments that had been presented to the club by Dr. J. C. Gratzel.

F. Haines exhibited Lawrence and Victor of Winkfield park. Wm. King, an apple for a name. No one present was able to identify it.

Layman C. Blackburn, a visitor, asked if bound well's generally give satisfaction. Most of members and visitors thought them rather expensive and not satisfactory, the well being too small to contain over two inches of water in the well. John Grossman, a visitor, said that a neighbor of his had a well sunk and bored forty feet deep with a three-inch drill, but still they got no water. He thought that it would have been better to have let them run it down deeper. He would have a tendency to open it up. Besides, in making a larger hole, as in digging, water would often flow. He did not think it best to rack. He had a barrel that would hold about six gallons of water. He had thought that it was for the use of rans and could not rent as fine a house and take as much time for pleasure and live as well generally as the farmer did, although his money was bringing six per cent, as well as the farmer. If he could get more than four per cent, there would be some as-
signees to appoint before long. Land that would bring $100 per acre would be worth 600 bushels of wheat and 50 bushels of corn to the acre, that land which would bring $20 per acre would be worth 150 bushels of wheat and 30 bushels of corn, and that land which would bring $6 per acre, would be worth 50 bushels of wheat and 15 bushels of corn. This was all per cent. This, at 6 per cent, would produce $60. Ten acres of woodland would be sufficient. A log, 100 feet long and 1 foot in diameter, would bring $20. The same number of acres in corn would produce 700 bushels, worth $140. Corn would be worth $140 per acre. Thus each fifty-eight bushel of wheat, $140. This would be in all $70. One-half would go to the cooker, leaving $83 as the profit of the farm; the remaining fifty-eight bushel will be left for grass, which should pay for all fertilizers and seed. E. H. Haines said as a general thing, were men of only average capacity, and they could not command large salaries. Allow him to have $5,000 at 4 per cent interest. This would bring $60 per annum, which, with a salary of $900, would be $960. A farmer who generally live in could not be rented for less than $150. A farm of 100 acres, if well managed, would bring $900. If they also would both be deprecating in value, and these from his income and he would not be able to manage it. He would then apply to a man who always has fresh vegetables on his table and fresh meat at his command from his poultry yard, and who, when he found that his land was not producing what he wanted, would go into a calculation, which showed that land worth $60 per acre could be farmed at a profit of 40 per cent on the land. All of these would be very much woodland.

Mr. W. Brown thought that perhaps they had better be farmers than to try to be Congressmen; but if they farmed out their farms to croppers, they would only be managers. If a man who would work, manage and save, he might make four per cent, but not 10.

Mr. T. said: "It is better—to buy hay and corn and feed to stock, in order to make manure, or to buy live stock and feed to make manure, which is adopted for consideration at the next meeting, which is to be held at Mountville Brown's, at the regular time next month.

LInNSEEANSOCIATION

Agreeably to previous notice, the annual meeting of the Linnaean Society was held on Saturday, the
18th of December, instead of Saturday, the 25th, as it was deemed improper to go to the Avery Mansion, President Professor Stahr, in the chair. Dr. J. H. Dubbs was appointed secretary pro tempore.

The proceedings of the last meeting having been published, their reading was omitted. After the usual business, donations were made to the museum and library.

Museum.

1. A most magnificent adult specimen of the " Horned Fungus Beetle" (Bolitophilus cornutus) was presented to the museum by Mr. Geo. Hensel.

2. A fine large specimen of carbonate of lime, imregnated with the substance of a flour fly (Cochlearia leighti) from Lehigh County, Pa., donated by Master James Munsen, of this city.

A bottle containing thirteen specimens of the " Horned Fungus Beetle" (Bolitophilus cornutus) was presented by a unknown person by mail to the curators of the society.

3. Prof. J. C. had on exhibition a specimen of Tamarix, from the sea-shore near the base of the tree, in Rockingham County, Va., sent by Mr. G. C. Kennedy to the Diagnositc Society.

4. A volume of "The American Museum," volume 3. It is an oblong oval slightly compressed, about eight inches long and the same in broad, containing its four external edges, with a pencilled label marked in its presence; in this respect its habit being similar to the true books of the museum. It is a work for the following purposes: to furnish a pasteboard "Husbandman," or rather a groundnut, remotely resembling the "vegetable ivory," and edible. The externals is similar to that of a coconut, although not so smooth and spherical.

Library.

1. Nine volumes of the Second Geological Survey of New York, from the U.S. Mines of America, per- in barium. Five of these were descriptive volumes, and four portfolios of maps in book form and size, to compare with their internal character.

2. Nos. 21, 22, 33 and 24 of the Official Patent Office Gazette, from the interior department at Washington, D. C.

3. The Lancaster Farmer for December, 1880.

4. Two catalogs of scientific and miscellaneous books, including historical and biographical scraps by S. S. Rathvon.

5. Two catalogues of scientific and miscellaneous books, including historical and biographical scraps by S. S. Rathvon.

6. Eight pamphlets and circulars of miscellaneous historical and scient effects of the frost, which exerts a useful influence in preparing it to exist in the growth of plants.

7. A lithograph of High City, Vennango county, Pa., from a drawing made by the late Jacob Stauffer.

8. Doctor Dubbs had on exhibition an interesting collection of foreign and American illustrations of heraldic emblems, mottoes, tokens, coats-of-arms, &c., of persons and places, some few islands, but the larger number genuine. These objects are grouped in a class known as " Ex Libris, or " Ex Libris," a general term for illustrat the history of art, besides other interesting information relating to the histories of families, as societies, corporations and individuals.

Papers Read.

1. S. S Rathvon read a paper on the peculiarities of skunks in general, and on local species in par- ticular.

2. Dr. J. H. Dubbs read a paper on " Ex Libris" or bookplates, which he illustrated by collection on exhibition.

3. The treasurer read the annual report, from which it appears that there is a balance in the treasur of $5.36.

The chairman read the annual report of the curators, which showed that during the year about 3,000 thousand specimens have been added to the museum during the year, and that the annual fund, consisting of four-ten and eighty-three books, pamphlets, serials, cata- logues and circulars, of which fifty-two were bound in 1880, and forty-one are bound in 1884, make up forty-one hundred and biographical and historical scraps.

New Business.

The curators presented bills amounting to $10.50, which were paid, and on which the society was discharged, after which the election of officers was postponed until the January meeting, 1891.

A visit was usual to the society the ad- journed.

AGRICULTURE.

Difference in Farming.

At a recent agricultural gathering in New Eng- land, one claimed that he made 12 per cent. on his crop by investing in farming, and another said he did not make over 1¼ per cent. Both may have told the truth, which seems to demonstrate the difference between the two men, and perhaps an equal differ- ence in the original character of their farms.

Practice on the Farm.

The London Agricultural Gazette says: "The Royal Agricultural Society \(\ldots\) is adopting its motto 'Practice with Science,' placed prac- tice first. It is in close attention to details that the elements of success in farming are to be sought. Economy in general management cannot be attained and habitually practiced unless a man understands very well the various departments of his business. This particular knowledge can only be acquired on a farm. To keep up and day by day, and year by year, the farmer goes on. The ornamental farmer, like the ornamental gardener or director in commercial affairs, is a complete failure."

Rotation.

The famous system of rotation, now extended quite generally throughout England and Scotland, with occasional patches in France and Germany, year, clover and mixed grass seed; the second year, wheat; the third, rape, turnips or rutabagas; the fourth year, barley; and then the same course again. An innovation on this is to add another grain crop, oats, if possible, in the third year. This has so efficient this course been found that it has been cal- culated that the grain crops have increased one-fourth.

Danger in the "Silos."

We are impressed with the importance of warning people who are engaged in their grain in tanks, especially in deep ones, of the dangerous carbonic acid gas, the "choked damp" of mines and wells. A farm- er recently found this out directly for his own to corn-fodder; on Saturday night, when he knocked, the inhabitants of four feet of fodder cut in half-inch bits, and well trodden down in the pit. On Monday morning it had settled considerably and corn could be easily recovered. The farmer was treating about on it to see if it had settled even- when he felt dizzy and faint; the thought of the gas, as effective as in water, or a struggle or a murrain. When going into a pit, never fall to low with a basket of corn or hay, as the ground that burns brightly the air of the pit is fit to breathe.—American Agriculturist.

Enriching Poor Lands.

There are three principal methods of rapidly in- creasing the supply of plant food in any soil: By the most economical use of manure, and by the use of fertilizers. Of these two methods, it is evident that the larger one must be determined by the many condi- tions and circumstances that surround it. It may be that the farmer has a small piece of land or a for potting plants, of which the seed is put into a corn-fodder; on Saturday night, when he knocked, the inhabitants of four feet of fodder cut in half-inch bits, and well trodden down in the pit. On Monday morning it had settled considerably and corn could be easily recovered. The farmer was treating about on it to see if it had settled even- when he felt dizzy and faint; the thought of the gas, as effective as in water, or a struggle or a murrain. When going into a pit, never fall to low with a basket of corn or hay, as the ground that burns brightly the air of the pit is fit to breathe.—American Agriculturist.

Facts about Timothy.

Timothy in riperating its seed requires the same in- gredients as hay: it requires moisture, size, and nitrogen. Being remarkable for the abun- dance of hay and the large amount of seed which it produces, the reason why it is considered more exhausting to the soil than most any other crop. Indeed, it is held by many as a sign of an overgrown farm when the seeds are left to ripen. The farmer should not cut the hay before the seeds are matured or the soil is exhausted of its fertility in about the same ratio that it is replen- ished in the case of a crop. For this reason it is true that the same farms are better for hay than for crops, and a conclusive reason why it should be cut before the seed has had time to form.

Bone Dust and Wood Ashes.

A farmer in Indiana gives the following as the re- sult of an experiment made with bone dust and wood ashes on his farm. "In looking into the effect of a new farm," says the writer, "I applied 600 pounds of dry, unthreshed ashes to the acre, sowed it in wheat, and cultivated it as a corn field. As the following year, the same field was manured with bone dust in the rate of 200 pounds per acre over the tract sown with wood ashes. The following year I stubbled that crop upon which I had sown the 600 pounds of ashes to the acre, and put it in wheat again, using 200 pounds of bone dust on the same acre. The result was 60 bushels of wheat to the acre, being double that pro- duced from the bone alone. This experiment satis- fied me that neither ashes nor bone alone would give as satisfactory results as if the two were combined—the one with ashes alone, and the other with bone alone, the acre on which the two were combined yielding 40 bushels. Thus, bone dust and bones on a small scale will do for the farm.

Wheat-Growing Experiments.

Fartons forty years Messrs. Laws and Gilbert, two of the prominent farmers of this county, have commenced a series of experiments in growing wheat. They selected several spots of ground of equal size, on some of which they planted ordinary wheat, on others, the land having been already brought up to the highest state of fertility, for no fertilizers were applied at the time. In the first year, 1881, the wheat, season after season, for forty years. In that year, there was a return of just ten bushels per acre, or one-fourth of a bushel per acre a year. Taking this as a standard case, farmers who are growing wheat on land which the land the needed rest, or feeding it with manure or green crops turned under, may look for a decrease, less, of course, some years than others, but an average of one-fourth of a bushel per acre a year. This is a probable result for which the farmers of the whole world may thank Messrs. Laws and Gilbert.
Horticulture.

Planting Potatoes in Autumn.

An inquiry was lately made in the London Garden, as to the success and what results had been obtained from late planting of potatoes in autumn. In the autumn of 1888, not more than 64 plants were received, representing exactly opposite results. One cultivator states that late planting had been practiced in one neighborhood of the city in one of the first-rate crops—the ground being covered with manure immediately after planting, which was raked off in spring. The crop of 1889, when late planting had been practiced for 30 years in another place, was a great success, the potatoes being as good or better than those obtained from the same soil where the whole seed was planted in September. There, the potatoes were 9 or 10 inches deep or below, and a liberal allowance of straw was placed upon the clumps with the manure.

A third planting two adjoining crops both ways; the autumn seed being much the deepest (or more than 12 inches deep) or the whole of the spring-planted portion. But the fall-set plants soon outgrew the others, and the result was nearly double the autumn's crop. There is no doubt that the safety of the potato is the same in the ground, or on the surface, or on the surface, or upon the top, as long as the ground is not too dry or too wet. But the potatoes planted in autumn should not be planted in the same place where potatoes have been planted in spring, as this would be injurious to the health of the plants. Some authorities claim that it is safe to plant potatoes in the same place where potatoes have been planted in spring; but it is not safe to plant potatoes in the same place where potatoes have been planted in autumn.

These opposite reports show that some important conditions were present where success followed fall-planted potatoes. These conditions, which are interesting to those who wish to experiment with what results were obtained in the fall planting of potatoes, are stated to be the same as those obtained in the spring planting of potatoes, except in those regions (on the Grand Traverse for example,) where the ground is very cold in winter, and the potatoes cannot be grown, but it might be worth trying farther south. Although the scattered roots left in the ground often become infected with the blight, and have been frozen in the soil, yet generally the vigor of the seed is retarded by such exposure, and where the exposure is tried the seed should not be in reach of frost.

The Beet Sugar Industry.

Recently a new sugar mill at Ridgewater, a short distance above the mouth of the upper Red River, was completed and started in operations, and is now working up fifty tons of green beets per day. The mill is owned by the Delaware Beet Sugar Company, and is said to be the largest of the kind in the United States. The company's chief competitors are the St. Paul and the Duluth Sugar Mills, which are also in the northern part of the country. The company is said to be well equipped and to be able to produce sugar at a lower cost than any of its competitors.

Fuchisia.

Fuchisia, says a writer in The Horticulturist, may be increased by cuttings taken at any time. Take the living upright plants, pinch out the centre, and in place of one there will spring out two, often three, without the least injurious to the parent plant. If grown in a warm place it will grow much better, and may be increased by cuttings in all the usual ways. The cuttings should be laid in a bed of sand in a warm, sunny place, and the top of the cutting should be covered with earth before freezing prevents it.

Valuable Him.

For the last five years I have not lost a cucumber or melon vine or cabbage plant. Get a barrel with a glass top or some other kind of vessel, and if the weather is hot, always have it ready when needed, and when the bugs appear give them a liberal drink of water from below. This will always wash them off and they return the dose. It works well in the case of the old potato bug worse than a thrashing with a brush. Five years ago this summer both kinds appeared in my garden, and I used this method with complete success.

How Long Will Seeds Live?

Darwin and others have made experiments on seeds by immersing them in salt water. In one instance, seeds of eighty-eight years were left in salt water for twenty-eight days, and a few after a much longer period of time. The instances are on record, too, of seeds of American plants, which have been washed on the shores of the Pacific, Gulf, and Atlantic Oceans. Randall seed has been known to grow freely when seventy years old.

DOMESTIC ECONOMY.

How to Hang Thermometers.

"Old Weathercock" writes to the St. Paul Power Press: "There seem to be so many erroneous notions about the minimum temperature of the country, that many will take upon this indifference, because it is so common. A remedy, such should always feed both their own and their neighbors, as they generally do.

Protecting Plants and Shrubs.

There is nothing that should not be forgotten; whatever be the nature of the covering applied to tender plants, more especially to the woody portions, other things being equal, the protection of moisture is an important object, without excluding air. Lettuce is sometimes left on in October, and the crop is destroyed by the buds by retaining water like a sponge. Closely packed heaths are often in such air, which is cold Important. Roots and stems like those of the grape, which will be a It is well to remember that the roots are much more frost-tender than the stems. Root leaves even are often destroyed when in a too moist soil; and there is no doubt that many tender herbaceous plants are killed by a sudden frost. The shrubs may be covered with leaves during the winter, which would be too late if the ground were not frozen, and if no snow had fallen. From the time of the first frost. The berries should be removed from the shrubs. If the shrubs have been damaged by the frost, the fruit should be removed as soon as possible. The shrubs should be as much covered as possible during the winter. The top-dressing should be done in autumn or very early in spring, and special care must be taken to extend it as far as the frost line.

Fruit Garden.

Winter protection: Many plants are killed by too much protection. For example, strawberries are hardly, and the covering of straw, marsh hay, etc., is not particularly good. The suffering of much frost, and the snow will shield from cold as to prevent frequent freezing and thawing of the soil. The covering should be removed as soon as it is no longer necessary. Shrubs that are not quite hardy do not require being covered, as it was necessary not many years ago when many plants were smothered beneath the snow. A little brush, or better, a length of old twine placed around the shrub will ward off the severe winds, modify sudden changes of temperature, and be a sufficient protection. You may also cover the shrubs with straw, and covered over with earth before freezing prevents it.

Notes and Comments.

Dwarf apple trees, worked on the Paradise stock, although quite hardy at the East, often fail to endure the severe winters in the West. The American Fruit Growers Quarterly states that one of the oldest Iowa nurserymen planted and propagated them largely for the support of winter crops. The apple trees have been killed nearly every one. The editor of the journal recommends in place of the Paradise stock the use of the dwarf, which has been grown from cuttings and from recent experiments made upon it with the hardy Hudson varieties. -Country Gentleman.

Scrape the Feng.

Every careful housekeeper, with an eye to first everything that comes in season, is always on the watch for foot-coverings to come in from out of doors. If boys did not have much boots the care of the house would be so much lessened. But we do not want to have them that bring "the dirt," Men are often very forgetful of the amount of work they make by wearing their boots with grass and mud all over their boots and shoes. Every door step should be provided with a foot scraper, and a brush or broom. If not, one must take the time to use them before appearing on the ceiling. For the great good of one's health—food of no purpose—is not at hand, one can make one from a bit of hoopiron, which is to be placed on a step or a door. This will save many an instant in the morning to provide a "mud-mat," which is simply strips of thin or square—fence pickets will answer—screwed to a door or three or four pieces, an inch apart, a much more elaborate one can be made by stringing the strips together with two or three pieces of wood, very apt to stamp and rub them on the steps or floor of the porch; a mud mat will clean them more effectively, and saves the person most of the trouble.
Cold Feet

It is, as we have often labor to show, a mistake to suppose that a general cooling of the body is the direct result of changes going on within the body itself. Nutrition by food and the discharges of the body arising from the action of the circulating blood upon them are causes of heat. Clothes seem good and warm because they slow down the rate of the action of the heart to a certain degree, so the capacity for heat which surrounds the body from attracting the heat generated within its organism. The action on the surface is the same as that of a small amount of water which slowly and evenly evaporates from every finger and toe—and that the muscular apparatus of the extremities should be in a perfect condition.

If it was ever found, whether by boots or stockings, which compress the feet and render the separation of action of each toe impossible, it is simply absurd to expect to be warm-footed. Heat is the complete work of nutrition, and if a part of the organism is imperfect, this cannot work, and its supply, and its supply of food is limited, it must be cold. The resort to stouter and heavier clothing under these circumstances is, therefore, sensible, and generally it is the stockings that compress the feet. The greatest care should be taken, therefore, after a meal, to give the supply, while the stocking itself acts as a bandage, and impedes the circulation through the extremities.

Influence of Trees on Health.

The value of trees, from a sanitary point of view, in large and overcrowded cities, can scarcely be over-emphasized, as they form a natural shield for the public health, which they impart, their value as purifiers of the atmosphere is almost incredible. It has been calculated that 1000 trees would produce 7,000,000 leaves, having a united area of 300,000 square feet. The influence of such a large area would be very marked on the purity of the atmosphere and the exhalation of oxygen, must, therefore, be of immense benefit to overcrowded and unhealthy districts. In fact, it is safe to say that for every waste spot in which one or more trees could be planted, there is a chance of employing the same to advantage, because at all events, they manage things well in France, and indeed in most Continental cities, where the southerly winds are not so strong in winter, owing to the influence which trees have in modifying the temperature; in addition, they tend by surface in the absorption of deleterious gases, cannot to the atmosphere above them. A society for planting trees in the wide streets and waste places of the metropolis might accomplish as beneficial results as the excellent institution which supplies drinking fountains for the refreshment of man and beast.

The Household.

To Prepare Iron Kettles for Use.

The best way to prepare a new iron kettle for use is to fill it with clean potato-potatoes; boil them for an hour or more, then allow them to cool. The potatoes should be thoroughly washed and rubbed with a little hard, repeat the rubbing for a half a dozen times after boiling. Have ready a strong syrup (made with a pound of sugar and one quart of water) boiling hot; put the potatoes into this, with half a stick of butter, and boil them until done. Soak as soon as they are cooked (great care must be taken that they do not break) take them out, allow them to cool, pour the syrup over them and garlic with sliced: cumin.

Delicious Pickled Oysters.—Wash them and hang them up to dry. Place a little salt and garlic to cover them; very little is necessary if there is an abundance of the liquor. To one hundred oyster add one tablespoonful of salt, and half a pint of vinegar and let it stand a few days, then boil off and put it in a stone jug. Soak your dirty clothes over night, and, until next, affixing it upon the ring of the pot covering the bottle of liquid, which is removed from the sides, when the sugar is dissolved, place the cap and the clothes will look nice.

Chicken, Stew, or Potpie.—Wash as many as you need, cut the breast and black. Soak well in salt and water. It draws out all the blood from the breast meat, and a little water to cover the pieces, boil till quite tender, taking care to skim well before it commences to boil. Make a stiff dough, like short biscuit, and cut out just like biscuits, either square or round, and drop into the kettle on the top of the chicken, boil briskly for about a quarter of an hour, and there you have a dish piercings are not to be forgotten. If so, it is the same to the process with bread or potatoes. Stir up two tablespoonfuls of flour with a little water, breaking all the lumps, so it will be smooth; add it to the boiling sauce, and let it simmer for a few minutes. Mix the flour with a little water, and stir it into a glass of sherry or currant wine, and serve in a sauce tureen. This sauce is a great improvement.

Almond Paste (with sugar).—A large cup of finely minced suet, a teaspoonful of milk, four ounces of brown bread crumbs, four ounces of well cleaned currants, three ounce of desiccated almonds, three ounce of stoned raisins, three well-beaten eggs and the whites of other two sugar, nutmeg and cinnamon and a few grains of mace. Boil two quarts of milk, of the raisins neatly in a pan. Blanche the almonds, reserve half of them to be used in the paste. Mix all the remaining ingredients well together, put into shape and shape up into a cake. This can be improved by a addition of milk and yolk of two eggs, well beaten, and some sugar, to taste; put on the fire and stir till it just begins to boil, then stir in a little of the sauce; serve it up in a turnip; then serve it up in a sharp knife; have your fruit prepared and place between each layer.

Sweet Potato Pie.—One pint of mashed potatoes, one quart of milk, one cup of butter, and two of sugar. Beat four eggs lightly, add the butter, then the sugar and creamed with nutmegs or spices, and bake on paste without cover.

Chickens' Livers.—One and one-half dozen of chicken livers, one-quarter of a pound of bacon, six tablespoonsful of flour, two tablespoonsful of butter, one tablespoonful of wine, two teaspoonsful of salt, two tablespoonsful of baking powder, add enough water (to mix) to roll out; divide it into three parts, and now roll down the whole, and take the top part as thin as a very thin sheet of paper. Bake in a prepared jelly tin; then butter the top of it; then roll each part the same way, but do not butter the last part, and the top may be made of bread, or even a sharp knife; have your fruit prepared and place between each layer.

Chicken and Onions, or with Mushrooms.

Prepare a fine chicken for boiling; fill the body with small sausages printed in milk, with a little salt. Make a stock to boil the chicken in. Boil the stock, and when it is ready, add salt, onions, and pepper salt to taste; let the chicken simmer in this stock for three-quarters of an hour, or until it is tender. Make up the Stock with boiling four omeles in a quart of milk until reduced to one pint. Mix two tablespoonfuls of flour in two or three of cold milk; stir in the thickening, and keep to keep it perfectly smooth. Now stew it over a slow fire until thick. Then blend in the well the cream of cream, then break up two ovens of good fresh butter, and put it into the sauce, with a gram of cayenne pepper. It is then thrown over the fire until it is quite smooth, and is ready to be served. A little cream is a most acceptable addition to either of these dishes. Stocking the sauce used for the sauce can be made to serve for stuffing the chicken, or to give flavor to the stock for boiling it.

Live Stock.

Sheep Raising Near Large Cities.

Wool-growing as a general thing is confined to the large agricultural areas of western Europe and some parts of the United States, where land is cheap and dogs are scarce. In these places the wool is sold at a price which is highly profitable. Sheep for the meat and with the wool for the second consideration, is rarely thought of. But the wool of the sheep is a matter of very much profit. Sheep, for the meat and with the wool for the second consideration, is rarely thought of. But the wool of the sheep is a matter of very much profit. Where sheep are raised by large towns, not by any means among
Diseases of Cows.

The falling of the withers is not an uncommon occurrence when a cow is in calf, and though not at all pleasant it is not dangerous if properly attended to. The first thing to do is to bring the cow down, which may be done by having her having been washed in tepid water, then packing some cotton into the mouth, in the middle of the back to prevent her from rounding it up; if she does this the cotton is then drawn out and the cow carefuly drawn down, and she will settle into her proper place. The platform on which the animal stands should be so placed that it will not be injured by the cow falling into, and the hind quarters will be higher than her fore quarters. Do not give her any bulky food; reduce her hay rations; and, if the weather is clear and dry, shorten her labor, at any rate so as to make the sheeps rest as well as possible as it is said she would dispense with store parts of the farm and most other branches than this.

This is a very different mode of procedure that any adopt under sheep-killing difficulties, and so which we referred some time ago. Instead of abandoning, the early the time, and so forth which those who have farms near of our large cities where there is no more sheep on board generally supposed to

—Germaner's Telegraph.

Value of Water for Cows.

Cows should have access to water at all times, especially after milking. They want to often and return to their feed. The best feed, and one in which stock do the best, is one in which water is always available. The need for water in winter is especially pronounced. Thirst or dehydration in farm animals can cause a variety of problems, including decreased milk production, reduced feed intake, and general lack of energy. Provision of fresh water to cows is critical for maintaining their health.

A Principle in Feeding.

All food beyond such amount as is properly utilized by the animal has a tendency to be lost to the owner, and that in two ways: First, the food is lost; and second, the animal is not kept in proper condition. It is said that if a cow's digestive system is overloaded, the animal will not get the benefit of a meal and will fail when the same is not properly utilized. It is necessary to ensure that the cow's digestive system is not overloaded, as this can lead to poor health and decreased milk production.

—Amer. Agricult. Review.

Are Our Improved Swine Too Fat?

With reference to various animals that have appeared lately, asserting that the present style of feeding is not properly adapted to the wants of the animal. Mr. Stockman has the following sensible remarks: At every time of the year there is a market for hogs; in the fall there is plenty of water consumed by the animals; in the winter, the market for hogs is at a premium, and the quality of meat is better. The number of improved hogs wanted of that description forms but an insignificant part of the market, and the farmer who has none other to offer must now is not to be envied, for the thin light is the best food for the animal. The drug in the market now, at prices from 35 to 40 cents below those really paid for those heavy, fat hogs, is not proper food for the beast. We advise farmers to keep right on in the work of breeding hogs which have a strong tendency to thinness, and we are inclined to think that our usual red pig, but a fat hog cannot be profitably made of a scrub.

ENTOMOLOGICAL.

Black Ants and Insect Destroyors.

The Geneva Columnist says: "Many of the lead- ing orchard propititors in Northern Italy and Southern Germany, are enemies of the black ant, which industrious insect hold in high reaem in the fruit grower's best friend. They are said to have given the orchards between the poldes service of the fruit trees entirely to the tiny sadie colonists, which pass all their time in climatizing the soil and the air. The ants attack the boughs and leaves of the orchard, mature as well as the fruit, and the farmer has no food. If water cannot be had in any other way, well she should be dug and the water raised by wind or other power, as the supply of water is sufficient to the stock get it as regularly as they feel it will be paid. Remember that animals should be treated well as to the amount of consumption as to the general troubles incident to the neglect of regularity in food and drink with the human body, and the consequences are somewhat analogous for our cats.

Bran for Milch Cows.

We don't suppose that there is a dairyman in the country who is not familiar with the use of bran for his milch cows. As long as we can remember savings in the stall are connected with the use of bran, and the feeders find many uses for some time after feeding; also, its sprinkling over cheese before the cheese are spread on the table, and indeed, always regarded as excellent and profitable food for cows in milk. Still there is a fear in the recollection of the farmers, and is the best food for the animal. That feeding the cow with bran under the effect of 8, and will become accessible to the diet as to be druk clear water, and so on.

If our English contemporary was to see the immense amount of bran used by the farmers of a single county in Eastern Pennsylvania, it would be surprised, judging from its quoted remarks, not so much at the amount of bran used, but at the knowledge on the subject, which must long since have had a widespread influence as cattle food in the production of milk.
Fat Makes Hens Lay

There is much refuse fat from the kitchen that can be used to fatten hens. There is also much fat that is used in making soap. It is a good plan to give the hens half their meals in the form of bread. Of course where soap is made it will be used up in that way, but it is a question whether it is not much cheaper to make a little soap for yourself than to purchase it. The hens lay more eggs when they are well fed. The eggs are also larger and more nutritious.

Half the farmers' hens cost them more than the culls; they eat much more than they lay. It is enough to keep them alive and to enable them to lay an average of five or six eggs a week. A dry-lay hen comes, very likely they do not have enough water or do not have a sufficient amount of water. They should have part of their diet in the form of meal or bread. An extra feed an animal gets over and above what is required to sustain life, which makes the profit. We have a good many homes where the chickens are fed on anything and everything that comes to hand, with all animals feed, which is gain, and the gain is profit.

LITERARY AND PERSONAL.

Dairy Farming—Being the theory, practice, and methods of dairying, by J. P. Sheldon, assisted by leading authorities in various countries. Published by Cornhill Book Company, 630 Broadway, New York. The 18th part of this beautifully illustrated quarto has been placed upon our shelves. A copy is always in demand. The reputation it started out with some months ago, not only has been sustained but even increased. The full page colored plate illustrating Webster’s “Buffalo grass” and “Bermuda grass” are so perfect in their delineation and execution that the minds of all who have visited our dairy farm give their consent and approval. The furnishing the intelligent and progressive dairyman with a series of useful articles on the subject of dairying, is the aim of this journal. For those who intend to become dairy farmers, or for those who have a dairy for their own use, this journal is of great value. And for those who have a dairy farm and wish to improve their dairy farm, this journal is of great value. And for those who have a dairy farm and wish to improve their dairy farm, this journal is of great value.

The “HOLIDAY NUMBER” (vol. 1, No. 3) for January, 1881, of OUR LITTLE ONES, was duly received, and we are in accord with the press in general in recommending it to all parents and the appreciative child. The articles by Llewellyn, Peck, and others are extremely agreeable reading. The contents of this journal are so well arranged that the reader is enabled to judge of the work. The number is a great improvement over the preceding one, and we hope we shall see more of its kind in the future.

The Kansas Daily Tribune, of December 14, 1879, comes to us on the freight of the “Great Western Mortgage Company,” which, according to the public statement of Mr. J. B. Watkins, of the firm of J. B. Watkins & Co. (mail and express), is to enable him to distribute his products at a wholesale price. It is the favorite of the farmers and is being sold in every county.

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The American Agriculturist, The American Farmer, The Gardener’s Monthly, and The Poultry Journal, have been received, and we are in accord with the public opinion in recommending them to all practical farmers. These publications are all valuable and are indispensable to every farmer. We are in accord with the public opinion in recommending them to all practical farmers. These publications are all valuable and are indispensable to every farmer.

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The Journal continues to be the cheapest publication in the country.

The American Bee Journal—Devoted to scientific bee culture and the production and sale of the purest honey. The American Bee Journal is the most popular and influential periodical in the Union, and was heretofore published as a monthly octavo; but now it is changed into a four-column weekly, published in Chicago, and from this time forward will be published in that form. Thomas C. Newman, editor and proprietor, Chicago, Illinois. Terms, $2.00 a year.

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PHILIP R. FREAS,
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All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.

JOHN A. HiESTAND,
No. 9 North Queen St., Lancaster, Pa.
LANCASTER, PA. FEBRUARY, 1884.

Dr. S. S. BATHYON, Editor.

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[Nov-15]
CAGED SONG BIRDS.

The Cardinal Grosbeak deserves a prominent place among American caged song birds. It sings well in confinement, and thrives upon such seeds as are used for the Cages. It is a sight to see a pair of Cardinals or three in the orange-grove, Nightingale, in consequence of its singing by night as well as by day. Its varied song is musical and clear. Both sexes sing, the female quite as beautifully as the male has been quoted as having been seen in the vicinity of a small rivulet. They lay four dull white eggs, marked thickly, but irregularly. These eggs, when laid, are easily reached by hand, and old trapped birds are easily domesticated.

We have known this beautiful bird (Cardinalis) to have lived in Lancaster county, and from the fact that we have seen them in the Chickies hills as late as November, and as early as February, we have inferred that it occasionally passed the winter here, especially if it should happen to be a mild one. The first one we saw was in the possession of a Mr. L. We hatched and reared a young cardinal, and it is an object of many pleasant memories of long ago.

The American Goldfinch, popularly known as the "Dave," is popularly esteemed, although very commonly seen. Its lemon yellow body and black and white wings contrast nicely. They are docile in captivity and have a pleasing and varied song. But the notes are weak. They afford fine amusement for the birds during the spring season, as they are easily taken by means of a call-bird and trap-cages. They sing as loudly as possible in the wild state, and eat freely the same seeds as the canary. The female is less gaudy in plumage than the male, they construct a nest in the same manner, and we dull white eggs, spotted at the larger end.

This bird (Chlorimomera tristis) was called the "Indigo Finch" by the Penns. Germans, "Dind-see," by the Penns. We have frequently seen it in flocks of fifty, feeding on the seeds of the common thistle. They are also especially partial to the garden lettuce, when in seed. It also very frequently breeds in Lancaster county. We have seen it no where else. It is almost unrestricted. Here the "yellow-birds" would congregate in tolerably large flocks, towards autumn, and feed on the thistles and dandelions, and migrate to a more genial winter climate. When they were first seen, they were able to recall their peculiar flight—interchangeable at a distance of several hundred yards, in the air—the rapid manipulation, and the sudden elevation of their wings until they had passed the reach of danger. Even at that period an occasional individual would be found in a cage, but the instances were rare; bird-fancying was not then as much of a recreation as it is now. We are acquainted with the need of them destroying their "hand-seed," and the boys were often instructed by "hillo" them out of the garden. Being finches they have a taste for leaves, and it is probable they may have fed some insects to their young.

The "Indigo Finch" is much admired on account of its indigo-colored plumage. Its voice is sweet and melodious, and it continues to sing during the hot months, when most birds in the wild state are silent. The female is brown, tinged with blue. They are used on our farms as they are remarkably sweet, and their notes clear and mellow, singing by night as well as by day. The prevailing colors, white, black and crimson, contrast richly, making it a desirable cage-bird, though unfortunately it is scarce, and seldom seen confined in cages.

This bird (Flavina carducis) also called the "Louisiana Grosbeak," was also frequently met with in Lancaster county, but it was not so common as the preceding species. It is also a very beautiful bird. It is shown that it is a bird of southern origin, but is also found as far north as our northern counties. It is a very hardy bird, and is often bred and passes the summer here. It is, however, rather secluded, and is rarely seen, except by experts, and by those most interested in ornithology. We have frequently seen it in cages in the possession of fanciers, but note very little about its singing qualities. Its food is peculiar, and it is said to do well in the hands of the (Fringilla), which is mostly seeds and berries.

We have a specimen now in our possession which we shot and studied twenty years ago, and which is and is an object of many pleasant memories of long ago.

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appearances about the first of August, but it is much larger than the seventeen year species, and its color is harsher and louder; and, in the season of the broods, Infestations are more serious. It is that the one passes through all its transformations within a single year, whilst the other requires seventeen years to accomplish the same.

I have been, heard and handled the seventeen year cicada, or locust, four times, namely, in 1817, in 1884, in 1853, and in 1888, and was disposed to remark from the specimens of those four periods, and also of 1800. All the superstitions and horrid apprehensions which have attended the seventeen year locust every seventeen years, as regularly as the insects make their advent amongst us. The generations of their last appearance do not seem to have been beyond the experience of those of their former visits. The newspapers of 1888 were full of their devastations of the vegetable kingdom—stripping the trees, plants, and shrubbery of their foliage. This surely could not have been the cicada; indeed, I question very much if a single well-authenticated case is on record of their ever having partaken of any kind of food at all during their inago period. If they have, it must have been in a fluid form. The females, however, do injure the branches of many trees in the incisions, and depositing their eggs therein.

**FORESTS IN PENNSYLVANIA.**

**EDWARD LANCaster FARMER—Dear Sir:**—I was amused to read in The Lancaster Farmer, at page 189, “Was Pennsylvania a forest country? Professor Meffan seems to think it is.”

I permit me to say that I have never given any such opinion. I well know that the State was wholly under forest with the exception of a very small portion of its surface, there is some reasonable doubt. I have never anywhere uttered anything to warrant your correspondent’s assertion that I have seemed to advance.

Very truly yours,

**THOMAS MEFFAN.**

**Was Pennsylvania a forest country?** Prof. Meffan supposed that one of the best evidence of that opinion was that it was not. This is the language of our correspondent “Warwick,” on page 13 of the 12th volume of the Farmer. “Is it true that the forests of Pennsylvania are not to be had? I would illustrate just how far Warwick may have apprehended or misapprehended him, we will quote what he says touching this subject, in his paper, “Trees of the Northern Agriculture,” and published in the January number of the Gardener’s Monthly for 1851.

In the State of Pennsylvania, the forests are so abundant, that in the country parts of the State, it is difficult to find a place where old trees are not seen. The young trees are mostly of the hard woods, and are of good quality. The forests are well kept up, and the lumber is of good quality. The forests are very extensive, and cover the State in a great degree. The forests are well managed, and the lumber is of good quality.

**THE LATE POULTRY SHOW.**

The second annual exhibition of the Lancaster County Poultry Association closed on Wednesday evening, January 19, and it scored a financial success. The receipts at the doors were $250, an increase of $100 better off than before the show.

The receipts were $25 in excess of those of last year, but the profit was larger because the entry fees were increased.

It is estimated that nearly 5,000 people visited the show, including the school children at five cents each, and the complimentary tickets. On Thursday morning all was confusion about Roberts’ Hall, the exhibitors being busily engaged in removing their exhibits. All the exhibitors said they were on the same condition as when they were given into the society’s keeping, with a single exception, and the damage done to it if it deserves no milder term than “a bastard trick.”

Some time during Wednesday evening, and unobserved by any one, some heartless rascal smeared the gold polish of a statue of the Holland, and pulled out nearly all of his beautiful plumes. The bird is not injured, physically, but his beauty is sadly marred.

The Executive Committee of the Society, and feel gratified that some things can be a “success” in Lancaster county. The great secret of the success of the Poultry Society may be mainly attributed to the enterprise of the managers, and the way in which the enterprise carries through its energy, and the association, as an unit, assumes the responsibility, without which, almost any enterprise which was to be leaders and exemplers in an enterprise manifest a disposition to “shirk the responsibility,” in nine cases out of ten, the thing is done, and the society is not so much condemned to failure. “A house divided against itself cannot stand;” it is contrary to the usual practice of these organizations of Divine authority. There is a sense in which, “he that is not for us is against us.” If a respectable majority of a society is opposed to an enterprise, it is not creditable to a minority to hang with indifference on its “rugged edges.” But one sentiment ought to pervade the whole society, and that sentiment is higher.

The success of the late poultry exhibition redeems the failure of the agricultural and horticultural exhibition of last fall, so far as the poultry is concerned. It is intended to compensate the disappointment experienced by the sponsors of the latter, nor exonerate any one from the responsibility of that failure. The poultry show was the fact that it was gotten up by live chicken fanciers—by interested amateurs and professional men with a considerable background of culture. It did not depend on disinterested outsiders. The members of the society knew they could not expect success without enterprising, and the enterprising was shrewd. It was admirably conceived and executed. Again, it had but one object, or idea, and that was chickens, and what primary object than that? Its success, however, is not to be measured by its money receipts; it was a success without that. Compared with the magnitude of the exhibition, and the quality of the specimens displayed, the income was quite ordinary; still it was much better to realize a surplus than to “fall short” that amount. A chicken show too, is more limited—more distinctly
counties, and of States. We think, that without a radical transformation, Lancaster county is not the place in which to hold a successful Agricultural Fair, and that Berks county should be conducted by agriculturists, and in the interest of agriculture. That makes all the difference, and that alone.

THE STONE AGE.

Indian Relics Plowed Up in Lancaster County.

Mr. W. H. McFalls exhibited to us two of the many articles that have been found that it has ever been our privilege to see. They are what are usually called "pigeons," and are supposed to be stone instruments, but it is questionable whether they were ever used for that purpose, or even intended to be so used. One of these implements is 17 inches long and 7 inches in circumference, at the thickest part—in the middle. It is made of a yellowish argillaceous rock, smoothly finished and tapers beautifully towards each end, the ends being rounded. The other is in the same form, 16 inches long, 6 inches in circumference, and is of a harder rock. It has a brownish color, perhaps hornblende, and being susceptible of a finer finish, and more likely to become disintegrated, it is therefore in a still more perfect condition than the former; almost polished. Both the implements (or ornaments) were perfectly cylindrical (a transverse section would exhibit a perfect circle) and symmetrically tapered from their centres to their ends.

The story of "corn-crumblers," in order to be effective, would naturally be bolder and squarer at the base, but the end of these are cone-shaped. They resemble "rolling-pins," and if not used for the purpose for which they were designed, are probably parts of authorities. Mr. McFalls plowed them up in one of his fields, near Clearfield, Pennsylvania township, Lancaster co., Pa.

A DOUBLE APPLE PRESERVED IN A HOUND.

Mr. J. William Boeting, of Elizabethtown, Lancaster county, Pa., sent us a few days ago, a singular double apple, which we are endeavoring to preserve in alcohol. The color is unimportant, although perhaps it was a "Hold your Nose" variety, but only fatally. Latitudinal circumference, ten inches; longitudinally the circumference is seven inches on one side of the basin and seven inches on the other. The basin is moderately deep, and oblong in form; it had no stem, but the appearance is, that it originally had a branching stem, one branch attached to each end of the basin, indicated by two depressions, or indentations. Between the two divisions of the apple there is an obtuse curve on the one side, and a more distinct one on the other side; at the apex—or rather apices—the suture is entirely obsolete, and a slightly elevated ridge instead. There are two very distinct and well defined calices, two inches apart. The whole is oval in form, as if about the two-thirds of two apples had united together in their growth. To us it does not seem possible that the seeds could have grown on one bifid stem; and that as they increased in size, either by friction or pressure, the skin became ruptured, bringing the pulp of each in contact with the other, thus assimilated and formed a "silent partnership." Except this abnormal freak the fruit was well formed, has a smooth surface, and is without marks. The color is a deep red, rather calyx of the interior side. We don't like to cut it open to explore the inner side, but we presume it is such a ridge from the calyx side, that there are initials and seed cavities in correspondence with the external contour. From the dimensions given it may be seen that the size is somewhat greater than a common double apple. We cannot speak about its variety, and, under the circumstances, we shall not venture to name it—especially since there are about two thousand defective apples in the entire orchard, and that is, perhaps, one thousand too many.

THE TIMBER QUESTION.

Its Effect upon our Social Economies, and the Cause of its Duration.

"Scientists have been teaching us for a number of years, that the immense amount of timber being cut away was the prime cause of lessening the rain and snow fall. This is so in the regions of the white pine, where the trees are cut down in the wild state. But in these men of science are not subdued by the snow they will please rise up and acknowledge their utter ignorance in matters meteorological."

"This far this has been what we call an old fashioned winter, like they had in the early days. The snow has been so thick that behind the stoves all winter, playing "old sledge" and drinking hard cider, spinning yarns and pitching pennies, and indulging in every sort of laziness and idleness."

It rejuvenates the old men to see such winters like we are now enjoying. They seem now almost persuaded to plunge themselves into the ocean and go to the Death Ship. For we will await the developing of more theories from scientific minds about the timber view—"

Although the theory of the climatic influence of forest lands may be overestimated, still we hardly think that it is exploded. Much more may be claimed for the local influences which are not, at least, by the rainfall, but rather in the snowfall, which is lessened by the dense forests, and which is not increased by the removal of the timber."

The Ohio River, which the forest trees had wrought a great change in water courses, and general water supply, but whether this would be a "permanent" or a "transitory" effect, therefore one intervening winter like the present, can no more demolish the theory, than a dry winter can establish it. Much more may be claimed for the snowfall which is not, at least, by the rainfall, but rather in the snowfall, which is lessened by the dense forests, and which is not increased by the removal of the timber."

There is a large "nesting place" for waterfowl, surrounded by trees. This spring had been there from time immemorial, and had ever been a spot of great public interest, and for drinking purposes. The stock of course were watered at the creek. After we left the place, fifty years intervened before we again visited it; and in this interval the corn crib, the pig pens, the chicken coops, and the dwelling house had been demolished, and new farm buildings erected about half a mile west; and the old hunting station became the site of a farm.

On the 13th of December, 1878, every landmark was gone, and we could hardly recognize it. The day was moist and raw, nevertheless we thought we would like to see that place again, and started out on foot, in its lumpy waters. We were taken to the place, but the spring was non est—it had disappeared a quarter of a century ago. Not a tree or a shrub was near it; all the hills on both sides of the creek were denuded of their timbers, and even the creek itself was not as large and full as it was half a century ago: and this change was due to the exhaustion of the timber. As the water follows the contour of the land, and because the soil of the valley is composed of the denudation in the flow of the creek, was contemporary with the removal of the trees, and was doubtless caused by the termal events of the trees which materially expose the surface of the earth to the heating rays of the sun, and the drying influence of the winds, and this change was due to the exhaustion of the timber. This is very perceptible along the margin of fields bordered by woodland, and especially in a dry season. Well, it may be said, does not this implausible water dense and return again in descending rain?
True it does, but it does not follow that it will continue to do so. The belling of the birds may be some element there for which it has affinity. It is notorious that in the West India Islands where all the mahogany and other trees have been felled, that the fields are covered down in showers of rain, now, in a great measure, pass entirely over them, leaving them dry and arid. Of course, there are exceptions. The influence of the sea and moisture, these influences would be more frequent and more mildly affected by the presence of trees than by the absence of trees; not so far as the present winter, may not our earth be moist and frigid belt in the realms of space, just as it passed through a vast meteoric field in the time of the moon's transit. The sphere of the earth may occasionally be brought within its sphere.

The following extract conclusively shows that there will always be a variety of reasons and opinions on this prolific subject, and although the cause may not yet be fully developed, yet the observations which have been made at various times and places, are assuming the form of approximations to the true cause. Science is a progressive work and many of its decisions are not yet final.

**EXCERPTS**

"The question is often asked, why drouths are more common latterly than in former years. The main reason, we concede, however, is that we have plants, trees, herbs, flowers, down. The effects of forests upon the atmosphere are two fold. They fill the air with daupless, and again this daupness, when it is consummated, becomes atmosphere affected by the extent of the forest. The roots of trees run deep into the ground and absorb the moisture that is contained in it. A considerable depth below the surface. This moisture, much of it is evaporated by the leaves, and thus the air is loaded with water. The amount of water that is drawn up from the strata of the earth lower down by the roots of the vegetation plants penetrate, is enormous. This water, if not drawn up by the roots of the trees, would naturally make its way into creeks and rivers, which would eventually reach the ocean. Cutting down the forests has two other effects, both of which result in decreasing the amount of rain. Dry and parching winds are unimpeded in their course. The result is that they carry off the moisture which is in the atmosphere. Another result is that the trees, in the course of many instances, have been entirely annihilated, even during the winter months. This has decreased the volume of water in the creeks and rivers, and this has checked the blowing force of the clouds and the amount of water evaporated from the surface of the earth in any particular section.

But there is another source of solace in regard to our forests, independent of meteorological considerations. Even if it were certain that their removal had no effect on the rainfall, it must be remembered that danger of a timber famine in the near future; and something, it seems, ought to be done now on account of timber famine in the near future. It has been observed that there would be a danger of a timber famine, if the purposes enumerated in our concluding extract, yet health, refinement, beauty and commodification of the woods is the wish of obtaining them, or reproducing them. We cannot conceive of a country without trees, as being anything else than monotonous, cold, still, silent, a country that has been volting to a refined moral constitution. It is anything but flattering to our moral

Agricultural Journal tells of a man who plants the corn of 100,000 acres in every fifteen row the next way. This is the reason: If the weather becomes dry during the filling season, the corn will be saved, but if the corn is re-planted, a new hill of corn in every fifteen row each way. In this condition, a return of moist weather revives the silk, but the tassels do not recover. Then, for want of pollen, the silk is unable to produce. At this time, however, the re-planted corn is ready to supply fresh pollen, and the filling is completed.

If the above is a really good thing, we believe we would risk a little more of it—say, every fifth row, instead of fifteen. If it was too late for this benefic plant to die, it might be just in time for a late crop of "roasting ears."
THE FREEZING OF INSECTS.

We could not possibly attend the February meetings of the Agricultural and horticul-
tural society, and had we been there we prob-
elly could not have heard what was said on this subject. The reports of the proceedings by the various societies agree that we have this year, according to my appreh-
ions, an inclement season, a very cold, dry, and continuing winter, and this large, very low degree of cold without injury, and this is also the case with many of the species of insects. As to the developed insects themselves, of some of the hibernating species are under ground, the ground too deeply covered with snow to be thawed very early. A few days ago, when Mr. Lutz reported the ground was frozen three feet in depth, in Lancaster cem-
tery, "Colorado potato beetles" taken out of soil, in which the beetles had been kept, after they had been removed to a warm room, The same winter we had our eye daily on a chrysalis of the "white cabbage butterfly" from a plant in the state of Colorado which was given us by Lieutenant Johnston. Nine days ago, when a silkworm breeder received eggs, before the temperature fell below freezing, he prepared food for them by putting them in an ice-house to retard incubation. The Japanese send silkworm eggs to New York, whence they are shipped across the continent to New York, and from thence to different parts in Europe. These are preserved from incubation by placing them in refrigerators, or packing them in ice.

We have frequently seen species of Per-
icide (shail flies) coming up through fissures in decayed wood. The same is true of the quechanna, in February and March. We have also found insect larvae frozen so stiff that it was not possible to move them like icicles, and yet on the removal of those icicles they became dried, and we have since found it creeping over the carpet in a warm room almost as briskly as in summer. During the winter Mr. Hensel, of East Orange street, cut potato beetles out of the frozen earth, but the beetles did not seem to be frozen—they were as lively as ever. Mr. Hensel has been crushed in summer time. And yet, there are meteorological conditions that are detrimental to the life and health of insects, namely, watery saturations and extremes of alternate freezing and thawings. Almost all the architectural structures of insects are impervious to water. The object seems to be to keep out moisture and not the cold. A gravid female insect appears to have as many lives as a cat. After all her eggs are deposited she loses her tenacity; the case is similar with a "bachelor" male. After his fertilizing office business he takes a long, leisurely promenade, being chased away. When weadvise a farmer to turn up the soil with a plow and expose the larvae and chrysalids in it, it is more to subject them to freezing and thawing, freezing and thawing, than to cold.

All this, however, does not militate against the insect at a certain low temperature may freeze; especially when other conditions render them more susceptible to the effects of cold. By the way, we do not think that it makes any difference with those below the "snow line" the present winter, how cold it is above that line; and to illustrate how perilous these weather changes, we are only to mention that on Monday, the 7th inst., a young man brought to us a lively chrysalis of Ateus cercopis—"for nature the source of much injury, and out of its cocoon. This is the large "American silkworm," or "Cecropia moth," and we think if any insect were likely to freeze this one would be, and it is most probable that it fastens it in a low branch, a weed, a shrub or some such place. Its cocoon is impervious to water, and that is pretty much the same thing; but it is very doubt-
ful if ever one was killed by cold. Nor will water affect the destruction of insects, unless a long period of cold in the period or until decomposition takes place. It is certainly known that "house flies" caught in a "water trap" have revived after being frozen for more than an hour. Rev. Mr. Kirby, one of England's most distinguished entomologists, had his at-
tention first called to the study of insects in the ice and water through his temerity, which came under his observation. He immersed a small yellow and black-spotted "Lady bird" (Coccinella 20-punctata) in spirits, and left it there for several lines until he went out. When he returned, it revived and flew away. We have often been astonished, when we have killed and impaled insects, to find them "alive and kicking" two or three days thereafter. Al-
though a certain degree of heat will revivify insects that are thought to be dead, yet it is much more difficult to produce certain results than intense cold. We wish we could advise farmers and others of a millennial absence of nocturnal insects through the intervention of cold in those latitudes where we have been here since our earliest recollection, and perhaps always will be here as long as the earth produces food for them to feed upon in the next world. With our mild climate, the earth and its products improved in quantity and quality, the more inviting and facilitating will it be to the presence and increase of insects. No farmer cures his meat, or has his meals cooked, without providing salt. This is an all-pervading and ever accompanying essential. Let him regard insects as something which shall have "always with him," as a matter of course, and make pro-
vision by prevention, circumvention, or ex-
termination, as conditions upon which he can rely for future years.

As to Prof. Riley's predictions in reference to the appearance of the seven-year locust in this year, Dr. Greene alluded, we think the professor only refers to it approximately, and not as a final-
ity. He doubtless bases his theory on certain data to produce certain results, if those data have been correctly noted or re-
ported. Prof. R. has done more to reduce to systematic order the chaos that has existed in this branch of science in his long career for the last hundred years, than perhaps any man living. We do not expect such an advent of these insects this year in Lancaster county, as those we witnessed in 1854, 1855, and 1868, although small and isolated broods may appear in certain localities, both in York and Lancaster counties, and to which we have more fully alluded elsewhere. It does not require much prophecy to forecast the damage done to vegetation by the seven-
year locust. Beyond a little pruning, in some cases absolutely beneficial to some trees, they do very little damage to young trees, or dwarfs and shrubbery; but their visits are so "few and far between" that a single year may set matters right. This is perhaps the opinion felt by those who suggest the locusts of Asia and Africa, &c.

The annual meeting of the Pennsylvania Agricultural Society was held at the rooms of the Society in Harrisburg, Wednesday, January 25th, 1881. The following officers for the ensuing year were elected:

President—William S. Bissell.
Enrollment: Moses Chies, J. D. Kirkpatrick, James Miles.

Additional Members: Executive Committee—Dr. Wm. Alber Rutherford, William Taylor, John H. Ziegler, W. B. Culver.

Ex-President—Members of the Board—Frederick Watts, D. Taggart, James S. Halder, Amos E. Kapp, John T. Morrow, J. R. Eby.

Corresponding Secretary—Elibridge Mc

Commissioner, Recording Secretary—D. W. Seiler.
Treasurer—John B. Rutherford.
Chemist and Geologist—A. L. Kennedy.
Librarian—William H. Egle.

OFFICERS ELECTED.


At the annual meeting of the Mechanics' Library Association, on the 15th ult., the follow-
ing officers were elected to serve during the ensuing year:

President—H. R. McConkey.
Vice President—George E. Zellers.
Secretary—Samuel H. Zalm.
Treasurer—S. S. Rathan, WM. F. Duncan, J. W. Byrne, D. C. Havestock and F. E. Snyder.
Library Committee—G. M. Zalm, J. W. Byrne, Philip Doornom and J. D. Pyott.
Librarian—S. S. Rathan.

By a resolution, the annual subscription for others than members was fixed at $1. The association now has over 5,000 books in the Library.
ENTOMOLOGICAL.

SEVENTEEN YEAR LOCUSTS.

"Prof. Riley, the entomologist, says the seventeen year locust will abound next June in southern Illinois, and our farmers and gardeners should be prepared for their active attack. The locusts come in two broods, the first appearing in the summer of the latter years of odd numbers, and the other in the summer of even numbers. Of these two broods the former is the more destructive. Each brood is composed of millions, and will cover the ground for miles around."

"The locusts were noticed in Ohio, Indiana, and Kentucky, in 1833, and according to reports the insect was so abundant in Pennsylvania in 1834, that it was necessary to put the churches in order and keep the ladies from going to market."

"The spread of the insect in Maryland, West Virginia, and Pennsylvania is likely to be extensive this year."

"The young locusts will make considerable destruction this year, but not in the same localities as in 1833, although a large number of the insects will be killed by the severe winter which has prevailed."

ENVENEMES OF SPIDERS.

"The well-known naturalist, the Rev. H. E. McCook, of Philadelphia, has been talking to the Academy of that city on spiders, which he has divided into three main classes: the nursery, the weaver, and the hunter. Among the principal enemies of the spider he enumerated many of those hymenoptera or four-winged flies, the bees, wasps, etc., which produce grubs or maggots. Large numbers of spiders are used by this species as food. The nest of one of these wasps is a large pipe, and each pipe is provided with a door that resembles the pipes of Pan. When opened, these nests were found filled with spiders of different species. They were all paralyzed by this means of destruction, and as his suspended animation they remain until the hatching out of the grubs, which eagerly devour them one after the other. The unfortunate spiders are thus deprived of their natural right, showing no sign of sensation and making no resistance. Other flies, and among these may be included the common black house fly, preying upon the eggs of the weaver spiders, stuffing the contents of their eggs when they happen to be uncovered or only slightly protected. The eggs are also devoured in large numbers by the larvae of certain insects, in preventing the spread of spiders by making use of their webs, especially the thick- er species, which are designated by the entomologist as cocoons, to build their nests. A bird's nest was exhibited composed of this material in such quantity as to indicate the destruction of a great number of the poisonous insects which deposit their eggs in the webs of spiders. The weaver spiders, however, are the most destructive enemies. When the grubs are hatched they make their way through the web and destroy the eggs of the spiders, and then closing up the aperture of ingress with mud; never for a moment suspecting that he provided them as food for his young."

"We have also followed him to the place where he procured his mud, sometimes carrying off a portion of it heavy enough to weigh five and one-half pounds. The foreman of the crew, who has kepters had no particular love for the wasp, but their aversion to spiders amounted to a horror, for they have habits the wasp, they would have loved more."

THE CORN-CUT-WORM.

"We noticed briefly in a late number the destructive nature of the cut-worm. We have since had a chance to examine this insect, which is so often destructive to the corn crop. In a late number of the Washingtonian we observe the following directions: "Take a small wooden box, and put a pocket watch inside, and fill the box with earth. This is the hiding place, a small round hole into which the worm has passed and lies concealed. The way to bring the pest up is to thrust a pointed stick into the ground, and the worm, which is as white as the earth to the depth of two or three inches, when the malfactor will lie exposed to view and can be instantly destroyed. We have known of large fields being cleared by this process at a cost of labor so slight as to bear no comparison with the loss that would otherwise have resulted."
In the mentioned above communication, we have no knowledge of the existence of the toads except that of the toads, and that is only good so far as it goes. Toads are very effective insect destroyers and live almost exclusively on insects, particularly caterpillars and cabbageworms. The toads will eat any insects, and they are so selective to many people, that it would be difficult to get a sufficient number together to make their influence very apparent. The farmers have heard of “brain” being used to destroy the “cut-worm,” but our tobacco-growers seem to have no confidence in it at all. Toad population varies from one county as they were ever. We have no confidence in the “thax” remedy. Some of our farmers, at first, planted their cabbage fields sprinkled with the “Colorado potato beetle,” but they would not scare “worth a cent.”

The cabbage worm must be fought through the whole season of the crops in order to effect its total destruction. This insect is not a native of our country—it is a “foreign importation,” but it is more destructive, and also more numerous here than in Europe where it came. The predominant color of the fly is white, and in size it is about as large as the common yellow butterfly, so well known from our county. The eggs are laid all over the field, in the spring and deposits its eggs on cruciferous plants generally, but is partial to the cabbage. It is a large, black, and white grub. The destruction of each female will prevent the deposition of one to perhaps three hundred eggs; and this would certainly be a very large reduction in the number of the pests if this has not been done, or only partially done, (except searching for, and destroying the eggs on the plants) the next step must be warfare against the worm. In order to prevent this, we will require the application of White Hellebore, Paris Green, London Purple, or Pyrethrum, either as a dry powder or liquid in fulness. The London Purple requires a dilution of 15 or 20 per cent, according to its quality. If these applications are made, it is probable that some of them should consequently transform to the chrysalis, or pupa stage, but, by placing strips of rough board about three inches wide and about two and a half inches higher—in the form of low benches—between the rows of cabbage plants, the worms will use the lower sides of these benches as convenient and safe places to be gathered and destroyed. These insects produce at least two broods during the summer season in this locality, and the second brood is usually somewhat more active than the first; it therefore behooves the gardener to exercise vigilance until he secures his crop in the fall. The most hopeful contingency, and the best way of destroying this insect—parasitic enemy that destroys multitudes, and in localities where this enemy abounds the cabbage worm has become nearly exterminated.

A farmer in Franklin county, Pa., sent us twenty chrysalids about a year ago, and out of the number seventeen were destroyed knowledge of the efficacy of any of any of the remedies of hand-picking is always available, and although it may be repulsive to some people, still it is not more so than destroying the worms in that way; and I believe it has been very common for many years in tobacco-growing districts, and especially in the South.

In conclusion, perhaps it may be necessary to diminish the notice that Paris Green and London Purple are both virulent mineral poisons, and should be manipulated with caution. On this account many persons are prone to think that the use of these remedies is dangerous, and also, fearing that they might become poisoned in eating the cabbage. But there is no ground for such fears, and it is a fact that in the hands of the consumer, whatever with proper care, as she has used Paris Green as a remedy, "over and over," with no bad results. When Paris Green was first recommended as a remedy against the "Colorado potato beetle," many of our farmers revolts against it, as the same ground, but they soon overcame their prejudices, and now it is almost the only remedy used, and the potato is as certain a crop as any raised in this section.

Hellobore and Pyrethrum are vegetable poisons, the latter of which has only recently come into use, and is identified with any remedy now in use, but the supply is still limited. Deceptions of tobacco or sunn flowers are said to destroy the worms. In the application of dry powders, it should be early in the morning while the plants are covered with dew, and if no dew has fallen then a spray of water should be applied. If we desire to preserve our "saur kraut" we must be "up and doing."

Since writing the foregoing we have received a large supply of Pyrethrum, from which we make the following extract:

"Experiments with Pyrethrum—Safe Remedies for Cabbage Worms and Potato Beetles—The following experiments with Pyrethrum were made, at our request, by Prof. A. J. Cook, of the Michigan Agricultural College, at Lansing. They are very striking. Mr. Hetherford said in recommendation of this powder for the imported cabbage worm, no safe and satisfactory substitute before. We therefore recommended this powder and showed that it could be economically used, when simply mixed with water. Its value, used in this way, seems to be equal to, if not superior to, as a substitute for the more dangerous arsenical compounds, will at once be appreciated."—O. F. R.

April 27, 1889. I placed ten cabbage caterpillars (Pieris rapae) in two small wooden boxes, which were covered with wire gauge. In one box I dusted the least possible amount of the powder of pyrethrum on twenty per cent of one part of Pyrethrum to twenty parts of flour. I sprayed those in the other box with a liquid mixture. I then placed in each box twenty gallons of water. In five minutes all the larvae were on their backs, nor did any of them recover. A large number of the caterpillars on the cabbage plants were sprinkled or dusted with the Pyrethrum, the proportion being the same as above. In one hour the plants were examined, and in every case the caterpillars were dead.

Pyrethrum is a flowering plant that belongs to the order Compositae, and generally known as the "bitterweed," is now identical with C. siegii. It is said to be of very easy culture in any common soil, and may be propagated by cuttings, by suckers and by seeds. It is a perennial.

CONTRIBUTIONS.

FOR THE LANCASTER FARMER.

SHELTER-BELTS.

The subject of shelter-belts was discussed at a recent meeting of the County Agricultural and Horticultural Society, when friend Hiller read an essay adverse to them in his neighborhood, or in Lancaster county. I would not confine myself to this county—I would take a wider range. Our country has many natural shelter-belts through that diversity of nature's protection from the north wind, and especially of our terrestrial abode—in valleys, hills and ridges. I know many instances where buildings were protected from the north wind, and especially of our sheltered on all sides, from the cold and bleak winds of winter. Some may be so situated as to be protected only from the northwest or east with great advantage. Some instances that is all sufficient. How pleasant to be protected from the chilling winds—often so damaging to fruit-culture, by hills, trees, and high ridges. Sometimes we leave our homes without particularly feeling the discomfort of the chilling winds, until we get away some distance from the house. People in by-gone days in this country used to occupy hillsides surrounded by the majestic oaks of the forest. Some were protected only on one side, and many are sheltered by belts of forest trees, and enjoy a comfort unknown to us. And if we do not now do so, why then go to work and plant shelter-belts in open or exposed places, and follow artificials. The old-time comfort, the enjoyment of the birds, a pecuniary benefit, as well as a comfort to men and beasts. It would also encourage and multiply our insectivorous birds, the destruction of our insect pests. I think it a mistake to suppose that the only effect of shelter belts is to hasten vegetation and render it more liable to injury by wind and frost. The protecting influence of advanced vegetation is more the effect of the heat of the sun and the earth, independent of prevention of winds. Belts of trees, or hedge, advances the rays of the sun become more vertical and penetrate the earth more thoroughly, which gives vegetation an earlier start than in the open ground. Shelters in even late spring, when apples, peaches, cherries and grapes are in bloom, protecting them from the rough blasts of wind and hail, natural to fruit trees during the fertilizing period.

Our shelter-belts should be of mixed timber, with plenty of evergreens. These would then be a protection from all storms as well as purposes from the trimmings alone. It was the design of Providence to furnish beautiful parks and forests for the subjects of his creation, and they should be protected. I have seen in my travels some of the most exquisite natural parks, but these shelter-belts business, and a very large number of them remain intact, even in this county. On a few of our water-courses we often find what would be beautiful natural parks of over-cropping and deforestation, as well as over-cropping and deforestation and deforestation. It was a great error in the early settlers to set them out in the cold winter winds. It is a great enjoyment to a "man and beast" to be so protected. That no benefit is derived in any shape from a timber belt, except a question that should be no longer debated; or, that the thermometer varies from 1 to 5 degrees at times, according to the weather. I knew an orchard in 1835 that was protected, both by a ridge of high ground and by a forest, which was the only orchard in the county that bore a crop of apples that year. There is no doubt whatever that fruit trees will do much better in sheltered places than elsewhere. In the olden times farmers forethoughted the winter weather and provided for it. They protected places they were not, for example, in the cold winter winds. It is a great enjoyment to "man and beast" to be so protected. That no benefit is derived in any shape from a timber belt, except a question that should be no longer debated; or, that the thermometer varies from 1 to 5 degrees at times, according to the weather. I knew an orchard in 1835 that was protected, both by a ridge of high ground and by a forest, which was the only orchard in the county that bore a crop of apples that year. There is no doubt whatever that fruit trees will do much better in sheltered places than elsewhere. In the olden times farmers forethoughted the winter weather and provided for it. They protected places they were not, for example, in the cold winter winds. It is a great enjoyment to "man and beast" to be so protected. That no benefit is derived in any shape from a timber belt, except a question that should be no longer debated; or, that the thermometer varies from 1 to 5 degrees at times, according to the weather. I knew an orchard in 1835 that was protected, both by a ridge of high ground and by a forest, which was the only orchard in the county that bore a crop of apples that year. There is no doubt whatever that fruit trees will do much better in sheltered places than elsewhere. In the olden times farmers forethoughted the winter weather and provided for it. They protected places they were not, for example, in the cold winter winds. It is a great enjoyment to "man and beast" to be so protected. That no benefit is derived in any shape from a timber belt, except a question that should be no longer debated; or, that the thermometer varies from 1 to 5 degrees at times, according to the weather. I knew an orchard in 1835 that was protected, both by a ridge of high ground and by a forest, which was the only orchard in the county that bore a crop of apples that year.
planted instead of throwing cold water upon such a landable enterprise. — Worvick, February, 1881.

Doubtless, "circumstances ater cases." It is now more than half a century since we retired from the shores of the town, but we can vividly recall some of our observations and experiences of that period, and they seem to corroborate the somewhat lurid accounts of "Worvick," whether his theory is true or false: After the cold winter of 1834 and 1835 it was found that the potatoes were so badly frozen along the valley of the Susquehanna, that the crop proved an entire failure. This was also largely the case with the nurses of the country. The trees were so badly frozen that their trunks and branches bursted. But high up on the very top of the hill that borders the Susquehanna, on the old cornfield, was an orchard of peaches, pears, apples and cherries, entirely surrounded by trees. A short distance northwest of it was an elevation called Round Top, upon which stood an enormous elevation, with the intervening trees, formed a shelter to the enclosure. Never was such an abundant crop of fruit seen anywhere as that which was gathered from those sheltered peaches. True, the quantity was inferior, but the quality was simply marvelous. We do not pretend to give an exact account of the peaches, but we do know as fully as we stated them. On more than one occasion we have seen the sides of trees, exposed to drying rain and heat, cottony with the perspiration of the fruit. The fruit was of the best possible quality.

For The Lancaster Farmer.

BEES AND GRAPE.

Editor Lancaster Farmer—Dear Sir: By close investigation I have satisfied myself that the honey I had, during the past season, 22 colonies of Italian and common black bees; all the hives were in close proximity to the grapes, while a number of honeyed trees formed them shade during the bulk of the harvest.

The grapes are of the Concord variety, of which we had an abundance of fine fruit, some clusters of which grew within 15 inches of the entrance to the hives.

Bunches of the grapes remained on the vines until the frosts had killed the foliage, when the hives had been opened, morning or evening, forcing every temptation to the bees; and this, too, through a season when the honey yield from natural sources was so small that the Concord grapes (which they had gathered earlier in the season).

But the bees do work on grapes, and also on other fruits under certain conditions. If the skin of grapes, peaches, pears, &c., is ruptured from any cause, the bees, wasps, ants, &c., are very quick in discovering it, and soon begin to lay the dried fruits. During the hot weather of August, especially when there are frequent showers, the skin of ripening fruit cracks, for reasons which I will leave to some philosophical writer to explain.

My conclusions are not hasty; nor were my observations superficial; but they were prolonged from the time the first grapes ripened until the last.

I found some clusters of grapes literally covered with bees scrambling and fighting for the little sweets contained in the cracked grapes. These are the only ones on which the bees work, as I found out by driving the bees away and removing from the clusters all the bruised grapes; when the bees, as soon as they could, went in and out the clusters and made the fruit. Whatever may be the reasons, the grapes are not injured.

We also laid some bunches of grapes on top of the fruit for the bees to work on. Of course, some of the bees, especially those that were already working on the grapes, went away and left the grapes uninjured.

I also found several bunches of grapes on top of the fruit for the bees to work on. Some of the bees, especially those that were already working on the grapes, went away and left the grapes uninjured.

I know very well that bees can grow through heavy muslin, or shine off wood and straw. To cover the bees we have quills made of heavy muslin which are sometimes bit through, and we have wood and straw leaves on which they have enlarged the entrances; but, nevertheless, I am fully satisfied that they do no injury whatever to sound fruit.— J. H. Stout. Pole Grave, January 22, 1881.

For The Lancaster Farmer.

POTATO CULTURE.

Although it is not now the time to plant potatoes, it is never out of season to lay plans for next season's operations. In this we are not so much in the groove as in the preceding seasons, for the potato work cannot be carried on to much extent, we have good time to plot out our next summer's potatoes. It is true that the particular work comes around we may be ready for it. How much ground are we going to plant to potatoes? Shall we plant in corn-ruts or along other strips on the same ridge, or along a little gully or in rock or on stalk ground, should we have our manure on the ground last November and plowed it down, but if that was not done, the potatoes should be planted as early in April as the weather will permit. A good dressing of manure applied to the stalk ground to raise a good crop of early potatoes. A mixture of cow and horse manure is good. Cow manure alone is not so good as when mixed. No good farmer will have his manure other- wise than mixed. The value of a manure pile on which the cleanings of the cows and hens are put is worth thirty per cent. more than the fire-fanged horse manure when piled up by itself. The question of the quality of the manure is a very important matter, and the attention of growing potatoes for late crop, without stable manure, by sowing the ground in early fall to rye, or if this was neglected it may be used in the spring, or potatoes may be grown as late as possible. But a clover sod is better than any of the foregoing, either for an early or late crop. But as many of our farmers cannot, or think they cannot spare the clover sod, they can adopt the green manuring with profit.

The best time for planting for a late crop is from April 10 to May 1. I have good evidence broadcast on an acre the mixture in the following formula, which has been tried and found valuable: 200 lbs. dissolved animal bones; 200 lbs. silicate of potash; 200 lbs. Sulphate of Potash; 200 lbs. ground land plaster. These ingredients can be had of responsible parties at a cost not exceeding ten dollars per acre, and it will be found necessary to plow the potato seed in. By using a chain the eye, oats or clover can be completely turned under when they have gradually decay, giving both food and moisture to the growing plant. The seed should be dropped every third furrow, regulating the distance between them to 36 inches apart. Experience has shown that this distance apart is about right for the amount of cultivation that is necessary in dry season. Seed cut is probably the most satisfactory. One of the principal objections to single eyes is that many fail to grow.

The eye cuttings should be planted 12 to 14 inches apart, while one eye cuttings may be put down 9 or 10 inches apart. Lay the seed close to the inverted furrow; this will make all the new potato plants sioe; it will also be less liable to be tramped by the horse walking in the furrow, as is the case when the plants are made up into the formation of a hard crust and to destroy all weeds as fast as they appear. A slice-harrow is the proper implement to use before the potatoes are up, to dig the ground, and to advance even after they are an inch or two high. For the rest of the cultivation the shovelf-harrow is the best. In the earlier part of the season run the shovel-harrow deep and as close to the plant as possible; later, not so deep, and further from the plant. The shovel-harrow properly used will kill up the plants about as much as the crop requires for further growth.

The object of cultivation is to keep down weeds, and the ground from baking; and for these purposes it is necessary to keep it up to the very last. I have been taught to never gather by a fuller foot, and you can laugh at dry weather and be reasonably sure of a good crop.

One acre on clover sod, in 1879, treated as above, yielded 200 bushels. Three-fourth of an acre, also clover sod, in 1880 yielded 100 bushels. The 1879 crop had only one rain during the season. The 1880 cropld no rain that moistened more than the surface. The 1880 crop was planted with single eyes, which were set about four inches apart, and by about one-fourth. The number of potatoes to the plant was from one to three, seldom four, many of them being undesirably large. The two eye cuttings would have made a better set, and probably would have increased the yield otherwise. The potato crop under the ordinary treatment which it usually goes is the most uncertain of our crops. By root manuring and high cultivation it can be made profitable.—O.

ESSAYS.

"EX-LIBRIS." 

Literary collections are as old as civilization. In Europe complete series of Roman coins have been found, so exquisitely arranged that the eye of the finder had no doubt that their collection had been a labor of love, the part of certain ancient patriots. It is recorded that the historian, Cremnitus Cordaus, had a complete set of almost all the book-letters of Julius and Augustus had become extremely rare, and were highly prized by amateurs, which proves that rare books were collected and treasured as at present.

At present there is hardly a class of objects which has not received the attention of the amateur. In the United States, the Linnaean Society the appearance of this new "hobby," as well as to acknowledge my personal weak- ness to these books, and the objects of these Book-Plates are believed to have appeared during the Reformation at Nuremberg, which was then the great centre of wealth and culture, and the publisher, a wealthy patron of letters, who was among the first to declare himself in favor of the Reformation, induced his friend, Albert Pichler, a wealthy publisher, to appear in various countries, furnish perfect illustrations of the history of art, besides the fact that they preserve a vast amount of curi- ous and important material relating the history of families and individuals.

In November and December, the 1880, German and French "ex-libris" have appeared. It is customary during the last century, every family of note had its separate book-plate. Sometimes half a dozen of them are found placed over each other, in a single volume, thus giving the history of a number of generations. Every heraldic device has its story to tell, and thus the work of collection is found to possess extraordinary fascination.

In America "ex-libris" were common dur-
ing the Colonial period, but during the early years of the republic, when the display of arms was a mark of republicanism, they were almost unknown. All this is rapidly changing, and almost all of the books and periodicals that deal with the man-made landscape are brimming with enthusiasm for the new phenomenon, which is spurring on the growth of this new art in gardening. The subject, in its present guise, has been subjected to the scrutiny of a large number of botanists, who have been struck by the remarkable variety of garden plants that have been introduced into the colonies. The result is that the garden is becoming a popular and fashionable form of recreation, and the public is taking an increasing interest in the new art of gardening.

The secret of success with orchards, therefore, would appear to be a great extent in our own control.

**SELECTIONS.**

**A PATENT RAT-TRAP.**

The Singular Effect of Beating the Drums

A most remarkable phenomenon was witnessed in the second ward, this city, says the New Castle (Pa.) News, being no less than 50 hogs and 200 cats having been killed by the drum-beat. The number of these small boys of this city, hearing it is said that rats could be brought out of their holes by the sound of the drum, did not fail to go to work on the experiment. So, procuring a number of these instruments of martial music and a half dozen dogs with a weakness for rat flesh, they proceeded to the scene of the operation, in which structure were known to dwell many well-fed rodents, who subsisted on the contents of the grain bins near by. Stationing part of their number with drums in the hay-naw of the stable, and the other at the doors with the dogs, everybody was eager for the fray. The boys brought their sticks down on the last calf-shoe, and soon the building shook to its very foundation with the deafening roll. Several boys had been stationed near the drums, and the others, peering into the semi-darkness below, soon saw twinkling eyes appear at certain sputers all around the apartment beneath. The drumming was continued, and sharp-pointed noses and then sleek bodies of rats came from the holes. Soon the rapid rolling of the drums caused the animals to head in the direction of the vessels beyond self-control. They began to caper and whisk around the stable door as if intoxicated. They ran around the feed bins in a wild chase, howling and barking. Indeed they did much damage, but some of the corners that their tails snapped with a report like that of a bull-whacker's whip and making noise from their caudal appendages so as to fill the apartments in the building for the time for action. The boys with the dogs were signaled, the doors were opened and the hungry canine let in. The unfortunate rats seemed to be under spell and made no attempt to seek their holes. For five minutes slaughter reigned supreme, and when silence was restored the boys were surrounded with the bodies of forty-three rats. Again the drums called into requisition, and the same scene ensued again. This time thirty-eight of the vermin were disposed of; but the operations with their drums and dogs all the afternoon, and when evening came there were piled up in front of the stable, mangled, cut and fed to a barnyard of four hundred and seventy-nine rats. In fact, all the rodents which had lived and thrived for years on the grain in the mill had been totally exterminated.

**COLD WINTERS.**

The Winter of 1779-80. The Cold Friday of February 7, 1807.

The winter of 1779-80 began as the present one. Authorities in the column, and those in the columns that follow, and whose fathers and mothers had told them many tales of that terrible winter, were very much afraid of it. The cold that would seem to resemble it in other respects. In 1779-80 the cold weather set in about the middle of November and continued until February. The cold had been so long that there was not enough warmth in the sun's rays to melt the snow on the ground, nor to affect in the least the fetters of ice that became adherent to the surface. The snow storm followed another until finally the ground was so covered that it was difficult to get a place to place, and the ice upon the rivers at all convenient points was used by men and teams and animals in place of roads.

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*2 Read before the Lancaster County Agricultural and Horticultural Society, by Cooper Hiller, Monday, February 7th, 1811.*
THE LANCASTER FARMER.

[February]

The cold winds were so piercing that wild turkeys were found frozen to death in the flight; and deer and doves were frozen while perishing in the forests for want of food, which was buried beneath the snow. The fierce wolf and panther, which usually skulked about the woods and would remain hidden by night, now came near in broad daylight in search of the bones and offal thrown from the cabins of the settlers. No rain fell during the winter, but the streams obtained water for drinking, cooking, etc., by melting ice and snow. The Northern and Western rivers were tightly bound by the ice, and the Ohio and Mississippi, as far south as Nashville, the Cumberland was frozen over with ice thick enough for the safe passage of emigrant trains. The Delaware, at Philadelphia, had ice three feet in thickness, and the Chesapeake Bay and Long Island Sound were frozen over. Another similarity between the present winter and that of 1778-79 was the mild autumn weather that prevailed. When the cold began in November, 1779, the leaves had barely fallen from the forest trees, and many trees were still covered with foliage.

The same condition of things was witnessed last fall. The winters of 1782, 1783, 1785, 1787, 1790, and 1799 are all remarkable for the great extent of mild weather. This period was stated in "Hildreth's Pioneer History," that on the 26th of December, 1778, the Delaware and Ohio rivers were both frozen over and navigation was stopped until the 18th of the following March. In 1792, when soldiers were sent to the disastrous battle field of Gen. St. Clair to bury the dead, they encountered where Cincinnati now stands a frozen stream, January 23. The snow was reported two feet deep upon the ground, and the Ohio was so strongly frozen that the soldiers rode their horses through it, without falling. The 7th of February, 1807, was known for years as cold Friday, and was the groundwork of many a grandfather's tale. On the evening of February 7th, 1807, the temperature began to fall as night set in. In a few hours the rain changed to snow, which fell to the depth of six inches, after which a hurricane came to sweep over the land. It grew colder and colder as the night progressed, and the next morning the trees in the forests were cracking like the reports of guns, and everything was covered with a snow that was very thick. There was no thermometer to register the cold, but the day came down in history and tradition as Cold Friday.

WHY WE USE QUICK LIME UPON THE LAND.

All cultivated plants contain lime in their ashes, and it is considered necessary to their proper growth. But as soils generally contain enough lime, and we apply it for its action on the soil, its importance in the decompositions of organic matter in the soil. It is thought to neutralize the organic acids contained in what are called "sour soils." Lime is also used in the fixing of Ammonia. It also acts upon the inorganic or mineral constituents of the soil, and aids in converting them into forms in which they can be more easily assimilated, especially in liberating potash from its combinations. The effect of lime upon the mechanical condition of the soil is an important feature of farming. Grass-growing in this country is marked; the particles lose their adhesiveness, and allow air and water to enter. These are the leading effects that follow the use of lime. But when lime is introduced, burned limestone, it is an important question how far it can produce the above effects. The demand for lime is to supply the demands of the plant for lime, that it may slowly neutralize organic acids, and help the mechanical texture of the soil, seems very probable. But that it will perform one of the most important offices, the decomposition of organic matter in the soil, and convert that into plant food, seems improbable, because the ability of lime to do this depends in a great measure on its containing carbonate of lime, as well as lime. The limestone is a rock that is formed by the well-known fact that soils underlay by limestone, and naturally containing a large proportion of finely divided carbonate of lime, and that when treated by quicklime as are soils deficient in limestone. The conclusions of ground limestone, that we have, are of the greatest use of the experiments made by the experimenter, who stated at the outset that his yield of wheat, treated with ground limestone, was more than double that to which shelled lime had been applied. He also saw the advantage of using the quick lime as the lime and bone dust, more profitable than Gano and Superphosphate. These statements have been sent by several inquiries, and we think that we do not accept it.—American Agriculturist.

AMERICAN AGRICULTURE.

One of the most extraordinary facts connected with the recent progress of this republic is, that during the year ending June 30th, 1880, the value of the exports of domestic agriculture amounted to $683,019,076, and constituted 29.9 per cent. of the total value of exports of all kinds of domestic enterprises in the United States. We call especial attention to these figures as significant-ly illustrating the amazing progress of our nation in agriculture, and in evidencing that we have become the chief reliege of the general trade and commerce of the republic. It must be recoiled that in addition to this direct return in the form of foreign purchases, many of our farmers and planters furnished all the cotton used in the domestic manufactory, all the wool used in the homes industries, all the breads consumed, all the live stock, and all the meat and provisions. Of course we have no intention of undervaluing the importance of manufactures and mining to a nation like ours, but notwithstanding all the progress we have made in the primary and advanced arts of civilization—this nation is still devoured so overwhelmingly in the matter of food, while it has achieved first rank in other interests. In 1860, and for forty years preceding, the exports of raw cotton from the United States to foreign countries was fifty-three per cent. of the total value of the exports of domestic merchandise. But during the last fiscal year the exports of cotton amounted to only twenty-two per cent. of the total. This was owing to the remarkable fact that the export of broad-stuff wool from $24,422,310 in the year 1890, to $18,925,000 in the year 1891. The same period the exports of provisions increased from $16,012,143 to no less than $127,043,242. Those who study these figures are forced to attribute the gigantic change from time to time by the Telegraph to the amazing development of the livestock interest in the Northern and Western States.

A REMARKABLE YEAR.

Viewed from a business standpoint, the year has been a remarkable one, probably the best in the history of the country. There has been a good revival in trade, and the volume of legitimate business during the year was beyond all precedent. This proved condition of affairs is the natural result of large crops, a good export demand for our products, the growth of the country,
NEW PROCESS IN MILLING

All the Minnesota millers are now fighting the old-fashioned flour barrels. They say it is a relic of barbarism. They desire to substitute the cotton sack in its place. Cotton sacks hold a half barrel of flour are worth ten cents apiece. Flour barrels are worth forty-five cents each. All the flour shipped to Chicago and to St. Louis are in cotton sacks. The millers maintain that flour does not sift through a good cotton bag as much as it sits through a barrel. The bags of flour were shipped from the fields to the mills in the same condition as when sent and sent again to Glasgow. When weighed they had actually gained in weight. Six hundred barrels of flour put up in bags and shipped to Glasgow will gain in weight one thousand eight hundred pounds. When New York flour dealers begin to handle flour in half bushel bundles, which have a sack twenty-five cents on a barrel and have their good sacks left.

The old millstones are taken out and new steel steel is introduced. The wheat passes through five sets of rollers, each set closer than the former. These rollers are thirty inches long and ten inches in diameter. A half barrel of flour made with new rolls is "bolled" or sifted through the cloth. The last rollers are hardly anything but wheat hulls and the waxy germs which do not crack up, but mash together. So flour is now cracked and disintegrated without grinding. The first rollers crack the kernels of wheat into six pieces, the secondバラバラのものを取り出し、さらに三つに細く、そして最後のスクリューチェスを通過した後、それらは微細に粉砕される。これにより、小麦粉の粒子はより均一で、より風味の入ったものが得られる。
Casper Hillier had an instructive essay on apple culture, which will be found on page 25 of the Farmer.

The Agricultural College.

President Witmer stated that he had received a letter from Thomas M. Harvey inviting him and as many others as could make it convenient, to attend a meeting of the Agricultural club at the Farmers' Market, Philadelphia, to consider the question of the probable failure of the Pennsylvania College of Agriculture to meet the wants for which it was established. This meeting was announced by a report of a committee of the Eastern Experimental Farm Club on the Pennsylvania State College and its experimental farms.

Report of Committee.

Your committee respectfully report that they have carefully considered the subject referred to them, and believe that the Pennsylvania College of Agricultur, College is now and has been for several years in receipt of an annual income of $12,000; added to the income, such as from congressional land grants, lands to our State for special educational purposes. The intent and object with what the estate raised of these lands was placed by our Legislature, under certain conditions, to the use of this college. One of these conditions was that in the consideration of the receipt of this annual income the college should agree to "establish, conduct and maintain" an agricultural college with a liberal course of instruction.

But you further state, that having an adequate knowledge of the manner in which Eastern Farm was "established and conducted" by the college, they don't concur in your opinion, in accordance with the terms or spirit of the Legislative act above referred to.

While Eastern Farms were first started, the intelligent farming community took a maraved interest in them, the Eastern farm being principally known as a breeding ground for the more valuable strains and to breed the best masts and grasses. But the ignorant management of these farms by the college must, in a measure, have been contrary to the interest they are supposed to be run, and as public and private lands are used for the benefit of the college.

Your committee fully believe that "experimental farms" or "referred to experimental stations," properly conducted, are of great benefit to agriculturists and to the people generally; and, therefore, in view of the fact that the State college has failed to do its plain duty in this matter, we would suggest that you petition the Legislative Committee to the above with the act referred and to require it by setting aside one third of the income for the conduct and maintenance of such farms with full charge on the college, and that the college show such incompetency in the management of such stations, that the portion so set aside shall be under the power of the State Board of Agriculture with such restrictions and regulations as the Legislature in its wisdom may see fit.

Four cent daily allowance for a milk cow in winter consists of four quarts of carnage and four quarts of bran, with a pick of silage mangers and as much hay hay and straw as good as you can get in Northern New York. Twice a year he washes his terrace with a hard wood shovels and manures the ground around the trees. The orchard is an old one and lies on a slope facing the north, and for milk cows and growing horses for orchard, and believed in liberal irrigation.

John Beal tried an experiment with his orchard which his neighbor, and his neighbor's orchard in grace and upon he had a liberal coating of barnyard manure, and on the top of the manure he put a brick, or a mold of a new building which he was erecting. This was done to test the effect of a fresh supply of manure, appropriating to itself the fertilizing properties of the bricks from which it was made. This regarded the experiment as a success.

What are the utilities of Wheat, Bran and Corn for Feed?

Cattle that have attained their growth and are fed for beef will thrive on first one or fourth corn and a third bran and a fifth of bran and the hay that was fed in the West on corn alone. But the practice of growing corn and exposing to the in- clemency of the weather, the corn growers have made their feed up in the system to maintain the animals in good physical condition, with its large proportions of carbohydrates, is as good as any.

An excellent daily allowance for a milk cow in winter consists of four quarts of carnage and four quarts of bran, with a pick of silage mangers and as much hay hay and straw as good as you can get in Northern New York. Twice a year he washes his terrace with a hard wood shovels and manures the ground around the trees. The orchard is an old one and lies on a slope facing the north, and for milk cows and growing horses for orchard, and believed in liberal irrigation.

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cold weather and the snow blanketing the roads in many places, is delaying the harvest. The visitors present by invitation were James Smedley and Joseph A. Roman.
The LANCASTER FARMER.

[February,

import vigor to the roots, and protect the surface. An inch of finely broken peat or dry swamp muck is excellent in protecting the surface when evenly spread.
物质, 使肉汁与肉煮熟, 即可捞出。将肉从骨头上割离, 再将其放入开水或热盐水中煮沸, 并用刀子将肉壳剖开, 使其更易入味。然后将肉放入锅中, 加入足够的水, 并用文火慢慢煮, 直至肉变色, 即可取出。将肉放入锅中, 加入足够的水, 并用文火慢慢煮, 直至肉变色, 即可取出。

**MAYONNAISE.**—One tablespoonful of dry mustard, two even teaspoons of salt, a small pinch of cayenne, half a pint of vinegar, half a pint of sweet oil, and one raw egg. Mix the mustard, salt and pepper with one and a half teaspoonful of vinegar in a very small dish, and then add the egg and mix well. Rub it into the oil in a continuous thread-like stream, keeping up a brisk beat. When well beaten and like a thin cream, add a little more vinegar. CHARLOTTE RUSE. —Cover an ounce of ings (with cold water, place a weight upon it to prevent its flowing; and season with a few grains of salt, and with thin strips of sponge cake, stickling the edges together. Then remove the stone of the nut. Boil in a pan of boiling water, beat the yolks of four eggs, mix in the cold white and six ounces of sugar; pour the hot milk on them; take it down and add the yolks of two boiled eggs, and the hot curd, stir the whole over the boiling water until a little thickened, and put aside to cool. Whip the whites of two eggs, and add them to the mixture, on the shallow side of the sauce. Return to the bowl the cream that has drained through the sieve and whips as much of it as is necessary. What cannot be whipped may be added to the custard. When the custard is cool and quite thick beat it familiarly with the whipped cream, then pour it in moulds and place on ice.

To RENOVATE BLANC-MANGE, take one cupful of extract of licorice, and one ounce of saleratus; put in a boiler with, a, jal of water, cold or hot; stand over the fire, and when boiling hot put in the goods, either wet or dry; let stand twenty minutes, moving about occasionally; rinse in cold, and allow to dry. This will remove a great deal of dirt. It is usually very wholesome. It will be found a most excellent recipe for restoring black coals of any kind that have become dirty, or will not remain clean; as for vinegar, ink, proof, worsted garments, or any material that will not collect in wetting. Pros on the wrong side. PAYDAYS.—Line the pans with parchment paper and put in each a small piece of bread. Cover with paste, brush over with egg and bake of the desired form. Take them off, let them cool, and, if required, and add six drops of synthetic sugar, lemon juice, or any other flavoring to taste. For five minutes, remove the lids of the pate cases, take out the bread, fill with the mixture, and replace the covers.

**HOUSEHOLD RECIPES.**

**DOMESTIC ECONOMY.**

**How to Cook a Turkey.**

Unless it is bally sold, never soak, wash or wet a turkey, or it will be tough and insipid. No kind of meats and fish, except those kept in salt brine. Carefully draw the turkey, and wipe thoroughly; if well done, and not a stranger large enough, as few, it may be done in a wash bowl. Cut into a second flowering, and cover the couple of invested bones, or suspending it by strings from the handles. My family has learned to like plaited turkey; the roasting is unspeakably delicious, and the insipid dressing so much in Vogue. I use stale bread chopped fine, just moistened with scalding water and mixed with green pepper, salt, if desired, a small pinch of sweet marjoram or thyme. Most like summer savory, but we use it the last. After stuffing and sewing, fasten the wings and legs down, and place the bird in the hot oven. Roast in the dripping pan without water. To keep the skin from scorching, baste now and then with a little water and salt. Bake through uniformly to a light brown, avoid burning or hardening any part. A good oyster stuffing, when easily obtainable, is liked by many, as follows: Drain off the most of the liquor from the oyster, season with sufficient butter and I hope even roll them in cracker or bread crumbs. Fill the cavity of the turkey entirely with these.

**Useful Remedies.**

In many cases of disordered stomach a teaspoonful of salt is a certain cure. In the violent intestinal attacks caused by eating an unripe potato, I will cause a patient to vomit who accosts almost from receiving a fall. In an apoplexy fit to no time should be lost in pouring down salt water, or suspending the head with cold water until the sense returns, when salt will completely restore the patient from his lethargy. In many cases of colds, the application of mustard and and legs briskly rubbed, all bandages removed from the neck, and a cold apartment procured for the patient. In many cases of scrofula, when other remedies fail, Dr. Rush found the application of mustard to the neck also very beneficial. In the case of the bite of a dog, wash, the part with a stong brine; for an hour, then bind and cover with a plaster. In many cases of cataract, hold to the part and renewed two or three times will relieve in most cases. If the teeth be covered with tartar wash twice a day with salt and water. **Brightening Tinware.**

One of the best remedies for dried for kept for trying the brightness of water-time. This is a soft brown substance that polish metals without scratching the surface, and is very cheap. If a lump of soap, then take dry flour and rub it on with your hands and afterward take an old newspaper and rub the flour off, the rust will come away. It is a great help in polishing and will look equal to new. To prevent the rusting of tin, rub fresh paper over every part of the dish, and then rub it with a piece of old cloth. This carefully treated, any tinware may be used in water constant, and remain bright and free from rust.

**Tuberoses.**

The Michigan Farmer gives some practical advice on the subject of tuberoses, and says:—"Tuberoses when taken up in the fall should be well dried and held a few days in a warm place, before overwintering. The young bulbs or offsets, both of tuberoses and gladiolus bulbs, should be removed either in the fall or early in the spring. The tubers or offsets are planted with the young ones attached, the result is a mass of leaves and no flowers. Tuberoses will not come out well again next year, when stored, the result of exposure before the bulb is a mass of leaves and no flowers; in which case the plant will produce abundance of leaves but no flowers."

**Propagating Fuchsias.**

The following method of raising young plants of fuchsias is said to be practised by cutters in the west of England:—"In the autumn, after the frost has destroyed the foliage, the wood of the present season is gathered off, which consists of two or three inches of corn in a trench a foot deep. The bundle is covered with a few inches of soil, and here it remains until the following spring, when they are seen pushing their way through the soil. The soil is then carefully moved, and with a sharp knife a cut is made in the bundles, taking sufficient plants enough for the parish. The old stool throws up more vigorously than before, to be served in the same way the following autumn."

**Poultry.**

**More Eggs.**

The great reason why we have not more eggs in the winter is that the hens have not more comfortable lodgings. A hen needs room. She is an exotic in this cold climate, and winter is her time of hardship. If we compel her to sleep on a throne in a tree and lay her eggs where the snow can sift upon them and cheer them with an occasional shower of snow, we are sure to lose her. Under such circumstances she has very little energy in this direction, and knows too much to waste little time. Winter is the season of low production, and food the great recreant. In summer, the bees, if allowed the free run of the farm, can provide for the purpose of the bees is to increase and perfect insects enough to supply all demands for the cream from the milk, of which it is the source. In winter this supply fails, and the eggs of course fail. An egg is essentially animal food; in fact, it acts as a masticatory ingredient; and, as for its manufacture in winter some substitute for the insects which the hen eats in summer. Comfortable quarters and careful attention to food and drink are therefore the great secrets in egg production in winter. The animal food best furnished in the form of animal meal. This is the best for a large stock of poultry, in great quantities by steaming the bones and reducing them to a powder, and then grinding them. This meat eats little more than cornmeal, and a quart of it with three or four quarts of water, will supply the want of the meat, and the raw material for making eggs. We have tried it and know it. Some recommend adding to this mass a little bran, and to it a few grains of salt, but we have not found it necessary.—National Agriculturist."

**On Lice in Chens.**

**A correspondent of the Country Gentleman has the following to say:**—"I have for some years given you my experiences with fowls; then you will not be surprised to learn that lasting about five years since I purchased a trio of Yellow Ducking Bantams, a trio of Silver-Laced Sebrights, and a pair of. After the spring of the year came I soon had chickens; it was not long before one or more began to be duplicitous, and I was not surprised to have an account for it for some time, but one day, just after a pretty Silver chick died, I held my hat to contain the feathers a little I saw something on its head, and quickly discovered that the bird was infested with head lice—something which seemed to me quite enough to cause its death. Then
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It is a pleasing fact that the increase of the supply of ducks in our markets is very sensible in the last few years. The progressive fall in prices as a change from chickens and turkeys. Farmers tell us that they are as easily raised as chickens; indeed, they are, and ducks flourish, particularly if the raise is watched and apples are provided for them. These are the Roken, the Pekin, and the Muscovy. They are of good size, and in their growth consume almost anything and really keep the premises clean of many things that would prove an annoyance, such as insects, grubs, offal, worny apples, &c. In October and November, or oat-meal mush, fed a little warm, mixed with sour or skimmed milk, will in about two weeks fatten them for market. From every farm from twenty to thirty dollars can be obtained by the raising of $5.00 a year, postpaid. This is a new article for public barter, but if we may be permitted to judge from the last several weeks’ papers, we have been asked to have a supply of our number. This is a new article for public barter, but if we may be permitted to judge from the last several weeks’ papers, we have been asked to have a supply of our number. This is a new article for public barter, but if we may be permitted to judge from the last several weeks’ papers, we have been asked to have a supply of our number. This is a new article for public barter, but if we may be permitted to judge from the last several weeks’ papers, we have been asked to have a supply of our number.

THE CATALPA.—Additional facts and information in relation to the "Catalpa Tree," (Catalpa Bignonioides) and its variety spongiosa. By E. B. Barrows, Dayville, Vt.

The Catalpa—A genus of plants indigenous to the eastern United States, which discloses the uses, the quality, and the culture of the catalpa in a very able and experimental manner. The Catalpa is one of the most beautiful and ornamental trees known for this tree for sixty years, but until recently we never supposed that it possessed any other value than as a beautiful flowering shade tree. Although its specific gravity is less than hickory, when properly grown and not over much ornamented with a variety of flowers and shrubs, it is said to grow more rapidly and be more durable than any of them. It can be used for the same purposes as the hickory, and, when required for general building purposes, and in the general deprecation of our forests this tree may become our ultimatum.

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By S. S. RATHVON, Ph. D., Lancaster, Pa.

This work will be highly illustrated, and will be put in press as soon after a sufficient number of subscribers can be obtained to cover the cost, as the work can possibly be accomplished.

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EDITORIAL

"THE RAILROADS AND THE PEOPLE"

When the United States Government assessed a tax of one hundred per cent. on friction matches—so far as the mere question of revenue was concerned—it was, perhaps, a legitimate measure, because it was well known that the people would not return to the "steel and flint" again, to produce their needed fire; nor, perhaps, if it had not been assessed, because taxation, even at the rate of fire hundred per cent. instead of one. The discovery of the friction match was a progressive invention of universal application, constructive, convenient and economical; so much so, and so popular withal, that no patent was taken out for it, and if there had been, it probably never would have been respected. Had not the use of stone-coal as a fuel been almost simultaneously discovered, the use of the match would probably not have been so much regarded by the creative necessities. People would suffer a great deal of imposition before they would go back to exclusively wood or charcoal fires, and those who trade in stone-coal knew this quite as well as the government knew that the governed would cheerfully pay one hundred per cent. on their matches, rather than refuse to consume them. True, two hundred, three hundred, even a fair duty upon any article of universal consumption, to the amount it will bear, merely because they are popular, might be a tax upon the people, and especially an article of such prime necessity as matches, the consumption of which never could be classed with dissipative, constitutional and economic; so much so, when the duties involved the causes, the effects, and the ends of domestic measures, can it be right, just, and humane for any government, corporation, or company, to impose a farthing upon any article of universal consumption, to the amount it will bear, merely because they are popular? It is true that onerous taxes or duties are sometimes imposed, ostensibly for protection, when the true intent and purpose is entire monopolization, and the destruction of domestic production and consumption of stone-coal and friction matches. The people, like non-resident bovines, quiet, but protected, are never taxed as they want the one hundred per cent. on matches will never seem exorbitant, because of its integral insignificance, its equitable assessment, and the essential product to domestic comfort and convenience. It is one of those things of such prime importance, that it is seldom viewed in its financial aggregations, but only as an isolated and diminutive integer.

Analogous to the foregoing is the pregnant question: Was Farmer and Brother Railroader of the same blood? It is a question that is looming into prominence all over the country, and a question involvng more "crooks and kinks" than, perhaps, any other. It is not merely a question of taxation, and the conveniences of the people; and these corporations seem to know exactly the extent and degree of influence the public have upon them. The people cannot and will not go back to the old system of transportation and travel, and especially not on the tiring journey or transport heavy and large quantities of merchandise. The stage coach is under the Conestoga Team of bygone years, could not possibly "fill the bill" of commercial intercourse and travel, and no persons induced to come in contact with them. Acting upon this knowledge they afford the public the most ample facilities, and the most splendid comforts and conveniences; and through their numerous operations, as a result, the people are braced into acquiescence by the very luxury of their accommodations. No, the people could not if they would, and would not go back to the use of railroads, any more than they would use the stone-coal and friction matches, if fares and freight, were a quarter of the present rates and if the "merchants would bear it." The assessments of fares and freight under such a rule seems an unpractical one, unless it worked both the billion in price, and the railroad owners for the matter of that, or by it dealt another person, but it, as in the former case, revets to the original contingent domain, however the possessor of real estate may be modified in their assessment by the benefits accruing to another property of the same owner, by reason of such public improvements, but in no case do the grants constitute a corporation an absolute and perpetual owner, as in fee simple. The corporation can take away its rails, its ties, its Macadam roads, etc., and they can be placed on the land occupied by its road, and retain its ownership therein, but it clearly cannot take the land, nor dispose of it to others. This being the case, it greatly qualifies the vaunted ownership of railroads. They are merely granted temporary limited rights, and even those as long as they occupy and use their original grants for the purposes for which they were granted, and amenable to the power that created them.

We would not abridge the privileges and the immunities that are, or ought to be, accorded to railroads by reason of the responsibility and the public service, when they become owners of land, by virtue of their building their roads. We would even endow them with privileges through which they might realize a larger per cent. on their revenues than they have heretofore. Other business enterprises, for the reasons already briefly intimated, but we would limit them to uniform, legitimate, and equitable measures; and if any monopoly, or discrimination, or excessive taxation, or outrages against rights or property, or against smaller quantities and in favor of greater ones, or against shorter distances and in favor of larger ones—except to the reasonable limit before indicated—railroads, and other corporations, ought never to know, and never can have, because they should be regulated by principles. Whether A. travels over their roads once every week, or only once in a lifetime they ought never to know, in the application of the principles. They ought to be equally obvious whether B. travels over their road one mile or a thousand miles, except the reasonable commutatons in such cases, and the occurrence of extraordinary cases, and then they ought to be definite, equitable, and limited; having to be for the application of principles only. Other than reasonable compositions to the builders and constructors of such enterprises, the public, for whose benefit and use they were organized, and who should sit in their advantages. The extraordinary ef-
THE MAMMOTH PEARL.
This new and wonderful medium early variety of potatoes was originated in the State of Ohio, and selected as the best of over 2,500 seedlings; the aim of the originator was to obtain a variety that would produce a crop in spite of the bugs—of the best table quality, beautiful to appearance, free from rot or any other disease, and never hollow; and that his efforts were successful when the Mammoth Pearl was produced, thousands of persons can testify.

In shape it is oblong, and usually a little flattened, very smooth, and uniform in shape, eyes even with or slightly raised above the surface, skin pearly white, flesh the whitest of all varieties; for the table it looks like a ball of flour and as white as snow, even to the centre. The vines are, as Mr. I. F. Tillghman says, "without exception the most rampant growths of any potato we have ever grown; they come up strong and grow so fast, that the potato bugs have no chance at all.

If they are planted three and a half feet apart each way, the vines will completely cover every spot of ground, thus keeping the soil moist, and protecting the bills from the hot rays of the sun. They ripen in August, or the first of September, and can be dug any time at your leisure; and in the important matter of productiveness, it will yield if that or triple any ordinary kind, and will sell for more in market; in short, the handsomest and by far the most productive potato in cultivation. And we are bound to say, that no equal cannot be selected—in all respects—from all the varieties under cultivation at the present day.

Many of the patrons of the Farmer desire to secure specimens of this "King of the Murphys" for cultivation in Lancaster county, or elsewhere, we would advise them, by all means, to address themselves immediately to Mr. J. A. Everett, Watsontown, Northumberland county, Pa., who makes potato-growing his business, and can supply them with most of the above, and other varieties of potatoes, their origin, history, and cultivation, we would advise them to send for Everett’s Catalogue of seeds, and seed-potatoes for 1881, a notice of which will be found in our literary and personal columns. The period in soli¬culture has arrived, when the best for cultivation should be selected; not only for health and comfort, but also for pecuniary compensation. The potato grower cannot realize too soon that the best is not only the cheapest, but also the most remunerative.

CAPT. EADS’ SHIP RAILWAY.
"Sailing on the land as well as on the ocean."

The Illustrated Scientific News, for March, ’81, has an interesting article on this project, together with engravings, and from which it seems manifest that nothing more is wanting to demonstrate the thing an accomplished fact, but time and money.

It only involves the principles of the "Dry-Dock," where the largest seagoing vessels are successfully "hauling out" on dry land, where they are furnished with water tanks, can be hauled away from the water’s edge ten rods, they can be hauled ten miles away, and if ten miles, why not a hundred, or even a thousand miles.

In the early history of the Pennsylvania Railroad and Canal, there were modes of transportation called "Section-boats lines" between Philadel¬phia and Pittsburg, which practically embraced the same principles involved in Capt. Eads’ Ship Railway. These boats were cut in two, thrown up on the railroad, and the merchandise shipped on the rail-road, which they transported for many miles over land; and, at Philadelphia, Columbus, Housatonic, the Ohio, and Pittsburg there were docks erected for this purpose. These boats were also taken beyond Philadel¬phia and Pennsylvania, and merchandize shipped at New York could pass down the Ohio river and through the Ohio canals without trans-shipment. Capt. Eads’ system is to the rail-road what the canal was to the steamboat. Four locomotive engines—one on each side of the bow—constitute the propelling power, and the truck upon which the ship is mounted, and all the pulleys, wheels, pulleys and springs, that the passage over land must be almost as free from friction or jarring as the passage over water. To our felicitous readers the above is a new idea, and has its advantages over a canal. A canal must be a dead level, or nearly so, and then a great lift and delay to elevate the current to another level, whilst a railway will be able to overcome gradually any grade it will be apt to encounter, in passing from one ocean to the other. Our country may be more landed than seaed, but also the substances and their conditions which are anterior to these, and the subsequent commercial distribution and disposal of the produce, must also be reckoned the great army of employees involved, the high breeding of milk producing animals, their care and culture, their are managed and the edge exercised, the improved machinery used, and last not least, the rapidly increasing and upward tending literature on the subject, and through which the process and its results are more widely and intelligently diffused. In alluding to the butter and cheese literature of the country, we should stultify ourselves if...
we failed to mention that excellent quarto en-
titled "Dairy Science and the Manufactures and methods of dairying"—edited by J. P. Sheldon, and published by Cassel, Potter, Galpin & Co., London, Paris and New York. This book stands in the front rank in the dairy literature of the world. Oftentimes representing the dairy interests and the dairy lore of two continents, its field is comprehensive, and its treatment is exhaustive. The English language is capable of being inter-
preted and understood. No. 19 of this beauti-
ful journal is now before me, and I find the following paragraph quoted from American Dairy Prod-
ucts we quote a few statistics relating to the
butter and cheese of our country, and the in-
especially the quantity of the butter that is
export to other countries. Much stress is laid upon our tobacco and our alco-
olic productions when our moral states include the latter. The dairy produc-
tion of our dairies. Taking the whole coun-
try through, the amounts here given are probably far below the reality, because thou-
sands of our farmers are selling their milk and butter production, and many of
them are unable to make even an approxi-
mation to the aggregate amount.

Annex is a table of available data—based upon the census returns of 1880—we have in the United States 12,000,000 of dairy cows, and during the year ended March 4th, 1889, 850,000,000 pounds of butter, 3,000,000,000 gallons of milk and 2,000,000,000 gallons of cheese were sold and used, valued at 1889, $45,000,000 for butter and 137,553,907 of cheese; an increase of 35,766,218 pounds of butter, and 127,406,173 pounds of cheese. In 1879 we had 11,800,000 of dairy cows, and in 1880 we did 1880, and 968,638 less of butter.

These figures illustrate not only the num-
ber of the dairy cows and the dairy produc-
tion value of our dairy production, but also the necessity and the quality of the literary channels through which this information is collected and distributed, and who the modern operanti by which such results are accom-
plished, pre-eminent amongst which is the journal from whose columns we have been quoted. So far as it relates to the quantity, the quality and the pecuniary value of our exports or importations, whatever the commodity may be, one can produce or consume, so that ends meet, or exhibit a reasonable plus. Indeed a large proportion of the world don't want to know whether their living is "chasing chickens on the" or not, and this is not confined to the profitege and the indolent only.

This indifference in the way, there with, is a difficulty in collecting accu-
rate statistics, especially in the products of the dairy. How many cows are in the posses-
sion of different farmers? How many dispose of a cent's worth of butter, milk, cheese or cream, but consume it all within their own families? and yet, all this must be recognized in aggregating the dairy pro-
duction of the country. These can, there-
fore only be estimated, until more detailed
light is diffused.

ENSILAGE.

This is comparatively a new term in con-
nection with the subject of agriculture, and yet it is becoming popularly familiar; but new as it is, in principle, it is not new. We all know—many years; for in point of fact it embraces the same chemical principles that are operative in preserving green fruit; namely, a vacuum effect, which has lasted as much as fifteen and fifty years ago—during our apprentice days—a neighboring
housewife was somewhat remarkable for her preservation in the garden of the few winter seasons. On one occasion we were present when she opened one of her minature "silos" and deposited the pump
plug which was simply this and nothing more: The carrants were gathered and picked from the main stem just before frost, and were laid out to dry in the sun, or, rather, in the shade, and were thoroughly dried out. When quite full, and
thoroughly shaken together, the bottles were tightly corked—perhaps hermetically sealed—
from which we have no doubt, they would stand winter uses. Thus, every bottle was a mina-
ture silo, and the process, practically, modern ensilage.

The making of green corn, peas, beans, cabbages, etc., are approximations to ensilage in its application to green fodder, and the success or failure in the one involves the same principles. The silo in the other, namely the perfect or the imperfect expulsion of atmospheric air. How many cans of green corn, beans, peas and tomatoes are spoiled every season by ter-
ic explosions of the cans—before success was attained? and yet no body thought it necessary to cover them with a plate of tin, or even use a vacuum in the condensation of canned vegetables. There is no guess-work about ensilage—no zodiacal signs to be consulted, and no moon's phases to be counted for. Yet, in the preparation of green fodder by ensilage, the same precautions must be observed, as in the preparation of sauze-kraut change green
stuff to the hearth. In the thorough packing it down and the exclusion of air, and the heavy weights on the top are to keep it packed, the brine that rises on the top boil equivalent to sealing the head of the silo, and these are the "kraut" which is above the brine always spoils, and as the brine sinks, through leakage or otherwise, the krant becomes exposed to the doubts of the day and the spot of the season.

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THE SOURCES OF SPRINGS.

On page 19, of February number of the FARMER, a correspondent says: "Fifty years ago, or more, more than half the farm was woodland, and especially those parts which have since been cleared of elm wood, and forested with timber. The house, near the pond, is a large 'never-failing' spring, surrounded by trees. The entire forest growth has been left, and the trees were standing by the pond. The farm on the 13th of December, 1878, the spring was "new,"—it had disappeared a quarter of a century ago. Not a tree or a shrub then existing. All the trunks of the creek were demolished, and this drying up of the spring, and the diminution in the flow of the creek, was contemporaneous with the clearing of the forest, and was doubtless the effect of that cause."

Are we to understand that in the part of the country to which this correspondent of The Lancaster Farmer states that a hill immediately over the mouth of a spring, has its slight influence on its source? — T. M.

The "correspondent" alluded to in the above paragraph, is no other than our 'own sweet self,' and no geological doctrine is to be inferred, other than what the general facts may imply. We were merely giving our individual impression of the character of the locality of our boyhood, as seeming to favor the theory that forests exercise an influence on climate and water flow. Of course, it is not to be inferred that the trees immediately surrounding a spring will exercise much influence over it, unless it is near a body of water, or the source.] And we do know of a half a score of springs along the Susquehanna, that have entirely disappeared since the days of our boyhood, which were not a mile from cultivated fields, where there are now only cultivated fields. The farm to which we alluded, and upon which we wrought in 1826 and 1827, contained not a tree but was cultivated it was also other forest lands. This forest occupied the highest ground, north and westward of the pond, which were not cultivated fields; and the spring was, such a strong one, that we confess we were much surprised at the magnitude of its effect on, apparently, such an insignificant water. We have never heard of the farm know nothing about the spring, save from tradition. We cannot say that we have yet been able to come to a definite conclusion as to the causes of the phenomenon, and therefore we merely relate a plain unvarnished fact, for whatever it may be worth. We are not disposed to argue that the theory can be either sustained or overthrown, by grasping at little inadvertent straws in the testimony, either pro or con, to the main issue.

THE ELM TREE BEETLE.

FARMOUNT PARK. PHILADELPHIA, March 4, 1881.

Prof. S. S. JAHNn, Lancaster, Pa.—Dear Sir, I have a question regarding the Elm leaf beetle (Galeruca coluamartica), a small beetle that infests the elms, around and south of Philadelphia, and which is rarely found in the northern part of the state. It flies upon the leaves to deposit its eggs, and the larvae eat the leaves, until the trees are quite denuded of foliage.

What I desire to know, is whether they undergo the winter in the adult or larval state? But whatever they encounter, and whatever state they are in, I think they would be benefited by a little study on this subject. The larvae would be benefited by a little study on this subject. In that condition, the only remedy is to remove the trees, for they infest no other trees, even when they are eaten. A strong solution of white-oil soap, and a stiff brush with a long handle (such as is used in cleaning gutters) will be necessary in cleaning the trees. If the trees are not cut, the larvae from the ground may be scared, burnt, or crushed. It will, however, require a persistent effort to destroy them. Birds—at least the English sparrows—have no liking for them; for, in a "nest" of about one hundred sparrows' nests, not a stone's throw from an infested tree, we never saw a single larva. And if we were to store all this information in the brain, it would be lost.

The Elm leaf beetle is about one-half larger than the "Ehse beetle" (Diabrotica vittata) to which it has a family alliance, and is similar to it in form. The general color is a clay-yellow, and also generally three black spots, transversely arranged on the thorax. There is also a large black longitudinal dash near the outer margin, at the hinder ends of the wing-covers. When the weather is warm the beetle is active, and will often take flight, but early in the spring they are somewhat sluggish and may be easily captured when sweeping with a net, or picking up the branches.

If collectively fly into the trees, they deposit their eggs on the leaves. On one occasion a lady in the county brought us about a dozen specimens, which among a hundred others, she found behind a fire-wood in an upper unoccupied room in her house, in the month of March. If they can be found and destroyed, the elm leaf will be saved from the destruction caused by this insect. We have not noticed it before, but it is so much lessened during the summer, for each female will deposit a great number of eggs.

COMMUNICATIONS.

ITEMS FOR THE FARMER.

As soon as the upper portion of the straw of the cereals becomes yellow, no further increase takes place in the weight of the seed. If the cereals are not gathered before then, the heads will begin to approach the appearance of this sign, its quality deteriorates, and its weight diminishes.

It is as easy to grow 100 bushels of corn to the acre, as it is to grow 70, and with the same seed; but after the appearance of this sign, it is at once explained, it will be as plainly seen as the nose on one's face. The seed from the former will give 70 bushels per acre at $2.00 per bushel, while your present seed corn is at a cost, as it will always produce the same, (more rather than less).

Where two trees of the same class of fruit bear good fruit, it is easy to have one of the two to give its portion of fruit every year, and it requires but little labor, say one hour; and the work is permanent, without any further work or trouble. These items are worth knowing, especially where the fruit is choice, and for one to be master of his trade (agriculture).

For the two above receipts, any one wishing to learn how, can do so, by writing to C. G. May, Box 444, West Chester, Chester county, Pa.

DOUBLE APPAREL.

Mr. Rothwell: I see by the February number of the Farmer, that you have a double apparel for swallows. I understand it as I have seen the like. Immediately after the fall of the blossom, the stem split at the fruit end, and as fruit is nothing but a modification of a leaf, the fruit is, in this case there is no seed bearing solid fruit. Yours truly.

W. J. Pyle.

FOR THE LANCASERT FARMER.

THE TWO CAPTALS.

The writer of this article through the columns of the Farmer, for information as to the cause and effect of the "two captals," as that wood is said to be the coming wood for durability, for railroad ties and for fence posts. No one having responded, I will give the question through John A. Ward, M.D., President of the American Forestry Association.

We have two species of captal, both native to our country—eastern species, and a western species. Our western captal, according to Meiche, has a wide habitat, stretching from Virginia to California, and Illinois to Illinois, and Tennessee, and Cheyenne, and the eastern, and the present of the Mississippi. This species was
introduced into Ohio, and into at least two different localities that were widely separated from each other. At first it was simply known as the "catapla tree," but in the meantime the true identity of this tree has been established by the botanist, Mr. Walters, who has been widely distributed by the nurserymen on either side of the 40th parallel of north latitude. Here both trees have become quite naturalized, and with the entire escape of the species, or western species, and the destruction of the big monuments, or eastern species. The species that the Indians cultivated on Missouri rice, where their superior hardiness was first observed by Szed Foster, of Muscatine, Iowa, on whose grounds the experiment was made, during the past few years, is that the Indian and white men have both abandoned it. Its specific gravity is far less than oak, hickory, walnut, cherry and ash.

**EYSSIES.**

**TOBACCO CULTURE—HOW TO GROW OUR NEXT CROP.**

We herewith lay before our friends on tobacco culture for the benefit of those who are already classed among the growers of the weed, as well as for such as have concluded to enter upon the cultivation of this crop during the coming season. Such an essay, if it entered fully into all the details, from the preparation of the seed bed until the packing of the crop, would be a work of too much detail to be conveniently allotted to the subject in a single issue of this paper.

We have therefore determined to prepare a section of our next number, for the purpose of tobacco culture, which will appear at seasonable periods during the year, each one having a special reference to that portion of the subject which requires the reader's attention when it appears. In this way the reader's attention will not be confounded by a multiplicity of unessential details, but will be occupied for the time being with that portion of the subject which covers the period at hand.

As the season rapidly approaches when tobacco growers will be compelled to begin their preparations for the coming season, we present our first instalment of the general question. It is but just that the Western counties have assumed such a commanding position for the extent, excellence and value of her tobacco product, that the methods of its carrying forward may be the more valuable to growers elsewhere, especially to those whose experience has been limited and who are not yet thoroughly posted in the most approved methods of tobacco culture. Therefore, there are perhaps thousands of growers to whom we shall say will convey new information. It is not for such that these chapters have been written. We mean those who, while anxious to grow an article that shall command the highest market price, have no experience or requisite opportunities for personal observation to enable them to do so.

**Good Seed.**

In order to grow good tobacco, it is essential to have good seed. Every step of the process must be taken with the final result in view. A defective link anywhere in the season's chain may render all previous labor and the campaign a failure. It is therefore of the highest importance that a correct start is made if final success is to be hoped for. It is practically impossible that a season will compensate for a blunder or two, but the tobacco grower must not rely upon any such stray contingencies.

Good, healthy, vigorous seed must be had to start with. Too little attention is paid to this apparently small but very important matter by many tobacco growers even here in Lancaster county. At the proper season, which is of course tending, the strongest and best plants should be allowed to develop their flower stem. Not all the seed pods must be allowed to mature. All of them except about a dozen at the top must be removed. This will insure much better and stronger seed, and consequently more vigorous plants, a most important consideration at all times and in certain seasons decisive of the quality and value of the crop. It would not be amiss if every seed plant had a stake driven into the ground, and was protected by its being tied and thus be secured against damage from storms of wind. The pod worm should be carefully searched for and destroyed. When these have appeared, turn up the soil on the sides of the spike containing them must be cut off and hung up in a dry place, with the tops downwards, until the time for sowing them comes round. Now, fresh seed should always have the preference; it may be told by its dark brown color; it grows improved modes of culture. A few growers have suggested, and we believe, practiced, the planting of a few old seeds among with fresh ones in order to have a better mixture of the results of the seed; com for setting them out and in case they should be needed.

The seed, however, must not be regarded as valuable. It preserves its vitality for more years. A good test is to throw some on a hot stove; if it crackles or "pops" it may be sown with confidence. There is an opinion current that the quality of tobacco will gradually deteriorate unless renewed from outside sources every year. There are no grounds for being skeptical. There are many varieties cultivated here—such as the "Pennsylvania seed leaf" or the "Glomer" varieties. Farmers, we believe, have it in their power to do as much to give their crops a satisfactory market and thus effect a more complete fructification. This plan ought to be observed instead of the present plan of leaving the yearly supply to be grown in the neighborhood. These are apparently trifling points, but they all contribute their share to the ultimate success of the grower who observes them carefully.

**The Seed Bed.**

The seed bed may be fairly regarded as the starting-point of the tobacco grower. It is here that the future winner, rich and fat, is grown. Such seeds as those selected for planting must be dressed, and silky in texture, is nourished into life. Its proper management will demand his closest attention. We have discussed this subject, and the contingencies of the season, his future success depends largely on his careful preparation of it before planting the seed and this is due to the fact that no period of the entire year will watchfulness and good management go further towards securing a good crop. Knowing this, he must apply himself to having a good bed. When the bed is ready, and his seed bed is the place where the work must be begun.

Growers of tobacco everywhere are agreed in the opinion that the situation of the seed-bed is a matter of the utmost importance. On this will depend largely the full and timely supply of seed needed. A southern sloping bed is the best, but poor land will do if the bed be deep and well drained. Where this is not possible, then a southeastern one; a western one is not desirable, and a northern one if possible. The bed is made north and west from the keen blasts of early spring. The southern exposure gives the young plants the full benefit of the sun's rays, and this is productive of a rapid growth, rapidly, enabling the farmer to set out his fields earlier than he otherwise could, thus avoiding the hot weather of summer.

**Burned fields.**

We desire that special attention be given to this custom which is invariably fruitful in good results, which is almost universally practiced in tobacco growing, and is particularly beneficial to the very first plant which guard the crop, is very desirable. It is not unusual for this purpose; brush wood, corn stalks, old rails and logs, briers, in short anything that is at hand. Several hours hard burn is not too much. This has the effect

L. S. R.

*Warren, December, 1881.*

**Pretty much all that we practically know about the Catapla is contained in a paragraph on page 341, in the 12th volume of the Farmer. We did receive some weeks ago, an interesting little pamphlet on the subject, and had prepared an article for our journal, compiled mainly from information found therein, but somehow, both it and the pamphlet have been "spirited away" for just now
not only of killing all weeds and seeds that may be in the soil, but also the moulds which must be considered. It would be difficult, in fact, to describe all the good results from this practice. After the bed has been carefully burned, the earth is placed in the sun, which thoroughly rakes it, leaving only the ashes. The ground must then be dug over, care being taken not to turn up the subsoil. All stones, roots, and other foreign matter being carefully removed, and the soil made fine and friable. We feel as if we could not too strongly impress the good results of this fact upon our readers, as the requirements of the State, where timber is still plentiful and cheap, the custom ought to be universally followed.

The ordinary custom is, however, not to burn over the seed-bed. It should be dug over as early in the spring as the weather will admit or the ground is dry enough. A rich virgin loam is the best soil; black, if it is to be had, is preferable, as the color absorbs the sun's rays better and advances the plants faster. If the ground is not naturally rich enough, it must be made so. You cannot make it too rich. Well-rotted stable manure is much the best article that can be used; chicken manure is next, though not so valuable, nor are artificial manures. A compost made the previous year of the various manures produced on the farm and plentifully added to the subsoil, will produce excellent results. This must be spaded in and care be taken to render the soil on the surface, and indeed throughout, as fine as if run through a corn grinder. It is necessary to impede the free sprouting of the minute seed by covering them. The bed is now ready to receive the seed.

Sprouting the Seed.

Most growers sprout the seed before planting, but a few do not. The former course is much the best. It is sure, because it enables you to assure yourself that the seed is sound. It also gives you plants sooner, as unsprouted seed in an unfavorable season sometimes lie in the ground a long time before germinating. When the season is late and inclement weather prevents the early preparation of the seed-bed, it is sometimes all important that the process be resorted to. It is certainly worth a trial, and the result well worth the trouble. There are different methods of sprouting the seed. The more common way is to tie it in a little bag and place it in a warm place; when the seed has germinated, it is then removed and placed under some moist woolen covering in an atmosphere sufficiently warm to forward the process of germination; new sprouts soon appear, and the seed is ready.

Much care must be taken in handling the seed at this critical period. Any injury to the tender sprout that issues from the minute seed is sure to result in the death of the germinal principle. They must be kept slightly moist all the while, so that the sprouting process may not be interrupted, which often occurs, and which will result, disastrously.

An old and very successful grower of our acquaintance sprouts his seeds in an entirely different manner. He selects a lot of chip soil from the site of an old wood pile, sifts it carefully to remove all foreign substances, and puts them into a box. This is then moistened with warm water, placed in earthen pots, or some other vessels, and the proper quantity of seed thoroughly mixed through. The box is then placed in a stove; the soil is kept moist by the addition of sufficient water, and it is besides carefully stirred several times daily to prevent premature germination. When the seed has sprouted, it is taken out and is ready to use.

Many care is necessary when the tiny shoot begins to emerge from the seed, as rude handling would soon break it off. Either of the two methods just given, if carefully followed, will give good results.—New Era.

**Eight hundred varieties of pears and nearly one hundred kinds of native grapes are said to be in cultivation in America.**

**DO BEES PUNCTURE GRAPES, AND IF SO, HOW?**

The question arises whether the Honey Bee, Apis mellifera, punctures and tears open the skin of fruit, and especially that of the grape, for the purposes of eating it. This has been a long time a unsettled condition seems not a little surprising.

Bee keepers generally deny that bees do any injury to grapes, but, as they doubtless best understand the habits of their favorites, they make a strong argument in their own behalf.

Fruit-growers on the other hand, earnestly claim that bees do them great harm. They find these insects industriously engaged in pithing the berries, and besides their vexation over the lost fruit, and without much discrimination, they charge the whole work both the rupturing of the skin, and the honey, and the work of preparing a place for the building of the nest, or the making of the comb, it may be necessary to use the bees as a source of regard substances. In the accomplishment of these things the mandibles furnish the requisite power, while the tulip or feelers tell the bee what is to be done, and here and where to do it.

That these mandibles have, for the size of the insect, considerable power, may be seen in the following experiment. The author placed in a bag of the same honey, which bees so skillfully cuts its way for a considerable distance through dry timber. Then the rain beam attaches and gathers together grains of sand and by the aid of a mucous secretion from the mouth parts of an imperishable kind. So that the mandibular power of the bee family is quite conspicuous, and it is a power to be exerted according as the exigencies of the case shall require it.

The sting of the bee is an organ in its structure and in its use quite different from the mandibles. It is situated in the posterior part of the body and is a finely point and can penetrate the wall of his imprisonment. There is the so-called boring bee, which with its mandibles often skilfully cuts its way for a considerable distance through dry timber. Then the rain beam attaches and gathers together grains of sand and by the aid of a mucous secretion from the mouth parts of an imperishable kind. So that the mandibular power of the bee family is quite conspicuous, and it is a power to be exerted according as the exigencies of the case shall require it.

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"no reason from the structure of the mouth why they could not do so."

But the observations and experiments of Mr. Charles R. Muth, the entomologist of the United States Department of Agriculture, are more to the point. He says that if you lay a ripe bunch of grapes with sound berries in front of a red or yellow flag, the bees are attracted to it to 1 to 3 of an inch, so that every bee going out or coming home will have to run over or around the bunch, you will notice that the bees are likely to pick off the sound grapes, while they will not knock the grapes, while yet every berry remains intact.

He found the same to be true of a sound ripe Bartlett pear. After he had satisfied himself of the point he went to the orchard and hung no flags near the skin of the grape, he then punctured each berry with a pin, and in an hour or two nothing remained but the skins and the stems. It seems to the undersigned that Mr. Muth is a bee keeper. The MAKER FARMER—a paper of excellent scope and character, and devoted to the highest interests of the Boracic Science, in a letter of the date of October 15, "

I have grown grapes (Isbellis, Clontons, Concord, Hartford Prolixies, Marthas, Delaware, and Thompson Seedless) for thirty years, and yet I have never observed a bee cutting or tearing open any of them. From the organic structure of the mouth of the bee, it is very evident that it could not cut or tear open the more delicate grapes, and the testimony from intelligent sources seems to be so strong that I do not feel like ignoring it, and yet I feel that the nearest direction are too superficial to be entirely reliable."

From another part of the letter we quote, "I have not conversed with a single person who says he ever saw a bee in the act of cutting open grapes. But the grapes are found ruptured, and the bees at work upon them, and the fact is surely one of the great mysteries of bee science."

Mr. A. I. Root, the editor of "Gleanings in Bee Culture"—a paper published at Medina, O., says that although bees may at times eat the fruit, he cannot find a single instance that shows the bees are very strong that they rarely, if ever, do so. Their work is principally on broken or injured grapes.

But the highest and best authority is Professor A. J. Cooke of Lansing, Michigan, who says in his communication of December 13, "From these barefaced facts for many years, from careful experiments seemingly confirming our conclusion, from a vast amount of testimony, I feel sure that if bees ever attack sound grapes it is extremely rare, if very rare, and that the times—so that I cannot say they do not. But I am sure that it is very rare, if ever, the case. I have lived for some years in the midst of bees and have never yet seen a bee near a grape, but I have never seen a bee tear open a grape. If bird or wasp or disease break the grapes, and the bees find no other stans of fruit in the apiary, they will eat all of the grapes. This such time I have seen broken grapes, and when they were being sapped by bees, I would move them out of place grapes in their stead, when the bees would at once stop work."

Our conclusions from observations, and from the evidence of the expert are:

1. That the bee cannot puncture the skin of the grape with either its tongue or its sting.
2. That it is possible that bees may tear open grapes from the fact that they possess the necessary mandibular power.
3. We believe that they rarely, if ever, do this. We believe that the only instances are confined to cases where already from other causes, the skin has been ruptured.

The complaints of bees destroying grapes and other fruits, and other fruit pests, are more than they were thirty years ago, and possibly for the reason that in later times the trees and vines have been grown which bees have been in the habit of gathering the sap from, which have been relatively decreasing in number, while at the same time the culture of bees has been increasing, but because they all of kinds, which though good, varieties there, are of no value here. Almost all of the kinds which are grown in the North for keeping varieties and do so well there, ripen here in the full and large, and though I am sorry I am not able to give a list that could be depended on for the State, or for any large part of it. As it is not only a question of the fruit itself, but the general culture, the improvement, the cultivation, and perhaps many other things which are not yet understood have much to do in determining the adaptability of a variety of fruit to the place where it will be grown, we will merely give here the varieties mostly spoken of as having done well last the year. Early Harvest, Red Acrean, Jenny, Viorer, Clearing, the green hawthorn, the black hawthorn, the striped, York Imperial, Fallwater, Ben Davis, Grimes' Golden, Smith's Cider and the South River. If people please to make a list, and perhaps does not embrace the one-tenth part of the valuable varieties that are cultivated here and there in the State, but will not be the last to mention that we have been from doing from other States. We are learning to do it, but have not yet been able to obtain a list of varieties of apples ascertainable and reliable as we have of those of grapes, but it may be that the forty years hence, perhaps, too long on this subject, but it is one of great importance. Pennsylvania can and will in time grow all the apples needed to supply the country, which are used for other foreign markets, instead of purchasing the larger part of our own supply, as we have been doing from other States. We are learning to do it, and in time we shall be able to do it as well as the rest of the country.

The Large Apple Crop.

The apple crop throughout the State was unusually good. All the reports except from one locality agree in this, and all have the same complaints. The unusual forwardness of the season all varieties ripened some weeks before their time, so that a large proportion of the winter varieties had to be picked and bottled to effect a small profit, but fortunately those that stayed on the trees until the proper time for picking were unusually fair and fine and are keeping very well. The last part of the season, the apple crop that paid, the summer and fall varieties as usual not bringing enough to pay the expenses of the labor, and the destruction from coding moth is not complained of as much as usual, but this is probably owing to the fact that the crop of apples was unusually small and the average crop of the insects their ravages were not so much noticed. I fear there is no good ground for hoping for any immediate abatement of this great evil as probably another season will show, with a smaller crop of fruit and an increased crop of insects. As this insect is the only real obstacle to the production of fruit and the use of the best quality, it is of great importance that some more effectual remedy than any yet devised may be discovered. Nothing is yet known of the habits that the gathering of the wormy fruit as it falls from the tree and the destruction of the worm, either by feeding the fruit to swine or baking into cider for vinegar. This is very well as far as it goes, but is also the trampling of the worms with hay bands and other similar measures, but these though doublets very beneficial as far as they have not proved effectual.

Some complaints are still made of injury to and death of apple trees. As this is a thing so easily guarded against, and the one, simple, easy and effectual remedy has been so frequently mentioned at the meetings of the Society I must say that I think it is incredible that any member of our society should be so far behind the times as not to have learned how to save his fruit trees from this injury. There has been no injury to be anything else worth mentioning injuries to the apple crop.

Selection of Varieties of Apples.

The most important consideration, perhaps, connected with the culture of apples in the State is the selection of profitable varieties. Next to the destruction by coding moth, the great cause of the failure of the apple crop in this State for many years, has been the planting of trees from New York nurseries, not because these trees are not as good as trees grown here, but because they are all of kinds, which though good, varieties there, are of no value here. There has been a great deal of successful experimentation in the culture of these trees, and a large variety of试 evidence has been obtained with the result that many varieties are found to grow better and to be more profitable than any known varieties. It is impossible to enumerate all the varieties that are now being grown, but a few of the best will be mentioned. It is impossible to enumerate all the varieties that are now being grown, but a few of the best will be mentioned.

Most Profitable Varieties of Pears.

Pears, from all accounts throughout the State, were not more than half a crop. The best pears were those of the week that could be said to have killed the blossoms. Fortunately we are not as much sea as to varieties of pears as with apples. Great unanimity has prevailed for years as to the most profitable of these varieties of pears. Bartlett, Seckel, Duchesse, Buerre d'Anjou and Lawrence and Manning's Elizabeth for an earlier sort, are the most popular. These pears are not so much desired for those wanting a greater variety, Doyle's D'ete, Buerre, Giffard, Ott, Howell, Des Noms, Buerre, Superfine, Buffan, Rutter, and Windsor should be noticed as all doing well everywhere. It is also to say that any one desiring to plant will not go far wrong in selecting them. These are all varieties that are soon to be superseded as some think by the new and hardier and more vigorous seedlings of the Chinese pear. It seems proper to say here that the Kieffer, the only one of these which has as yet been fairly tested here, has, fully held its own and the past year and so far has proved to be all that was claimed for it, in vigor and growth and freedom from disease.

Fire Blight—The Great Enemy,

The one great obstacle to pear culture continues to be fire blight. How this mysterious disease continues its ceaseless and destructive, but erratic and perfectly unaccountable course—breaking out into any locality and as suddenly ceasing altogether in another, without the slightest reason that can be imagined for either. As the cause of this totally incomprehensible calamity is really as yet. Does n't n't he by any conjecture, no remedy can be suggested but the planting of varieties least subject to it.

It may not be out of place to say here that my remarks are based on the experience of the State general failure reported, was very large and fine, and I might add that I have not missed a good crop of pears for many years. I could give what I consider the reasons for this, but I do not think it would be proper here, as it would involve disputed theories of cultivation which would be out of place in a report like this.
DANGER OF OVERSTOCKING THE MARKET.

There is one thing about pear culture of which it might be well to remind those about to engage in fruit culture for market purposes, that is: never to plant too many trees and too fast. The tendency to overcrowd the orchard is epidemic. The consumption of pears is very small compared with that of peaches and when the winter there is no demand for pears, and during the spring and summer and fall, the markets are so full of peaches, grapes, melons and other fruits that are not bearing pears, that only a limited quantity of these are wanted. We are witnessing the great destruction of pear trees by blight, the quantity of this fruit sent to market has increased so greatly within the last few years, that it is evident the time is near at hand when none but those of the finest quality will pay for marketing at all, and that not for high prices. We do not advise that few pear trees indispensable to every farm, I would not recommend them for a market crop.

The Peach and Its Enemies.

Peaches were a good crop generally. The old varieties that have stood the test for many years are most reported as having done well. Of the many new early varieties none have anything favorable to report. The earliest peach, so far tested, that seems to be worth planting is the Parental Perry. It is a good large yellow fruit, and the only remedy consists in being very careful of plant none but perfectly healthy trees, grown from seed procured where no yellows exist, and to plant them in a good soil, and the only remedy consists in being very careful of plant none but perfectly healthy trees, and on the appearance of the first symptoms of the disease, remove at once. As to weather it is necessary, as Mr. Rutter and Mr. Franklin have stated, and subject here, farther than to say, that it seems to have been established that the disease, whatever it may be its cause, is in some way, and to some extent, contagious, and the disease of the peach and branch, and burn it, I have doubts.但 this is one of the questions that we will be better able to determine, when we learn more as to the nature of the disease. But in the winter in which it is communicated from one tree to another. We have the usual complaint about the peach borer, but not so much as of the apple borer. This, the same remarks as were made in regard to the latter will apply here.

The care of peach culture is important, and is entitled to a large share of our attention. The time is not far distant when the markets of Pennsylvania will be supplied with the very choicest of peaches, and they will not, and as heretofore, from adjoining States. Already enough has been done to demonstrate that no country in the world is better adapted to the culture of this, the most delicious of all fruits, than is our own good old commonwealth. It is true, as I have said, that such markets we are able to supply with all the varieties of peaches there is with a very little management in lime. Lime, no doubt, on these clover sods will help to increase the crop of corn, not by adding plant food to the corn, but by supplying lime, lime is therefore quickly available. And since lime is no matter, the crop must necessarily draw wholly on the soil for sustenance, and consequently it is much poorer when the crop is mature. Would it not appear to be reasonable to let the vegetable lands be turned under in the fall as food for the entire rotation, and assist the corn crop by a direct fertilizer? Ten dollars' worth (the price of a dressing of lime) of a direct fertilizer, and the crop will do well on the Carolina rock, which are in themselves plant food, as they contain nitrogen, phosphoric acid and potash, the most valuable ingredients in the soil for sustenance. These are not used.
for any action on other substances already in the soil to make them available, but for their direct effect in manuring the crop. The more of these direct fertilizers are put on the soil that is not worked over, the poorer it is put on the poorer it will be when the crop is ripe. That is evidently the best farming which leaves the soil better at harvesting than it was when the crop was planted.

The second and third requirements for a good crop of corn, viz: good cultivation and good weather, are so dependent on each other that it is of no use to consider them separately, except in the case of the usual understanding of corn cultivation is, "destroy the weeds and hill up the plants." That is not a system, but a matter of accident. They are destroyed because they rob the soil of moisture, &c. If there were no weeds, there might be such a condition of weather that corn could not be grown, do what we could.

But as such a condition of weather seldom falls to our lot, we have to adopt such a system of cultivation as will as much as possible improve the requirements of the crop. What these requirements in the different stages of growth are we must know, if we want to treat them properly. It has been observed that July is favorable to a corn crop, that the appearance of the tassel at 7 or 8 feet is better than when it appears at 10 or 12 feet, that from the ground is better than at 8 feet, and that favorable weather during the latter part of July and through August makes the good corn. In the early part of August and September, if the weather is favorable, the weather in June, be likely to make such a growth as will defeat many of these desirable conditions. In such a case the ear, the crop will take care of itself.

If the weather is dry, then is the time for judicious cultivation. We now want no more deep plowing, for no loosening of the surface with a light shovel harrow or a spike harrow, built of the same shape, between the rows, and with the hoe between, the only soil loosed should be at the surface level. The loose surface will act as a mulch, under which the moisture will dry slowly. This may have to be repeated up to the middle of August; the drier the weather the time takes. Some might say that this takes too much work. But if by such a system of cultivation we could increase our crops one third or one half, this extra labor would be well paid for.

We do not pay sufficient attention to the possibilities of a corn crop, and are satisfied to keep on in the old rut in which our fathers moved. In any good field of corn, we can pick out numerous hills that will shell over a quarter of the weight of the grain they produce. If these hills alone formed the yield would be over one hundred and fifty bushels to the acre.

By selection of seed, mode of planting, by an improved system of cultivation and manuring, the indications are that we can as easily raise 100 bushels as by the old system 50 bushels. The report from the farm connected with this article shows a yield of 150 bushels of shelled corn off an acre of Chester county manmeh. An acre of Boggs' County corn report shows a yield of 150 bushels. Larger yields have been reported, but these were grown on plots less than an acre, and are therefore not so valuable. "What has been done is done, and the man who is satisfied with what he does, and in this case is a plausible one. Good seed is one of the important factors in growing large crops of corn.

We have recently been made by eminent agriculturists, which indicate that there was a difference of from 20 to 100 per cent, in the yield, where in the one case poorly developed ears were used for seed, while in the other the best only were taken. How important the selection of good ears is, we will see by the following:

To make and keep it so will require care and judgment. The selection should be made before the corn is cut, as then is the crop the best estimate of the possibilities of the ear, (an important one,) as well as the ear can be fully seen.

In conclusion, I will briefly say that a clever corn plot should be plowed only four or five inches deep, not that shallow plowing in itself is valuable, but because by turning down the vegetative part of the root, the mass of the root being above the reach of atmospheric influences, and also out of reach of the roots that are the best grain-feeders. In some cases it might pay to run a subsoil plow, but on this farm four or five inches is the previous plowings right, subsoiling is not so important. If some ingenious mechanic would invent a sod-plow, somehow we must reach the subsoil, much as we do the surface soil, though the subsoil is not so important. We must reach the subsoil, and we must be able to put the plow on the ground and harrow in, at the same time we can get an advantage for the plants about ear-forming time, as this is the time that plant-food is specially wanted.

With the above principles the members of the Lancaster County Agricultural Society will compete next season with the Rural New Yorker.

"PEACH BUDS AND PEACiES."

Mr. President and Gentlemen of Pennsylvania Fruit Growers' Society:

At the request of your worthy secretary and others, I have prepared an essay upon a topic pertaining to my vocation, which is partly growing and fruiting the peach, and have chosen for you the following:

It is a well known fact to all peach growers, that there are season when every peach tree that has vitality enough to produce a crop of bushes are not produced, irrespective of size or quality; other seasons but a partial crop, or certain varieties will bear well while other varieties will produce no crop or but a very small crop, and tire failure, such as the present year promises to be with us. The cause of the two extremes we can readily understand, viz: heat and cold. What we desire especially to invite the attention of this society to the cause of the great difference between one season and another, and there is nothing for it but to test the soil and subsoil and the climate. Our variety, Salway, is bearing this year probably for its tardiness in opening its petals, and continues its development several days later than its similar varieties.

Last spring (1880) we had a sharp frost just at the time Crawford's Late partially opened its petals, and this made the great difference between the varieties cultivated. They are more gradual in their blossoms, while at the same time most other varieties except Troth's Early and Mountain Rose were well protected within the folds of the petals, and the indifferent trees were in full bloom, the injured organs were easily perceived.

One peculiar habit of Crawford's Late is to open its petals simultaneously, while Troth's Early and Mountain Rose are more gradual; hence the reason why their crop was partial. The only reason that I can see of the orchard with the north exposure bore as much fruit as it did, is because it did not expand its petals by several days in orchards of more favorable location, and thereby escaped the early frost.

Although Blyen's Late was the first to bloom, it did not suffer as badly as the other sorts, as the protection rendered by its large petals.

How often do the newspapers when reporting the prospect of a peach crop, say, "The fruits are in abundance?" How often are they less likely to be injured? Because they are late and gradual in opening their blossoms, I have but once known the Blyen's Late have been injured by the frost. It bears a small nutty bud and is very gradual in blooming; many buds are just opening when the petals are beginning to open. This accounts for its great tendency to over-bear, which I by no means consider a fault. Nature has here placed in our way a protection against the cold, and the horticulturist should profit by it. I believe that the large blossoming varieties, as a class, are less liable to be at any time injured by bud injury, and especially in the small fruiting sorts, why the exception of the variety last named. The
or organs of the large blossoms are nicely enveloped within the corolla until nearly fully grown, for fertilization to take place, while, on the other hand, the organs of the smaller blossoming varieties are exposed to the elements a number of days before the general expansion of the flower.

Had Crawford's Late the power of withstanding or resisting cold as greatly as some of our other varieties, the peach growers in this county alone, the past season, would have reaped profits of thousands of dollars where they did not reap hundreds.

In the light of the wealth of serious investigation, and our botanical friends can assist us.

Many of our fruit growers have a mark for Vitamins. This is right in its place, but let us not overlook other desirable points in our craft by striving alone for earliness. Let us take with us fruitfulness and hardiness, and in any case that ripens its fruit from flowers that the common bee cannot reach. Can't we as peach growers keep pace with our brethren in other industries? Indeed, I think that if we try to profit by her bountiful efforts, thousands of natural seedlings, which we, by judicious care, can take from her storehouse of the very objects that nature has given us.

I have placed in my nursery varieties that my attention has been directed to by their possessing desirable qualities. One of them being a new variety of peach. I bought a few weeks ago some advantage over us, in directly controlling their subjects, nature, on the other hand, offers us many advantages that the will now have an opportunity in ripening later in the season a month earlier than the usual variety.

Let us ever be on the alert for new seedlings, for any variety that ripens its fruit in succession for a period of 6 weeks; now 14 or 15 weeks is not considered more than an ordinary achievement, and yet we are on the lower rounds of the ladder. There are still more varieties we can add to the list by close observation and intelligent application.

Let us be vigilant, be active and unwearyed in our effort to produce the best fruit that God has created for man.

**NITROGENOUS ELEMENTS OF PLANT FOOD.**

I. Almost all, if not all, the nitrogen content of all vegetation, is derived from the plant from nitrates, or other nitrogenous compounds, contained by some, that certain orders of plants, particularly from among agricultural vegetation, the broad-leaved root crops derive at a sacrifice of the nitrogen content of their leaves, from the atmospheric nitrogen or nitrogenous compounds. This, to say the least, is extremely doubtful.

(a) Those compounds which are insoluble, and are the intermediate products of vegetation, are classed as nitrogenous organic bodies.

(b) The soluble compounds of nitrogen, including ammoniacal and nitrate held in solution in soil water or in the air, in the pores or condensed on the surfaces of the pores of the soil. The nitrogen of the soil is derived from the four sources:

(c) From the decay of former vegetation as stored in the soil.

(d) From additions in the form of barn-yard manure or chemical fertilizers.

IV. Nitrogen in the insoluble form, and as free by the plants themselves.

Hence, to the nitrogen of the soil we must add the atmospheric nitrogen, in which we have a reservoir of nitrogen for plant food.

I have been frequently referred to the nitrogen in the soil in two classes of conditions, available and not available, for the plant. It is of value to the farmer to know if he can assist in converting the nitrogen of the atmosphere into an available form.

How far this supply of nitrogen is sufficient is an important and as yet unanswered inquiry.

(b) What conditions are favorable for rendering the nitrogen of the soil, stored or added, assimilable?

I briefly mention some of the leading conditions for bringing about this change.

The presence of oxygen of the air, and such substances as can supply oxygen, such as red oxide of iron as found in our Adams county red shale, sulphates as gypsum. Moisture acts as an agent of change in converting the nitrogen into an available form.

I have been frequently asked the reason why peaches fall more frequently now than of old. It is true that there is an increase in our efforts to increase earliness, size and quality, we have in a measure lost sight of hardiness. The old natural orchard varieties our ancestors cultivated in the wild were, by the way sides, were in fact nearly all of the large blossoming kinds, and these natural sorts yet oftentimes produce fruit when all other sorts are dead. We have, by chance in producing varieties that will withstand the severity of any winter, or the effects of a very late severe frost, but there is room for those to prove greatly on the future hardy varieties.

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I briefly mention some of the leading conditions for bringing about this change.

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I have been frequently asked the reason why peaches fall more frequently now than of old. It is true that there is an increase in our efforts to increase earliness, size and quality, we have in a measure lost sight of hardiness. The old natural orchard varieties our ancestors cultivated in the wild were, by the way sides, were in fact nearly all of the large blossoming kinds, and these natural sorts yet oftentimes produce fruit when all other sorts are dead. We have, by chance in producing varieties that will withstand the severity of any winter, or the effects of a very late severe frost, but there is room for those to prove greatly on the future hardy varieties.

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to control, but we can modify its action. I recall the saying that 'a pint is worth a gallon, even in nitrous and oxygen, because it is more active during hot weather, but if the soil is very dry at the same time, or so compact as to exclude oxygen, ammonia may be formed from nitrous, and this is injurious to plants. The immediate use of the plant. Yon thus observe, that during winter the nitrogen may remain as ammonia stored for the use of vegetation the following spring.

I have not spoken of ozone, or of ferments, or of rootlets, or of other causes of nitrification, because, the attempt to analyze them are not handled by the control of the former.

(c) What conditions are favorable for the retention of assimilable nitrogen in the soil?

The principal loss is found in the solubility of nitrates and ammonia in water. In soils with a high percentage of the peaty or meadow subsoil, the drainage may cause a very considerable carrying away of these other nutritive elements, as is shown by analyses of spring, well and river water.

Another loss is found in the formation of ammonia, and yet another is caused by the absence of those mineral compounds which are generally known as nitrates. These nitrogen compounds, such as phosphates, carbonates of lime, and gypsum, one remedy among others, can at least by the retention of looseness by plowing and hoeing, as increased the absorbing power for water, and decreases the evaporating power.

(d) Which of the different kinds of crops bear to the food supply of nitrogen.

We consider this question first in the amount of nitrogen found in different crops. If we have an acre of crop of twenty-eight bushels of wheat, with twenty-five hundred pounds of straw, about forty-five to forty-eight pounds of nitrogen will be found present in the hay. Ten acres of wheat, ten acres of hay, fifty to sixty pounds, that is to each ton, twenty to twenty-four pounds, and in a crop of two and one-half tons of clover, from one hundred to one hundred and fifteen pounds of nitrogen, (each ton containing forty to forty-six pounds.)

A general, the leguminous crops, clover, beans, vetches, are rich in nitrogen, while the cereals and grasses are relatively poor in nitrogen.

This comes the remarkable fact, shown by many investigations, but recently and remarkably demonstrated in over thirty years' culture on trial plots of various crops by Gilbert and others, namely cereals and grasses, require the presence of a larger quantity of assimilable nitrogen, than do those rich in nitrogen.

The second crop, being absent, Calico Cooper was chosen secretary pro tem. The reading of the minutes was dispensed with.

Our Local Organizations.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY

A stated meeting of the Lancaster Agricultural and Horticultural Society was held in their room in City Hall, Monday afternoon, March 7th.

The following named members and visitors were present: Joseph F. Whitem, Paradale; Johnson Miller, War-

The resolutions were as follows:

1. Without any manure, the nitrogen in all crops gradually diminished, and also the soil content was lessened, that is, the crop diminished.

2. With mineral manures, the amount of nitrogen in the cereals diminished as also in the soil, but at a somewhat less rate, while the nitrogen of clover and beans is diminished but little, and the soil content even increased.

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2. With mineral manures, the amount of nitrogen in the cereals diminished as also in the soil, but at a somewhat less rate, while the nitrogen of clover and beans is diminished but little, and the soil content even increased.

In other words, the mineral fertilizer, particularly potash, enabled the clover to use more nitrogen, and at the same time increase the store of nitrogen in the soil, even rendering it assimilable.

3. What is more remarkable, the crops rich in nitrogen derive far less benefit from nitrogenous manures than do those poor in nitrogen.

4. Root crops exhaust particularly the superficial layers of soil of their nitrogen, under any of these conditions.

We have no time to-day to inquire into the reasons of these facts, but they are of most importance.

Two conclusions must appear.

(a) The leguminous must draw a considerable portion of their supply of nitrogen from the air, and, as already stated, through the soil.

(b) Mineral fertilizers have at least as valuable indirect action, in reference to supply of potash and phosphorus to the growing plant.

(c) If nitrogen is to be added to the soil in fertilizer form it is most conveniently and cheaply applied by

Our answer has already been suggested. Clover is the best, from the amount of nitrogen it gathers in its own tissues, and from the increase it effects on the soil, besides the considerable amount found in its roots. Of mineral manures, nitrites are the best, par-
A Chester County Sale—The Great Dairy of Enos Bernard

The subject of ensilage is now giving rise to much discussion among the farmers of Northwester Chester, and New Castle Counties. Although it does not yet amount to a "boom" among the steady-going farm-ers, it looks very favorably. The novelty of the subject, the second instant, in company with my brother, vis-ited the dairy of Enos Bernard, near Doe Run, Chester-town. They were hospitably received by the proprietor, who took us on one of his ensilage plots. The silo is nearly a large root cellar. The cultivation of roots has been abandoned because of the im-mense yields of ensilage. We enter the silo through a door in the back wall of the cow stables. The odor of the "cow-crotch" is pronounced, although the silo door (or door sill) is three feet across the bottom of the silo, and the ensilage has been removed only to this level. We find the silo filled with ensilage. It is quite juicy when we tread on it. Yankee-like, I asked a great many questions. They were promptly answered by the host. He does not consider the present trial a fair test of the value of ensilage. Undoubtedly his hay crop would be inadequate for his large family—180 cows—he broke up eight acres after harvest and planted it with corn. Most of the silage was seeded with the wheat drill and not cultivated.

Although the corn grew rapidly it had not attained sufficient height to prevent the growth of weeds which then went to work with fifteen men and a large fol-dor cutter driven by steam power and in three days by taking all the ensilage. In the ensilage pile the machine was set to cut the pieces eight inches of an inch square. This is an excellent job, wheat running across the silo and weighted with stones, 1,000 pounds per acre square yard is applied. The joists over the cellar were lifted until the en-silage was settled enough to allow them to be re-palced.

The ears are in the barn containing the silo and they are fed to buses of the "corn" per day at two feet, and notwithstanding its somewhat sour appearance, it is the most palatable feed of the season and well cultivated, and better matured, the ensilage would have been a much more valuable feed. He now owns property near Philadelphia that he has been feeding ensilage and if objections were made to the butter from the silo they would have been the butter for several, weeks, and so far have not given a single squeak.

In the hands of Enos Bernard the value of ensilage is very much advanced. This building has been gotten up at great expense. The walls are constructed with five compartments with sheathing paper on the inside, and the doors and windows are five feet six inches high and three feet wide. These are the same and the floors are laid with fireproof sheet wood. The silo door is a double fireproof double door, fixed as closely as possible. The object in all this is to make the building as nearly air-tight as possible. Standing out on the hill, perhaps 500 feet from the dairy, is an object resembling a gigantic trumpet with a vine attached, so that the flaring mouth of the trumpet is always directed to the wind. Contending this apparatus with the dairy is a sub-terranean silo, 20 feet in diameter 20 feet deep, 12 feet below the surface of the ground and was tun-nelled, part of the way, through rock. It is archcd over for three-quarters of its length and the temperature of the earth at a depth of fifteen feet is about the same, summer and winter, and the dairy can be entered by a door in the silo. Although this duct the proprietor considers it a success.

The milk is set in shallow pans. Steam furnishes the heat. The milk is cooked and allowed to drain and then washed in the drying tank, the water being allowed to drain off, the milk is rained fine cutters and ensilage, runs the three large churns, pumps the milk up from the cellar, and does to the en-silage tank, as near as it is possible to do without the labor of the dairy. On the high ground in the rear of the buildings a wind engine which pumps the milk from the churns to the ensilage tank, is used to convey water to the dairy. The milk is set in hot weather.

Of course, these costly appliances are out of the reach of the average farmer; but Emerson says we should "itch our wagon to a star." It is well to note the work of advanced farmers as we pass along and we may find something worthy of imitation ever in time. In the meantime the dinner bell rang. Our horses were well cared for, and we were soon resting our horses under our hotel's shade. All of us gathered to show that "hospitality is not an obsolete word" in Chester-town.

The essay was discussed at considerable length by Dr. Greene, Henry M. Eagle, Jos. F. Witmer, John G. Kesh and Mr. A. B. Grosvenor, the last alluding to speakers professing to believe that ensilage would prove of great value, and others fearing that it would not. The discussion took a very discursive range.

Insects and Agriculture.

Dr. C. A. Alden, a member of the Chester County Fruit Growers', Society, spoke briefly on an interesting subject of entomology. The gentleman prefaced his remarks by congratulating the society upon the fact that a number of the pages published in this paper have been entirely devoted to insects. We are thus furnished with some evidence of the truth of the old saying: "Pests are as inseparably associated with agriculture as farmers are with their crops." This nation, indeed, is too richly endowed with natural advantages to be called on to submit to the simple, the only an adequate protection against insect pests.

The essay was discussed at great length by P. S. Reite, Dr. Greene, Henry M. Eagle, J. C. Lilli, and Dr. E. F. Linnell. The Philadelphia Times and Observer, note "the valuable suggestions, essential to the success of any agricultural scheme, that had the art and the talent could be collected and preserved."

The expense to the government would only be a trifling cost as compared with the ultimate benefits derived. The loss every year to the farmers from insects and diseases, and thousands lost in the above manner. All inventions, discoveries and experiences of the entomologist, the farmer and the artisan could be collated and preserved.

Books Presented.

I. L. Landis presented the society with two bound volumes of the Religious Farmer, published in 1828-9. Dr. S. S. Rathbone presented for distribution packages of squash seeds. Mr. S. W. L. Weiser exhibited to the society a pint of very large chestnuts, grown from a tree planted by himself.

Exchange of Reports.

On motion, Mr. Engie moved that the society be authorized to make exchange of the reports of the board of agriculture and other Pennsylvania publications for similar reports of the St. Louis and Crandall's Monitor, and for the same acknowledgment of his untrifling zeal in furthering the interests of farmers. Mr. Engie moved that Mr. Landis be elected a life member of the society. The motion was unanimously agreed to, and Mr. Landis briefly acknowledged the compliment.

Adjourned.

THE POULTRY SOCIETY.

Discussions at the March Meeting.

The regular monthly meeting of the Poultry As-sociation was held Monday, March 7th. The following were present: E. L. Steil, E. B. S. D. S. D. C. McMillan, W. L. Harkess, Chickles, Charles L. Long, city; John E. Shabinsky, city; J. C. Lilli, city; J. C. Lilli, city; W. L. Brackpower, Buffalo; Charles Lipper, city; J. F. Dillard, city; S. G. Engle, city; S. G. Engle, city; S. W. L. Weiser, city; W. L. Weiser, city; S. C. Landis, city; S. C. Landis, city; L. C. A. Geyer, Spring Garden; Squire Grier, Mountville; Joseph F. Witmer, Paradise; and a few others.

In the absence of the President, Vice President Geo. A. Geyer, city, and Secretary of the previous meeting were read by Secretary Lichly, and approved as read.

New Business.

Edward Trieb, city; John Barch, city; Frederick Beales and John Boo, Lancaster; Cyrus B. Neff, of Manos; A. C. Musser, of Mariet-ta; J. F. Johnson, of Maytown; Dr. E. Kell, of Elizabethtown; J. S. Kendall, of Mountville; Henry S. Musser, of Marietta; C. Muselman, of Witmer, and John R. Tyson, of Cordwells, were nominated and elected to membership.

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THE BEEKEEPERS' ASSOCIATION

A meeting of the beekeepers of Lancaster county was held on Monday afternoon, March 14th, in the parlor of the Lancaster County Library. The meeting was called to order by the President, Mr. Peter S. Relst. The following members were present: John F. Furlong, Charles F. Furlong, E. J. Furlong, James Furlong, Jr., Thomas O. Furlong, and John Furlong. The vote was taken, and the meeting was adjourned.

S. G. Engle has no experience in this matter. The large hives, however, can stand cold weather better.

J. A. Stober has had experience with large and small hives, especially with African and China bees.

C. E. Long said that during the present winter his hives have been no better than usual. He noted that the temperature has been lower than usual, and that the hives have been exposed to the wind. He also said that the hives have been exposed to the wind. He also said that the hives have been exposed to the wind. He also said that the hives have been exposed to the wind. He also said that the hives have been exposed to the wind.

Mr. Lurville has had no experience with small hives. A remarkably hard crop is the Plymouth Rock and Partridge Cochin, and they are good layers of eggs. They are favored by many beekeepers who have limited space.

J. B. Litchy, as the chairman of the Executive Committee, reported that the society has agreed upon by the amount to be paid to Mr. Schum for the services of the beekeepers. The amount agreed upon was $500.00. The society also expressed appreciation for the services of Mr. Schum.

Chas. Lippold thought the society should have taken better care of the exhibits, and permitted none to be stolen. The society should also make itself responsible for such losses.

Chas. L. Long thought the meeting would be a good opportunity for the society to discuss the future of the apiary. The society should consider the possibility of purchasing additional land for the apiary.

T. Frank Burch offered a resolution which was intended to end this trouble, by means of an investigation.

The society adopted the resolution.

Questions for Discussion

How can we best prevent snow from affecting bees?

Referred to S. G. Engle.

Is the rearing of fancy poultry a financial success?

Referred to C. E. Long.

Will Bertram mix with Asilas if allowed to run in the same yard? For greater discussion.

On notice, the society adjourned.

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grapevines in small vineyards we prefer the upright trellis. Posts are set 8 feet apart; a strip 9½ inches wide is nailed on a foot from the ground and another at a distance of 12 feet. The resulting frame is to be securely tied. The arms of the frames are fastened to the lower strip, and perpendicularly wires from the upper to the lower arm. A good trellis is all but as effective as a fence, and it keeps the vines from becoming tangled. Pruning that has been neglected should be done this year. If there are large number of half-stunted branches, and also in cases where the canes are numerous near the ground. Whatever obstructs the passage of the sap up the trunk; induces shoots to break out from below. In the same way, if the roots of the tree are to be kept healthy, it is not too much by encouraging the vigor in the head of the tree, so as to check this tendency to throw out collar-sprouts, but to allow none to form. Many rest with cutting them back to the ground, so far as to prevent their growth next season. The ground should be cleared of the stubble, and carefully prepared. The best time is in the autumn, when there is no danger of the new growth being injured. Many trees are left on old grass land, and the trees when young are protected from being barked by having thorn-brush tied round the stems with tar for the winter. It is a very good plan to have a frame called a "crutch" put round to keep the stock from gnawing the bark or rubbing against the trees. The harm in recommending keeping orchards in this way is, that the trees must be carefully watched and never be allowed to grow long, but must be pruned close. If a nice, comfortable shoot or two are in the midst of the twigs, this practice will do much toward nourishing food every morning and evening; through the autumn, the sheep and calves will, by going over the orchard, drop more manure than the grass eaten, and thus enrich the earth very much. In the spring, when the orchard is full of bees, be handy for keeping calves which are weaned on skim milk. They are used for this purpose a good deal in England.

On the Island of Jersey orchards are grazed a good deal with the milk cows, which have their heifers in the orchard in the spring, and their young ones free action excepting to reach upward. This is why the trees are at full size.

Hot Beds and Cold Frames.

With regard to the management of these important auxiliaries of a well regulated garden, Mr. W. D. Burbank gives the following very useful hints:

This is the time for starting hot-beds and cold frames, and for setting out the small stock. The weather is still cold and windy, but in clear weather the sun has its daily deal of power under the glass, and the dandelion and parsley in the cold frames will make considerable growth. About the middle of the month is the time to get ready a hot-bed for starting the seeds of which you mean to have in time for setting out for the field; also lettuce for heading under glass to come just before the field crops.

The frames should be filled with two inches deep of good hot manure to the above named seeds. Tobacco may be sown in the same way. The heat will stand watering and air necessary. The bed, however, should be well banked around with strawy manure, and the sides and bottom of the frame covered with two or three layers of old leaves to prevent the earth from working in at the sides in cold, windy weather. In bright weather the mashes on the hot beds will need watering a couple of times a week, and generally for six or seven days.

BASIL SOUP.—Boil one pint of pearl barley in one quart of stock until it is reduced to a pulp, pass through a sieve, and add the stock and a cupful of the fennel till all the flour is out of it. I have had a mincer box four years; it has never been cleaned with anything but a narrow copper or brass knife. It looks like it has been sunned by the rubbing. It was a school companion who told me that her aunt (a Russian lady) always killed it for me; only I had it broken in, and after she made it, she looked beautiful. It has one advantage—the lining does not require to be taken out, and it only requires to be washed clean, which is done sooner than mince. The last is very easily done.

Remove Vine Stains from Printing Books.—Remove a small quantity of warm water; then slightly wet the stain with it when it will disappear, leaving the leaf of the book intact.

BARLEY SOUP.—Boil one pint of pearl barley in one quart of stock until it is reduced to a pulp, pass through a sieve, and add the stock and a cupful of the fennel till all the flour is out of it. I have had a mincer box four years; it has never been cleaned with anything but a narrow copper or brass knife. It looks like it has been sunned by the rubbing. It was a school companion who told me that her aunt (a Russian lady) always killed it for me; only I had it broken in, and after she made it, she looked beautiful. It has one advantage—the lining does not require to be taken out, and it only requires to be washed clean, which is done sooner than mince. The last is very easily done.

GAME SOUP (Clear).—Take the remains of any kind of game, not high, put them in a saucepan and boil, and place them in a stew pan, one-half the peel grated; beets and white separately; add to the yolks by degrees the sugar, beet to a broth until thick and smooth, and the white of eggs to a well enough to cut with a knife; stir together lightly with the seasonings; pour in a buttered dish, and bake in a hot oven. The dish should be served when it is heated.

OMELETTES SOUPELLE.—Six eggs, six tablespoonfuls powdered pepper, juice of one lemon, one-half the peel grated; beets and white separately; add to the yolks by degrees the sugar, beet to a broth until thick and smooth, and the white of eggs to a well enough to cut with a knife; stir together lightly with the seasonings; pour in a buttered dish, and bake in a hot oven. The dish should be served when it is heated.

LIVE STOCK

Beef and Mutton in England.

Notwithstanding the fact that the large corporations of these from America and Australia, the English newspapers inform us that the prices not only keep well, but has actually doubled in many instances. This is owing mainly to the increasing population, and the increasing prosperity in the manufacturing districts. At a former period when great quantities of meat have been sold, a meat of a poor quality only once a week, on an average, would have been highly expensive. But the consumers have placed before them a superior quality at a lower price, and can afford to have it nearly every day on the table. This is true of most of the large public houses. In addition, the consumption of meat in the United Kingdom. As to mutton more particularly, the liver-cuts again has advanced in price, on account of the want of mutton, and the many deaths in them from the disease, and this again assists to keep up the price of mutton as well as of beef and pork.

The Rearing of Calves.

It may be laid down as a first proposition that a dairy farmer should raise at least as many better...
Literary and Personal.

The American Cultivator, devoted to Agriculture, Horticulture, Markets, News, Art, Science, and Home Literature. This is a large eight page folio, containing 48 pages of beautifully printed paper, and the figures are as well done, it argues one's self unknown. Published weekly, at 5 cents a copy, and at $6.00 a year. Address Geo. B. James, 48 Summer street. The January 22nd number of this magnificent journal came to hand too late, to transcribe a very interesting, marked, article to our columns, but we shall do so in our next number—If we don't forget it.

The Rockdale Enterprise, published by Spalding and Van Orden, Page county, Iowa. A new monthly folio at $6.00 a year. The first number, January 18, 1891, is on our table, and is well filled with interesting local and literary matter. It makes a very handsome appearance and is an enterprise worthy of success.

The Illustrated Champion—A journal devoted to the promotion of the formation of industries both at home and abroad. An eight-page royal folio, conducted with great ability, and able to compete successfully with any similar journal published in the country, with its specialties. Published at $1.50 a year, in advance, by Clark & Co., 5 and T. Murray street, New York.

Tobacco.-Tobacco extends its beneficial influence to profit, amusement, pet stock and home interests. Toronto, Canada. An eight-page monthly, well illustrated.

The Virginia—A mining, industrial and scientific journal. Published by the Virginia Institute of Mines and Engineering, at Staunton, Virginia, and Virginia and West Virginia. A semi-monthly of about 24 pages, including geological illustrations and a large number of small engravings. Published at $2.00 a year in advance. Jed. Hochsteck, editor and proprietor, Staunton, Virginia. A substantially bound volume of the past year is quite complete, and contains maps and sections, complete, with index and title page, and we are authorized to address the Institute in dollars for the three dollars.

This is a remarkably well gotten up paper in the hands of an editor who knows the value of printing and the patronage of those interested therein.
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**OFFICE**,

No. 9 North Queen Street,
LANCASTER, PA.

**THE OLDEST AND BEST.**

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Published Daily Except Sunday.

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Mail subscription, free of postage—one month, 50 cents; one year, $5.00.

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The job rooms of THE LANCASTER EXAMINER are filled with the latest styles of press, material, etc., and we are prepared to do all kinds of Book and Job Printing at low rates and short notice as any establishment in the State.

**SALE BILLS A SPECIALTY.**

With a full assortments of various kinds that we have just purchased, we are prepared to print the finest and most attractive sale bills in the State.

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No. 9 North Queen St., Lancaster, Pa.
LANCASTER, PA., APRIL, 1881.

Dr. E. S. BATHYON, Editor.

JOHN A. HIESTAND, Publisher.

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The Lancaster Farmer.


ENSILAGE.

The attention of farmers and all who are interested in the feeding of stock, is called to the remarkable article headed “Arraeeck Farmer,” in the “Lancaster Weekly,” the grapne “Weekly” into the present issue of the Farmer. How far the extremely favorable result of the new method of stock feeding, there recommended by farmers generally who may pursue this plan we will not undertake to say, but the subject is certainly deserving of their earnest consideration.

THAT'S WHAT ALL SHOULD BE DOING.

What? Why, looking after the noxious insects before they deposit their first batch? Every “now and then” some correspondent sends us either the eggs, the larvae, the pupa, the nest, the cocoon, or the inquisitive insect in any of its stages. We ask whether they are noxious, and how to destroy them. Only a few days ago a gentleman in South Queen street stated that one day last winter, after a heavy snowfall, he discovered a large number of worms and maggots, and found in about thirty “Lady-birds,” and although the thermometer was four degrees below zero they were all alive, or revived shortly after they were put into a room. This don't look much like insects being killed by freezing. True, many of the Lady-birds are inveterate depredators. The class these Lady-birds belonged, but judging from his description, we do not know but that they were of the noxious kind. On one occasion we took about five hundred specimens from under a piece of bark on an old cherry-tree, little more than a foot square, in the mouth of March, which proved to be the great food of the Lady-bird, Eulophes bolora (Eulophes bolora) which is exceedingly injurious to melon and pumpkin vines. We would advise people to kill them off, noxious insects are inveterate depredators. We ask to what tribe they belong, looking for their compulsion in the fact, that if their insect enemies are destroyed, they will not need the assistance of such creatures.

Do not place any dependence in the “probability” that insects are very materially injured by the introduction of the Lady-birds. They are amongst the most voracious and active of all insects, and if the number of them is small or large they have a habit of eating them.

A GENTEEL DISCUSSION.

The Kingston Journal and Weekly Freeman, N.Y. come to us with a conspicuously marked article on the subject of Vitcne identity, through which it is alleged that all the Prets are one and the same variety, although they are offered to the public as different varieties. Perhaps, in the case of some kinds of fruit, it is not at all astonishing that there should be two claimants to the same variety under different names; and when such is the case the public, if they do not know to the public to know exactly upon what foundation those claims rest. If both of the claimed varieties are equally meritorious, the public can run them side by side, and either one, or both of them, at the same time it cannot be considered honorable for one man to propagate and vend as his own, a new variety, and claim discovery of an advantage or invention of some other man. When any party with equal zeal claims that he is right and his competitor is wrong, and that he first had the advantage of his goods on the market, it would seem expedient that those who are expected to patronize them should have some knowledge of the premises they are in exactly upon, and it is solely with this view that we place the argument before our readers, so far as it has been brought to our notice, in the judgment of the special champion of either. We prefer to let the parties in the controversy speak for themselves; and with this view we adduce the article of Eulophes bolora, which although sufficiently plausible, is still only exportable testimony. Those of our readers who are practical grape-growers themselves, and are well posted in such matters, will know exactly what use to make of it; and also whether either of the claimed varieties has any merits worthy of their special attention. At Rome, New York, and at the fair in Kansas, had enumerated over 1500 varieties of apples. It would not be surprising if some of these were identical with others of a different kind.

A Claim that the Hudson and Prets are Identical.

EDITOR FREEMAN: Having waited for nearly six months for the proprietors of the Pretis gour to refute my suspicions, that the Hudson and Pretis are the same, and being pressed from all quarters to explain,

receiving letters from the owners of the Pretis teeming with billinggate, and threatened persecution for one month, I am compelled to state that every argument adduced before the committee was made before our society in regard to the identity of the two grape varieties who appeared in the committee's report, I would publish this in our local columns and the national agricultural journals of the country. As there has been no light thrown on this mystery since it began, and in thousands of places it has been publicly proclaimed that there is a duty to myself and especially to the country to give the facts as I have them, and in doing so this paper will be necessarily lengthy, as it is a transaction of long duration.

The Hudson is a Rebecca seedling, no attempt at crossing having been made. While in fact a company of veteran fruit-growers and pomologists from the Newburg Bay Horticultural Society were invited to visit it at the last spring fair, the owners, when requested to show the Hudson and Pretis, said that these varieties were among the reasons they gave: First, that it was a seedling of the Rebecca, which is half foreign and tenet. Second, the vine was a poor grower and the leaves lived but a few days. Third, cluster too small, skin thick and bitter and quite foxy, and that in advertising, a cut of a single cluster would be too small to appear in the catalogue; and fourth, the superiority of the Rebecca, they would plant it in preference.

I then put it out for testing in the hands of about 20 or 30 gentlemen, scattered through many of the states, but the greater portion in central New York; the largest number in one lot was on Cloudy Hill, near the west shore in the Pulney neighborhood there were three, two of which were J. W. Pretis and E. Roff, who had a Hudson and Dutchess vine. All who have received my new fruits for testing have signed an agreement binding them not to propagate or sell them or allow others to do so until two years after, and if they should sell, then not for three years after. We have not yet sold a vine of the Hudson.

There has been two or three cases where I have not been compelled to complain among all this great number who are testing our new fruits. The first we heard of the matter in question, I was written from Western New York, from a company of gentlemen who had obtained specimens of the Pretis and Hudson and after close examination had pronounced them identical; this was referring from several other localities during the summer, I holding the Hudson in abeyance for reasons above mentioned, and at the same time seeing so many commandeered by the Pretis, and knowing it involved a question of general interest throughout the country, I concluded not to be hasty in any correction I might make. On the second day of our local exhibition at Marlborough, on looking over our collection of grapes I inquired of my sons why they had not seen the Hudson on our table, they replied that “one of them was Pretis,” which had been placed near our collection. Their one appearance in abundance brought to mind the statements of our neighbors. Wearing a conspicuous spring and summer. The two plates were examined by many persons during the day. We received a great many letters from the Hudson before some of the most experienced grape growers in this and other sections of the country, “No difference” was the usual answer.

The owner of the Pretis sent a gentleman in western New York a specimen of the
fruit and foliage, both of which were tested with the Hudson growing on his farm, and he pronounced them one variety and so informed the owner of the Prentice. The same grapes
were then examined by several old growers (of grapes, and by the horticulturist in central New York), none of whom could distinguish them. A grape-grower and
agent for the Prentice living in Clintondale, U. S. A., was invited to visit them on the same day, and in the company of two other companies of amateur and
professional horticulturists, and unhesitatingly declared them one variety, and stated he would so report at headquarters.

There are more of these instances, but they are too numerous to be mentioned here. After I had reason to believe that the Hudson and Prentice vine was a new and
valuable variety, I wrote to the owner of the Prentice by letter if he thought it honorable to propagate and sell a new variety of grape belonging to another, who thought this seedlings in the hands of parties where he had placed it for testing, and told him since he had got so far with it if he
would pay $500 I would turn the whole stock of the Hudson plot to him. His answer was
one of the letters spoken of above. I then answered that I should give the true character of the Hudson to the country, and sell it for what it is worth. His answer was
another of the letters previously named. Finding correspondence unavailing, a third party, to whom the Prentice interest is behol-den, through his desire for peace, consented to propose the following to the owner of the Prentices: "I turn over to him the whole stock of the Hudson now, and make no entry to be chosen in any section of the country, and a vine of the Hudson and Prentice be placed in their hands to be planted
gather, after three or four years, or when the vines were grown and trained, and kind and
different in any particular the owner of the Prentices to pay me $500, but it found to differ in the highest degree I to have nothing and he to keep the whole stock of the Hudson," his answer to this was that he would do nothing of the kind. — \A. J. Cresson & Son, Marlborough, N. Y., March 15, 1890.

**SCIENTIFIC CONJUGATION OF THE ALLIGATOR.**

**Class Reptilia.**

Order 1. Crocodilia—"Turtles,"

1. Loricata—"Crocodiles."

2. Squamata—"Lizards and Snakes."

3. Amphisbaenia—"Legless Lizards."

4. Gekkonida—"Gekkonid Lizards."


Order 2. Loricata.

Family 1. Crocodylidae.

Genus 1. Crocodileus.

2. Gavialis.

3. Osteolaemus.


5. Jaceae.

Genus 3. Alligator.

Species 1. Mississippiensis.

There is a single species belonging to the restricted genus Alligator (A Mississippiensis), restricted to the middle and lower parts of North America. They are a middle genus in the family to which they belong, but are nearer allied to the Catamants and Jurassic of South America, than they are to the Loricata of the Middle and Jurassic of South America, and to the Crocodiles and Gavialis of Asia and Africa. Crocodileus vulgarus is the sacred reptile of the Egyptians, and Gavialis gavialis, is the sacred crocodile of the Jews.

The most prominent distinctions between the crocodiles and the alligators are in the shape of the head and in the dental system. In the former, the long and narrow, whilst in the latter it is shorter and broader. Their habits are very similar and they both belong to the Alligator order. Alligators have been known to attain a length of twelve to fourteen feet, and crocodiles as much as thirty feet in length.

The skin of the alligator, when properly tanned, is said to make good belting and boots. If this can be profitably realized they are by no means a useless creation.

There is a variety of this potato and the English variety of the same name.

The Magnum Bonum is a scionning of the "Peach-Blow," and somewhat resembles that one valuable variety of the "Early Rose," in form and appearance. They are very early, even in size, free from all disease, the very best keepers, and do equally well planted early or late. One eye produces only one stalk with many branches, which stand up firmly like a tree, and protect the hills from the hot rays of the sun, and cause them to get full benefit of the little summer rains, by conducting the water down to the roots. Each stalk produces four or five potatoes weighing from one half to three pounds each. They are nearly round or a little flattened, skin, russet white, small pink eyes, slightly sunken, dense white and nutty, and when boiled or baked are nearly white as snow: good as the Early-Rose ever was and will keep well into June for table use. The originators say they should be planted three feet apart between the rows, and ten or eleven inches apart between the plants. Seed of one eye each in a hill. If planted on rich manured land, and a fair season, many will grow to weigh four pounds each.

The fruit of $100, in premiums, have been won by the Magnum Bonum, for the largest yield of potatoes from one pound of seed, under the supervision of legally qualified committee. In 1876, 27 bushels, have been grown from one pound of seed.

Of course, it is to be understood that such extraordinary results are the effects of extraordinary causes, and these causes are greatly assisted by favorable seasons and skilful culture. Perhaps we don't need 1650 pounds of tubers from every pound of seed that is planted, any more than we do a fully matured fish from every one that is spawned, but we do need a remunerative crop, a good quality, and an early maturity; and these may reasonably be realized in the Magnum Bonum; and if so, where's the use in spending time and toil in cultivating the miserable roots that still find their way into our markets?

Subscribers for the FARMER.

**HOT WATER FOR INSECTS.**

"According to the editor of the Gardener's Monthly, it has been found that water heated to 130° F. Polyphemus, belonging to the March number of the Lancaster Farmer. Not only in relation to mushroom beds, but also beds or cold-frames in which any kind of early spring vegetable is intended to be started. Although insect vitality may resist an intense degree of cold, yet it invar-
ably succumbs to an intense degree of heat as we have practically shown in the last hundred of times. The saturation of the soil of cold-frames, or tobacco beds with "scalding water," two or three times before the seeds are sown will be an effectual extinguisher of all insects, insect eggs or insect pupae that may be in the soil at the time such scalding is done; but, of course, it can have no influence beyond the limits of the beds or frames. Still if those insects that are evolved beyond that limit, cannot have access to the insides of the beds or frames, it will be so much gained for the young plants in their vegetation from the "bugs." Some years ago the tobacco beds were infested by a small species of centipede, belonging to a group of Myriapodous between the CENTIPEDES and MILLipedes. We at that time recommended drenching the soil with hot water before the seeds were sown, but we believe that water can be so tempered as to kill the insects, and yet not injure the plants after they have grown. Experience has demonstrated that plants will resist a heat of 130° F. with impunity, and insects have succumbed at 100, or at least at 110. We have always regarded heat as the quickest, cheapest, and most effectual means of killing insects when we collected them for scientific purposes. Of course, on a collecting tour it would be inconvenient to carry a heating apparatus, and therefore the entomologist resorts to chloroform, ether, camphor, ammonia, &c., but still, when he returns home, he may be under the necessity of resorting to heat to finish what the infiltrating or strangulating substances had failed to do. It is not even necessary that the hot water, in such
ases, should come in contact with the insects—it is sufficient to immerse the collecting bottle for a minute (more or less) in the hot water, and they will then all drop into the bottle and remain there. They will never revive again—a pin may be very safely "stuck in" just there.

THE SEVENTEEN-YEAR CICADA.

Faustly Called "Seventeen-Year Locust."

Perhaps, no subject belonging to the Entomological fauna of North America, has been more popular, and more persistently mis-named than the "seventeen-year Locust." I propose to discuss in this paper. It is unfortunate that the term Locust is ever applied to it, as a distinguishing title; and it must be remembered that the very form, the habits, and the anatomical structure of a true Locust, is entirely different. As many as that it is not to our credit, that in our confusion we have ever been misled in this instance, which belongs, save in the United States, is, it is called a Locust, either by the ignorant or the intelligent. I have said that it is unfortunate that it was named a Locust, because that name implies a widely different insect, and falsely invests it with characteristics which it does not possess; and it is impossible to remove it from its organic structure.

In 1828 I first read Captain "Riley's Narrative," and I well remember how we "Knaves of the Court," capitulated and easily flung our book, because in illustrating a Locust, he had portrayed a huge "grasshopper."

We had received our impressions of a Locust from the "Cicadas of 1817," and we found that the next annual species, Capt. Riley, I believe, was a New Yorker; had been wrecked on the coast of Africa, and had been taken prisoner by the Boers. Let me make this confession to the world, after I have seen them through the medium of scientific entomology. This may serve to illustrate the false impression that may be made upon the minds of young people allowing an animal a false or inappropriate common name. But it teaches more than this; it exhibits the absolute necessity of designating animals in the most appropriate manner, so that even though they never be pronounced in reading a description of an animal.

Some years ago I read a conscientious paraphrase of the "Tentoonwese-ke," in which the editor describes a visitation of the seventeen-year Locust, during which they ate off the vegetation, and desolated as it had been visited by a catastrophe. No man could tell what insect the editor referred to; other than what he supposed it to be. I have never been able to identify it, even though I have never been pronounced in reading a description of an animal. This seems to be harder than to learn, and hence these impossibilities are perpetuated.

Let us throw off the name and seize of convenience, the class of the Animal Kingdom, which includes the insect world may be divided into two great sub-clases, named Mammalia and Insecta. The former is composed of the mam- malial and suctorial insects. Those belonging to the first named sub-class are provided with a strong pair of Mandibles, corresponding to the teeth of all other animals, except that they have a horizontal instead of a vertical movement. These organs are used for leeching and masticating their food; for making excavations into other sub-
stances: for aggression and defence, and as instruments by means of which they con-
sume the leafy formed cells or nectar. The second sub-class, on the contrary, are

without jaws, but are provided with a Hausselum, or proboscis, by means of which they penetrate animal or vegetable substances, and are capable of doing so, and therefore, cannot afford their form and structure, except in a liquid form. Nor have they the power to bite, in the sense usually understood by that term. This is partly owing to the position of the mandibles—effective than the response of the showman to the lady who cautioned her son not to approach too near the Anaconda, or he might bite. "I don't think it's a true one," did I hear her answer, "it swallows its victims whole." Suctorial insects never bite, but some of them possess extraordinary piercing or stinging organs.

This division between the mandibulata and haustellata insects is, however, not absolutely or rigorously strict as regards of development; for, some entire orders of insects during a part of their lives are either on the one side or the other of that line. During the larval period, or worm state, they may possess a stouter pair of cutting jaws, and extra-
ordinary mandibulatory power; and whilst in that state they may be exceedingly de-
structive to vegetable and other substances. But whilst during the mature or imago state, they may be haustellated, and capable of imbuing fluids only—some of them indeed having at the early larval stage, and daintily sipping their tempting nectar; but others, possessing a formidable proboscis, and capable of penetrating the integuments of the host and sucking their blood, as well as 

insecta, which are to be distinguished from a true insect, or locust, are, the egg being placed on various species of vegetation, and especi-
ally on cereals.

Migratory or Spurious Locusts, deposit their eggs in the small branches and branch-
trees of trees, and when the young are hatched out, they fall to the earth, and immediately commence running into the ground, and remain there from seven to eighteen months; feeding on the juices of vegetation extracted from the roots; but when quite young it is quite an epicureal delight, to my mind, to say the moisture exuding from the roots of fruit and forest trees.

There are many species of Cicadae—even in our own region; in fact on the low grade of structure, and size and coloration; but no country on the planet, so far as is positively known, produces species that require seventeen years for their development, in the well formed Locust; but there are one or two species of Cicada which appear annually, that are much larger in size than the seventeen-year species; besides a species of the same order, which hatches from April to May in the British provinces; and yet is it the one that should effect all its transformations within a single year, and the other should require thirteen or forty years. It is a remarkable fact, the development, is a problem in natural history that will probably never be satisfactorily solved. I have seen, heard, and handled the seventeen-
year Cicada four times in my life, and I should live until June, 1885, and retain my eyewight, and as much of my hearing as I possessed now, were I confidently expect to see, hear, and handle it when the first morn-
morrow's rise to the sun. The first advent of this insect I witnessed was in 1817, when I was a boy, and I recall the event as vividly as if it had only occurred yesterday. I can recall the constellation of my mother when I entered the house with my hat filled with Cicadae, as, if I may be permitted to say, to my head, for, at that early day, perhaps more than now, they were regarded with a super-
stitious dread; with the ominous "W" on the crown of our hats, which were interpreted into "Pharaoh."

Although I was but five years old, yet before they appeared in 1838, I had passed through five years as an apprentice, two years as a master workman, and had gotten married. We never forget the year in which we were married—whether for "well or worse." On that occasion I could distinctly hear the song of the Cicadae across the Susquehanna—a physical privilege I am deprived of now. When these insects appeared in 1851, I was a
resident of Lancaster, and then for the first time I saw and examined their eggs. In 1868, their next appearance, my observations were more thorough, and I found for the first time that the young, and wrote and published ten separate papers on the subject, in the city journals, and elsewhere. I have read the history of the seventeen and thirteen year cicadas at other periods than those I have mentioned, and so have I. Although, so far as my experience goes, there are no records of the appearance of these cicadas in any other part of the world during the years I have mentioned, I have always intended to report the matter in the columns of this Journal, and to publish a book on the subject, which I have now, whatever may have been the cause of this variation. There are districts, even in Pennsylvania, where they make their advent once in every seven years, or even in the county of Lancaster; but still, so far as observations have been made, seventeen years have always intervened between each advent. These rivers, and as they seem to occur twice in seventeen years; but as they are precisely identical in species, this phenomenon is due to the fact of two overlapping districts, and thus, although they appear to be the same, they in reality are two different broods, having an interval of seventeen years between their appearance, which only becomes conspicuous beyond the boundaries of the over-lapping district. This subject may be partially illustrated by a case in point. As I have before stated, our regular "locust year" will occur in 1885, yet it is very probable we shall have a partial brood within the limits of Lancaster city the present year. Mr. H. W. Hensel, of East Orange street, brought about fifty living specimens from the state of Delaware, and set them at liberty in that portion of his garden which borders upon his residence in his green-house, and in digging for a foundation he excavated a large number of these insects in the larva or pupa form; and with a little care it is easy to make an individual actually evolved on the 2nd day of February last, which I now have preserved in alcohol. He had an abundant supply of these insects in his garden in 1868, and I shall have them again in 1885, notwithstanding their appearance there the present year. They are not only marked by their habits, after the manner of the true Locusts. Wherever there were trees seventeen years ago, in the branches of which the Cicadas depended, the shade is still the same, there they will appear in 1885. Their span of life is so brief, and the quantity of alluvium they require so limited—if any at all—that they seem to have died out or migrated, if there is any vegetation on the ground they occupy, that would be a suitable nidus for them. This is not the case with the true Locusts, which have an extended range, and as soon as they have devoured all the edible vegetation on the one they last occupied.

The Cicada does not, and perhaps cannot depend upon the springs and streams for its sustenance, so as in many that are remotely removed from it in systematic classification; and this instrument appears exclusively to the females. Indeed, the male of its species possesses either an ovipositor or a sting, (whatever significance may be attached to it either as a simple fact or a symbolical representative,) When you are stung by a hornet, a wasp, or a bee of any kind, you may be sure it was a female. But it would be impossible for the Cicada to penetrate any substance suddenly with its ovipositor, as a hornet or a bee does. The ovipositor is composed of a central rapt, and a sheath on either side of it. The central rapt is manipulated in the manner of a long, sharp dart, which the sheaths follow and keep the incision sufficiently open to admit an egg. The eggs are deposited in two parallel rows, and they are shed five hundred in number, in a little angle, each egg imbedded in woody fiber. All the tales, therefore, that have gained circulation about the stinging of the Cicada—in the seventeen year insect especially—have no foundation in fact. Nor can they penetrate any substance suddenly with the probosces, as bees or wasps do with their cau- sites, for they have a little more than a bed-bug's can. They begin with a boring motion, and it requires some time to penetrate the external integument. Admitting that the Cicada, which is the most excessive of all, is not so exceedingly doubtful—it has never been determined whether the wound was inflicted by the probosces or the ovipositor.

The song, or rather the noise made by the Cicada is the peculiar province of the male insect, the female being entirely silent. It is in allusion to this fact that the crusty old Xenarchus wrote—

"Happy are Cicada's lutes,
Since they have no voiceless wires.

But woman, who can sing a song civil;
It does not issue from the throat, as in man,
And in animals endowed with vocal power. It is purely mechanical. Attached to the metatarse, it is a simple tube, which, when it is pressed down and over the ventral portion of the abdomen, and beneath these plates are delicate abdominal membranes, and from these the air is forced out through a stridulating sound is produced, which is known as the Cicada's song. Indeed, no insect has vocal power. These mechanical striations, produced by the pressure, particularly on some species of insects. I might instance the crickets, the grasshoppers, and especially the well-known "katydids;" but in these the musical appearance is not even so marked as in the true Cicada. Indeed, the katydid is it on the back, at the base of the wing covers.

According to a catalogue of Homoptera published by J. G. Haydn, Germany, in 1839, there were 239 named species of the genus Cicada, given as the number recorded up to that period in entomological catalogues, which were described, natives and foreign; and if the publication of the species in 1849, and the number of species, the last edition of all the species of insects, in England, are called "Hasten-fly's," perhaps because they make their annual appearance at harvest time, but nowhere in the United States can they be found. They are the Cicada of the Italians, the Cigale of the French, and the Cigavus of the Spanish; all these names are derived from Cicada. Our own national species "put in their appearance," usually, about ear-harvest, or about a month later than the insects of Europe; it does not seem to remove them from the category of Locusts, for we call them the "summer locusts, or the dog-day locusts," by way of distinction.

So far as I can ascertain, the first record of the appearance of the seventeen year Cicada in this country, was at Plymouth, Mass., in 1839, in a work called Morton's "Memorial," in which he says: "In bigness they were like unto bumble-bees, and came up out of little holes in the ground, and did eat up the green things, and made such a yelling noise, as made the woods ring, and ready to deafen the hearers." Morton's assertion that they ate up green things casts a shadow of doubt over his truthfulness. He says, at page 164, "they did not seem to eat anything, their migration and propagation appearing to be the whole object of their existence." The earliest record of the appearance in Pennsylvania is for the year 1715, but they must have been here in 1698, 1681, 1664, 1647 and 1630, and how long before the last named period no man knoweth. Speculating on the fact that as a rule these insects occur in the generation of 1738, 1800, 1817, 1834, 1851 and 1868. But so numerous are the broods, and so widely are they diffused over our vast territory, that there is no reason to suppose that the "seventeen year" will affect the same locality. But notwithstanding all this diversity, there is a general concurrence in the fact, that there are always seventeen year cicadas appearing, and that the interval between the appearance of the respective broods.

But, a knowledge of the Cicada is not confined to mere nurture, or even with its most striking observable character, and it seems to have been especially a favorite with the Grecian bards from Homer and Hesiod to Anacreon and Thracius. We esteemed it as perfectly harmless, and lived on its flesh;—hence they addressed it by the most endearing epithets, and regarded it as almost divine.

As Egyptians wore their favorite symbol, the sacred Scarabaeus—as an ornament to their head-dress—and especially their combs, so with the Cicada they made it a rival in the head-dress, ornamented with cicadas, by Cercops and his followers, and the Samians most probably derived this fashion from the Egyptians. The adoration of the ancients was not limited by the mere dead emblem. To excel the Cicada in singing was the highest commendation of a singer, and the voice of a true singing Cicada was only comparable to the voice of this insect. Homer compared his good orator to the Cicada, "which, in the woods, sitting on a branch, made a noise, so that no one was compelled to conclude from this, that the Grecian Cicadas must have been more highly appreciated, particularly in Athens, than those of America, or that their admirers had made up the un- cultivated "ears for music," and the testimony of Virgil inclines to the latter conclusion, for the "inconceivable disagreeable and stridulous tone," and he accuses the noise of bursting the very shrubs with their noise.

Notwithstanding the veneration of the Greeks, the Cicada is a useful insect, and the very destructive to trees, for this insect may be changed to an article of food, and accounted them delicious. Aristotle says, the larva, after its transformation to a pupa, just before emerging, is very good, and it is the sweetest, and this is especially the case with the females, on account of the ova they contain. This is in quite harmony with the likes of our American animals, and of this period, particularly noticed in 1858, that fowls, swine, weasels and even the domestic cats, devoured them with avidity. And not only by these animals of the wild; but the American Indian tribes, who esteemed them as better than "grasshoppers," although that may not be saying much for the Indians. Also in the ancient records of the ancients, Zelian was extremely angry with the men of his age, that an animal sacred to the Muses should be strong, sold and eaten, which is clearly understood.

Still, with all this, which may be more or less fanciful or impractical, the Cicada must be of some use in the eoniches of nature, if it is not, it has been at all times a useful people, particularly given, and will be ultimate when the necessity arises. It has been said, although upon what specific authority I have not learned, that the pupa and larva of the seventeen-year Cicada, possessing as it does a fine oily substance, has been used in the manufacture of soap. This need not surprise us, for, many years ago when the larva of the cockchafer—be-
VENVOR'S LATEST WEATHER PREDICTIONS FOR 1881.

Vennon writes: "The winter of 1881 is not over yet by any means, and nothing in my opinion could render this more probable than the present term of mild weather. There are no more protracted showers, and the ground is dry and hard. Today, the 22nd, we have had one of the most severe winters that have been known in this part of the country. The snow has fallen in large flakes, and the ground is covered with a thick layer of it. In March, there will be a change of weather, and the temperature will rise."

The following are Vennon's predictions for the year 1881:

1. The winter of 1881 will be mild and frost-free.
2. The spring of 1881 will be early and mild.
3. The summer of 1881 will be hot and dry.
4. The autumn of 1881 will be mild and pleasant.
5. The winter of 1882 will be mild and frost-free.

Vennon based his predictions on the meteorological conditions of the previous year and the current year, as well as his own observations and experiences. He believed that the weather of the current year would influence the weather of the following year.

**Queries and Answers.**

**PINE GROVE, Pa., March 12, 1881.**

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S. S. Mathews, Esq.—Dear Sir: Herewith and some eggs of the sphinx caterpillar, which I found adhering to leaves, grass, &c., and I thought first they were similar seeds, but discovered the error by biting one through, when I found it to be tough, and not like the cocoon of an insect. If you think it is a caterpillar, please send it through the Farmer, what insect laid the eggs, &c.

Yours truly,

W. H. S.

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"Your letter and contents duly received, but we have no information to which to reply. I am at your service, and shall be glad to answer you. We would remark, however, that there is nothing, perhaps that is not "worth while," at least we think there is not. Everything is in its place, and when we know its relation to other things. We have on several occasions found these tough little seed-like objects attached to decayed shrubs and thorns, and they are usually larger than those you send. They do not seem to be either seeds or insect "cocoons," but more likely small species of fungi."

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**Essays.**

**How We Are Poisoned.**

Thousands of persons die every year from poisons taken into the system. The manner in which they are taken, and the way in which the poison enters the body, is the subject of this essay.

The body is made up of millions of little holes called absorbers, which have the power like a suction pump of drawing in whatever is in the air and may come in contact with the skin. Hence it is a self-evident fact that under no consideration should poisons of any kind be handled near body, or allowed to come in contact with the skin. The object of a man or animal's stomach and intestines is to convert food into blood, and any foreign substance in these organs acts like a splinter in the flesh, and is instantly expelled. Hence they are contra-indicated. Newspapers throughout our commonwealth
used for washing purposes. If you cook in a brass or copper kettle the acid of
lemon in a brass or copper kettle the acid of
lemon in a brass or copper kettle the acid of
citric, will act upon the
metals in the same manner and form citrate of
copper, zinc, &c.

HAIR BRUSHES.
Many persons use the hair brush of another
individual, or if you take a brush upon a hundred or
a thousand heads the same brush. If any of your
patrons have happier, eczema, syphilis or
other skin diseases, or even convulsions a
head is briskly rubbed with
it. In the above and many other cases poisons are
conveyed into the body, and the victi-
m of life from the
effects. I have found for inspection
some of these poisons, and to show how small
a quantity of copper will by the laws of
affinity affect a
one drop of a solution of nitrate of copper to
one hundred drops of water, and then add one
drop of aqua ammonia to the colorless liquid
and live.
will conclude by saying that there is a friend
of mine in this city who has over 100 tumors
on his body occasioned by his handling paints.
At a recent meeting a number of chemical
experiments with the poisons referred to in the
essay.

Mr. Eagle said it was news to him that
the sources of the poisons had produced a
poisonous, and yet there seemed to be
no doubt it would do so.

In answer to questions Dr. Greene said
that the sour taste of the poisons was
produced by a very dangerous metal to be
brought in contact with food than zinc, brass
or copper. Iron vessels may be safely used as
cooking vessels, but in proportion it is
not injurious; but people usually get enough of it in the food cooked
in iron vessels, without taking it as a medi-
cine.

PRUNING TREES.
There is nothing more deserving of admira-
tion than the proper pruning of Trees. Trees
when left to grow naturally, usually assume
an outline that is pleasing; but where pruning
is properly understood and applied, the
general appearance of trees can be much im-
proved.

If pruning be judged by what is
seen around us it would be difficult to assert
that it is generally beneficial, for too often it
brings about the permanent injury of trees,
and consequently the disfigurement of nearly every street in Philadelphia. On a place
where young trees have been recently planted
there is very little skill.
These are many small fruit orchards in our town where pruning has been understood, that
cut some and other trees, models of symmetry,
and should commence before a tree is
planted. In digging trees there are usually
some roots bruised, and these roots should be
pruned off, otherwise fungus will attack the
diseased parts, and fungus around the roots
is the mortal enemy of trees.
If the trees that are being planted are fruit trees, such as
the fruit, or other trees, and generally
people can take a strong hand at pruning; and here at the start, is
where the greatest amount of knowledge is needed.

There may be two reasons for pruning. The
first is the trees have been planted and will
be lost if the roots are not pruned; the second
are always lost; and a cutting away of some
branches is needed, because the fibres, or feeder branches have been cut off.
In New Jersey, the only places where
prussions have disappeared, and some of the occu-
pants of the house must go to enable
the other, and every house to furnish
or the future tree.
If the tree is wanted with a tall stem that youth-
ful depredators cannot easily climb, the lower
branches must be cut away, whereas the tree
should be desired with branches to the
ground, it is the proper time to prune it.
There is a very general belief that fruit trees are
better for having their stools somewhat
shaded when young, but this should not be
considered where a low-branching tree is not desirable.
In pruning the tree on account of loss of
roots, the weak shoots are the ones to take
out so far as possible, leaving the strong ones
as they are so valuable places to make a shapely tree. There is too
little care given to turning the future habit
of the tree at pruning. The usual way is to
plant the tree, and then to wait and hope to
compensate for the loss of roots, with no
regard to whether the cut has been where it
was needed, and forgetting that the weak
shoots of the one tree will frequently happen that fruit trees are cut back
several feet with no good to the tree, and
making it take a year or two of growth to
gain their strength.
A tree properly pruned and pruned will
need but little heavy work afterwards if a
fact that every branch removed from a tree
of the pruning will be to regulate the shape of
the tree, and this can be done mostly when the
tree is growing in the spring and summer
and the tree is the result. If a bushier growth
be needed, the pinching off of a shoot will cause
the buds along the side to burst and grow,
where it never would have happened in the
one tree is the result. Summer pruning is the
only kind to be practiced to make a dense growth.
In the winter pruning tends to
cut the branches and make the tree look
just below where cut off, one bud, and
and one only, will burst out and grow strong and dense. Summer pruning will benefit the tree by giving
a stronger and cleaner growth the following year.
To know what we want is the point
be sure of before we commence to cut a
tree. The street-trees of Philadelphia are pruned in a way that produces the very opposite of
this result. Young trees of poplars, maples and similar trees, that have
grown too tall, and the desire is to dwarf them. Some one with a hatchet and saw is
seems to be sure of almost anything
sawing it almost to the ground. The tree
makes a somewhat weaker growth the next
year, but the pruner thinks it needs sharpening
and cuts again the next winter, and a season or two of this treatment gives the
owner a half-dead stump in front of his house.
The mistake is that a tree growing too tall
becomes sickly, and to cut the winter growth to keep it dwarf and bushy. Sum-
mer pruning takes but little of the growth of
the tree, and it is at this period that the vital force of a tree.
Repeated pru-
ning of a tree weakens and kills it. This is not
usually thought of, but it is nevertheless a fact that every branch removed from a tree
is a blow to its vitality. Every greenhouse
lady knows that the geranium which is repeatedly
cut for cuttings dies; and in the same way the tree that is incessantly pruned dies. This
knowledge is turned to good account by prac-
tical fruit-growers.
So long as a fruit tree is growing strongly it
can be pruned with much less care and
any tree that is growing strongly
the tree that is pruned with the same care and length
some size, and maturity commences, that it begins to fruit. To take away from a tree or
plant some of its growing forces, is to make it
lack essential food. To every root system to the practice of root-pruning to produce fruit,
and being founded on natural laws it has proven successful,
wherever it is used. They will
ripen in their fruit with strong growth with healthy
leaves, showing nothing ails it, can be gen-
nerally thrown into bearing by a pruning of
the roots.
This knowledge is highly successful. Some are satisfied with thrus-
thing a spade down here and there around the
trees, but this is too risky, as more roots may be cut
off in this way than is done in our
with one side of the tree, cutting off a few
of the strongest roots. This side should be
the one least exposed to high winds, so
that no danger of blowing over is brought to
the tree. But roots enough cut off to make
the tree liable to blow over is not wanted; a few
strong ones will be enough. Many a per-

*Paper Read Before the Germantown Horticultural Society, by Joseph Meekan.
son has a Seekol or Bartlett pear tree that grows well, yet does not bear, and if root pruning be administered while the tree is dormant a crop of fruit will be the result. This practice is the cultivation of the tree. An apple tree that does not flower, yet grows remarkably well, may be helped towards flowering by root pruning. Some 8 or 10 inches of the fruit-garden, such as grapevines, for instance, commence bearing fruit the year succeeding their planting, and thus need no root pruning, yet the increased bearing power of their branches is benefitted to them. Grapevines produce the finest bunches from young canes, and to get them, a few branches should be cut with each shoot to be used, in the early winter. Some strong shoots will be the result, producing fruit the following year the whole length of the stem, which is hard to obtain on wood over a year old.

On the lawn, deciduous and evergreen trees should be pruned on the same principle as from the fruit-garden. There is no pruning, growing always into beautiful shape. The pine oak is an example of this. No pruning can make a more shapely tree of it than it makes if left alone. But where a natural tree has shrubs trimmed off into a ball-shape, very similar to what the street trees are. The summer pruning is what they want. It was once given me as a fact, that a tree could not be touched with a knife, but it has been long known in America that these trees bear pruning just as well as any other tree. The knife can be used to trim them any size, and they can be brought into any shape desired. But generally evergreens require but little pruning; a needle pointed off here and there to keep them shapely is generally sufficient. Those who have hedges to prune should be careful to see that the pruner thoroughly understands the purpose for which the pruner is used. Prune hedges so that the trees are two or three feet high and four feet wide. Cut away all dead branches, and where there are several branches, it will be better to leave one or two stems rather than have the dense tree filled up with dead wood. This is accomplished by pruning back the top shoots, thus throwing the sap to the lower branches, making them vigorous, bushy, and forming a close branch base. If the hedge be thin at the base with a thick top, the pruning should be done in early summer while the growth is still going on. This eliminates the dense top.

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Of course the visitor, when he saw this commenced to wonder. He was, if the least bit of an agriculturist, accustomed to see poor-looking, starved cows. At Arrareek Farm something quite the contrary, he propounded to himself for a solution something of this kind: "Mr. W. Wills, who owns these fine-looking cattle, is perfectly different to the cost. He has been skillful in feeding these cows. What a lot of money it must have cost, with hay at $22 or $25 per ton, to winter these cows for four winters, from $8,000 to $10,000 to do it. If he sees profit in this kind of thing, I do not. It's all very well to be tender-hearted, but cows are cows, and milk is worth so much a quart, and butter so much a pound, and though Mr. Bergh might probably make more money on the great number of his cows, the public would not pay a cent more for his butter or milk. What a prodigious quantity of hay these cows must have eaten!"

Then the visitor looked to see if he could not find out some huge barns, which must have accommodated the cows with hay at some time, and he peered around to see the great dozens of hay-ricks. He had been to the barn, by no means a large one, and seen that it was one long, low shed, divided by feeding-stalls, and that there was space enough at all.

The longer he hunted, the more difficult it was for him to find the least trace of a cow-house on the farm. In fact, he found the whole farm occupied by feeding-stalls, and that there was space enough at all.

Then Mr. Mills explained it all, and commended the view, for the very beginning, compared to the visitor the character of ensilage. Mr. Mills, who is a grain merchant in New York, of high standing, has been a dealer in many kinds of wheat and corn, had been long strung with a measure of the character of some of the Southern corn. He determined to experiment with it on his farm. After he had selected his seed, he planted it in proximity to his finest corn. New Jersey corn. His idea was that by hybridism he might improve the size and quality of the Jersey corn. Planting this corn of both varieties side by side, when the time of September came, to his disney the native corn was ripe, ears all formed, but the South- ern corn was ready to improve upon it in every way. If frost came, it would be wasted. Neighborhood farmers would lean over the fences of Arrareek Farm and speculate on the character of the new crop, and pass queer comments upon it. In fact, this tall corn, green and luxuriant, which required a warmer climate than that of New Jersey, in time once covered with an abundant and nutritious food for its cattle which was likely to be wasted. Evidently it would never ripen in time. But after all, the farmer had formed, and then it was well all is done.

He pondered and pondered over the business. Then there did come in early November the first frost. All the先进技术 was lost. The farmer was discovered the way of keeping forage; When the system of using this by this food on cattle, the contents of the pit were found to be in fair order. It gave out a wholesome, oceanlike smell, the "color of cooked beans," is Mr. Mills's artful idea the exact shape of good ensilage. The cattle ate it greedily. They came and came and ate it. The idea was a partial success only. What was good in the mass answered all purposes, but a certain portion had rotted. There was no doubt the great idea was, had it been wanted greater consideration. Then Mr. Mills set about thinking it all over, and devised his system of preservation by the exclusion of the air by pressure only. It all seems simple enough when you see it, but the simplest things are always those which require at matured thought. When you enter the barn you see two deep

SELECTIONS.

ARRAREEK FARM.

The New Method of Feeding Cattle.

There can be no more beautiful country than that found in Passaic County, New Jersey, in the neighborhood of Pompton. The village itself is situated on a big plateau; all around it is a grassy hill or ridge, cut through in a level plain between every gap of rising ground. Just beyond Arrareek Farm you see the continuation of the plateau as it breaks through the blue hills, and extends panormamic-wise far beyond. It is a country bountifully watered, for on Arrareek Farm there are two streams, the Wynokie and Ramapo. The country seems especially fitted, from natural circumstances, for cattle raising. All the necessary watering down to the brink of the water. Pompton has its interesting historic reminiscences, for right by Arrareek Farm stands an ancient group of oaks on the site of General Washington's head-quarters in 1777, for the old Pompton road was the back route on the line of communication between the two armies.
pits sunk right into the floor of the barn. The exact dimensions are, for each length, forty feet; width, thirteen feet; depth, twelve feet. This makes a silo that is not in the least expensive. There are good reasons for using it: one is because of its luxuriances of growth, and that, in our climate, it is necessary to protect the edible portions in the stalk and leaves before it goes to the seed and that by cutting it down in time we can give the stalks and leaves a chance to ripen properly. Mr. Mills sows it in drills three inches wide, with spaces of three feet clear open soil between the drills. These drills are heavily sectionalized, for if it were planted solid, though the intervening spaces give the plants light and air. It is planted in May, and cut about the middle or end of September, when it is some eight to ten feet high. The product is about sixty tons per acre, of green stalks and leaves. Mr. Mills planted some thirteen acres, not more; and from this he was able to feed his 120 cattle. This very small amount of land, used for this purpose, seems wonderful. Just as soon as the corn is ready, they cut, and with this he makes the formation of a few nubbins, in go the men, who lay it low. It is at once carted to the barn, where the stalks and leaves are submitted to the action of ordinary cutting-machines, the only precaution necessary being that the knives be kept sharp. The corn must not be bruised, Mr. Mills' idea being that by rough handling the juices are expelled, and to that extent air takes its place. All possible bruising should be avoided as much as possible. Two cutting-machines are used, which make the fodder into lengths of one-half and one inch. The next step is to load the long silos. The cutting-machines deliver the green stuff into the cement-lined pits, the capacity of each being 300 tons. As the material goes in, it is thoroughly trodden down in the silos by changing the direction of the delivery. When the pit is full, level with the floor, a wooden case is placed like a fence around it, and with the aid of a lever, in 45°, in height of the depth of the pit, for the ensilage by compression sinks about this much. The pit being twenty feet deep, when it and the silos are filled, the silo with a mass of green material is covered over with stout wooden planks, made in sections. These sectional covers, the bottom ones over the silos, and those over the things that are in the silos, and in their proper construction a great deal of the success of the operation depends. These covers are made of two-inch boards, grooved, and closely battened together, four feet wide, and one inch less in length than the width of the silo. As the silo is forty feet long, there are 894 feet of covers. The object in making them only four feet wide will be apparent later. Now when the silo or pit is full of green stuff, even to the level of the fifteen feet additional, the sectional covers are put on the green stuff, and these are weighted evenly and carefully. The whole secret of ensilage depends upon a uniform mass of green stuff, continuous compression. The air must be excluded, and also the ambient moisture. Mr. Mills weights down his covers by distributing on them a load of freight to be shipped. The freight is fed in bags, which he afterward uses to mix with his ensilage at time of feeding. He recommends three layers of freight, with the barrels filled with gravel or sand, and used for the same purpose. As soon as the weighted covers are applied, the mass gradually sinks, until it reaches a level with the floor, and if the pit has been properly constructed, after the sinking down is concluded, the pits, or silos, are exactly filled. In about ten days the mass has come down to its bearings. In twelve days it is ready to use, and the operation is completed. Now let us explain the reason why the covers were made sectional. As a cover is taken off, the corn is cut with knife and twenty feet deep, and not any more. This is cut down into feed with a six-tined fork clean to the bottom as the ensilage is used. All of the mass of the silo covered, and has its weight and compression the same, thereby keeping out the air and all tendencies to fermentation at the same time. This is fed to cattle at once, but Mr. Mills thinks it better to leave that portion intended for a feed, when taken from the silo, to remain exposed to the air. It is the ferment action then ensuing, which apparently is advantageous to the cattle. When one silo, cover by cover, is taken off and used, the mass is cut to a cut of from 4 to 6 feet until exhausted, the other comes into play. At Arra- reek Farm one silo had been used up, and about one-half of the other. The ensilage gave out a sweet vinous odor, had nothing in the least disagreeable about it, and was rather pleasant to the taste. It was not warm nor heated, and on compressing the stalks the liquid was not squeezed from it. The proportion of one bushel per diem for each cow, divided into two feeds, and with it was mixed about two quarts of wheat bran or equal bulk of similar material. Mr. Mills has said of cows and horses—had had during the winter, and the horses looked quite as handsome and well-fleshed as the cattle. Now as to questions of cost. These two silos, built in the most substantial style, cost $350 each, or $700 for the two. The absolute cost of producing the crop, the ground, seeding, harvesting, cutting the green stuff, and putting it in the silos, was $500. Capital being $700 employed in the two silos, $350 for each, the expense of cutting, and depreciation on silos, say, twenty per cent., which would be the very outside for all possible repairs, we have, at the utmost, $300 is the most the farmer pays for the crop per ton, and this is a most liberal estimate. Now suppose we make up the cost of keeping these cattle for the hay alone. The expense of feeding the hay, and the interest of the capital—which is assumed at 5 per cent.—is $800. With the use of the ensilage, Mr. Mills has absolutely demonstrated that he wintered his 120 head of cattle on ensilage alone and even through the 15th of October until the 15th of May next, seven months, at an expense of $52, or that the wheat would have produced, the harvest at the highest estimate was $5.25. The difference, then, between $800 for hay, and say even $700 for ensilage would show a balance of $61.54, to the farmer. Now as to the products derived from these ensilage-fed cattle. It would be impossible for such fat, healthy cattle not to give the full amount of milk, for a large quantity of milk, the demand for which is so great that it is beyond his capabilities of supply. The yield of milk is exceedingly large, 20 to 24 per cent. more per head, and the milk of the silo-fed cow or hay-fed or even soft-fed cows, and this milk is of the best quality. A lactometer placed in the milk showed its uncommon richness, as it stood at not less than 120. Particularly rich is the fatty substances, the yield of butter is very large, though the proprietor of Arra reek Farm furnishes milk only, and does not supply butter. In all matters of this kind it is unwise to form a too rapid judgment, for sometimes in the milk market one may form an initial view which are concealed. But there are certain facts in regard to this method of ensilage which seem to stand out in the most remarkable and enduring manner; and in the finest possible order when examined at a season when cows and all other farm stock are usually at their worst; secondly, the product is one of the most important, and lastly, this, which is one of the most important of all factors, seems to be conclusively shown, that if Mr. Mills' 120 cows and 12 horses had been hay-fed for the same time, this would have cost each one of them $61.54, whereas by his system of ensilage he has arrived at better results with a positive outlay not exceeding $300.
be made too rich. In addition to the well-rotted barnyard manure that should be plentifully spaded into the ground, a top dressing of some good compost, free from weed seeds, should be given to the seed-bed. The plants are advanced much more rapidly in this way. It is not necessary that the site of the seed bed should be changed each year. The seed-bed should be prepared by digging to a depth of about six inches. In the second or third time, it is desirable that their fertility be renewed by a coating of virgin soil several inches thick. This, however, is not always found to be troublesome. Of course, the seeds must be sown on top of the compost we have just spoken of, and not worked into it—much too commonly done.

Lastly, when all this has been done, a final top covering of hog bristles must be added. Some growers prefer to put exceeding thicknesses of weather, as such brushwood of various kinds, but all yield the superiority to bristles. They serve not only to attract and retain the moisture, and burnish warmth to the young plants, and appear to act as a manure besides. Unless used, frosts are likely to play havoc with the seed-bed. They absolutely seem to require some covering, and as bristles are not yet been found. They are a very valuable adjunct to the seed-bed, and should never be omitted. Care must be taken to spread them only on the top of the bristles. Exposed seedlings, and plants, as well as to admit plenty of air and sunlight. Common laths may be laid over their braid distances to prevent the brristles from being carried away by the wind. With some growers the custom is to replace them after the first weeding, while others do not. The arrangements of the seed-bed to the young plants shall not be injured during the operation. A rake is the best implement for this purpose. With care the braid lathes may be used as a manure besides.

Open Air Beds Preferable
It will be observed that all the foregoing has reference to the growing of plants in the open air, but as the weather in the latter part of July and August is frequently very warm, in a few cases plants are grown in hot-beds. We have not deemed it necessary to go into the details required to bring forward the plan of the hot-bed, as it is the practice of the present day, and the practice of the present day is likely to be continued, clubs of our farm they are to be discouraged. The only advantage it offers is that plants are ready for setting out earlier. With ordinary care the open bed can be worked, and the young plants can be handled as the small frosts before the fall frosts. Besides, the latter has many advantages. We do not mean in regard to the size, but in regard to the superiority of the plants themselves. The plants are always stronger and harder. They can stand much more cold and grow far more readily after the early frosts. They seem to dry out more easily and not require such much care as to prevent the braid freezing. A weak, sickly plant is always to be avoided, if possible. The more capable it is of resisting the enemies of whatever kind, the better your chances of raising a good crop. One of the best of the Pennsylvania growers to dispense with the hot-bed for tobacco plants.

Young plants can bear a very low temperature. The plants which are not frost-proof are easily nipped by the same temperature when after maturing, than when in the seed-bed. A grower of our acquaintance neglected to gather the seed from a plant that was left standing in his garden. The winds of autumn scattered it far and wide, and much to his surprise he found himself the possessor of thousands of seeds of unusually fine and hardy plants in the early spring, all of which were utilized. So far as the proper time for sowing the seeds in the open ground is concerned, there are many reasons to attain their perfect development before the period of frosts arrives.

Care of the Seed Bed
The labor of the tobacco grower begins with the seed-bed, and no where during the entire season can he afford to neglect his work. If the season happens to be dry, the warm sun would soon shrivel up such of the plants as escape the loss of moisture from the soil. This must be watched, and when necessary the beds should be carefully watered every evening with slightly tepid water. Great care should be used in this application in large quantities, but only enough to keep up the required moisture. Careful observation will be the best guide to the farmer in this, and when the plenticul showers, of course artificial watering must be dispensed with.

Liquid manure is a favorite preparation which to accompany the seed-bed, as the plants can much more quickly utilize the fertilizing properties of manures in this shape than any other. They are the most costless employed for this purpose. Care must be taken, however, not to make the liquid extract too strong, as it will in such cases not only destroy the plants, but also give a sickly appearance, but it has been known to kill them altogether. The careful grower will, however, note every stage of progress, and modify or altogether abstain from these applications if he sees unfavorable indications.

When beds have been burned over, the likelihood of weeds is not so great, but under any circumstances more or less will make their appearance. These must be carefully watched and as carefully removed. In the meantime the hand will answer, and care must be taken to disturb the tobacco plants as little as possible during the operation.

When the plants make their appearance, the beds should be examined to see whether they are too crowded. If that is the case the plants should be thinned, and any one that cannot be used be given the remaining ones a better chance. A small iron rake with three teeth inches long, curved and set about half an inch apart, has been praised as the best implement for this purpose as well as for anything else.

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The use of lime in farming.

From an Irish agricultural paper we take the following summary of the uses of lime:

The uses of lime are in part chemical, part physical.

In deep alluvial and clay soil it increases the crop of potatoes, and renders them less waxy. Sprinkled over potatoes in a store heap, when both the potatoes and the ground are wet, it fixing the atmospheric nitrogen, and when riddled over the cut set at planting time it wonderfully increases their vitality.

Lime eradicates the fag and toe root, and helps to give greater firmness to the bulbs.

It gives, when applied to meadow land, a larger product by producing more nutritious grass, and helps to neutralize the seeds of mosses and aquatic plants.

Upon arable land it destroys weeds of various kinds.

It rapidly decomposes vegetable matter, producing a large amount of food for plants in the form of carbonized elements.

It, by dissolving the lime in the soil, hence its adaptability to some lands.

It acts powerfully upon some of the organic parts of the soil, especially upon sulphate of magnesia and lime.

It proves fatal to worms andugs, and the larvae of insects, though favorable to the growth of shell bearers.

Stacked lime added to vegetable matter causes it to give off its nitrogen in the form of ammonia. Upon soils in which ammonia is combined with acids, it sets free the ammno.

It is a valuable fertilizer, which is seized upon by the growing plants.

Its solubility in water causes it to sink into and ameliorate the soil. lime contains a stone of granite or trondhjorn rock, lime hastens their decomposition and liberates their constituents.

It impregnates the soil with the acids in the soil produces saline compounds such as potash and soda, which immediately enter into plant growth.

It stretches over plants it destroys or renders uncomfortable the location of numerous species of insects which prey on the surface—notably the turnip fly.

When lime seeds the beneficial effect of lime, chalk, marl and sand shell sand into the composition of all lime largely enters—it has been known to produce yields of four to six times the original crops.

Applied to manure, lime serves to destroy the seeds of various weeds, the larve of insects, and otherwise exercises a very beautiful effect in promoting good crops.

By destroying the weeds and grass, it allows the sun's rays to penetrate to the roots, and then assists in their combination with other and more useful forms of plant food.

So much for the testimony of an intelligent Irish Journal, and now let us see what our progressive farmers nearer home have to say as to the various beneficial effects of lime when applied to the soil:

Some reports from the Department of Agriculture at Washington, we chlip the following:

J. R. Evans, of Hainesville, Pa., says:

"Considerable interest is manifested by our farmers upon the subject of manure. They devote their attention as carefully and regularly to collecting and saving all kinds of vegetable matter to be procured as to the more indispensable labors of the farm. They then riddle the same out onto the land, after it has been ploughed, at the rate of 75 to 100 bushels to the acre. The ground is thus thoroughly harrowed before planting, and the fertilizer is further secured by the spread to each acre in August previous to sowing."

A. M. Higham, of Delaware, writes:

"In about the year 1830 lime began to be introduced, against much skepticism as to its utility. It is now, in a great measure, recommended by our farmers as the principal element in the success already attained. It is deposited by lime boats, from the Schenckill, along the banks of the Delaware river. The prices range from 15 to 20 cents, at a cost of from 12 to 14 cents per bushel of stone or quicklime. No farmer has occasion to haul his lime further, the ferry is free to all from land to land."

Authority on such matters writes as follows concerning Lime:

"Lime is heavy, and contains so much water that it dissolves in the soil. Moreover, the dilution of lime, green manuring would do no good. Such lands would be radically improved by another means—by the use of lime, which sometimes serves to dissolve the stone in the clay soils. With a top-dressing of lime, lightly harrowed in, the lime will gradually dissolve in water, and as the water penetrates the soil it will dissolve in the stone, and when it reaches the clay, and intervenes its own particles between the particles of clay; and it will be later, in a section or two, the plowing of the land can be done on upper clay at any time, by adding it to the season. It dries off sooner, and acquires a loamy texture, while at the same time it is chemically improved and cleansed."

Joshua S. Keller says: "As fertilizers, we chiefly use barn-yard manure. The cheapest way to improve land is by Lime."

Wm. Bacon, Richmond, Mass., says: "Lime is extremely valuable for lands which have acquired too much acidity, and cannot be properly used with or not. But the extreme high price it bears, from 25 to 30 cents per bushel, forbids the use of it to any considerable extent. The results obtained with the cheaper rates and usual department of grass, and ploughed crops. The ashes from these kilns, like house ashes, are in high demand for the compost heap, or immediate application to the land, where their effects are strongly marked and long visible. They are obtained at from 8 to 10 cents a bushel."

John Eichan, Greensburg, Penna., says: "The only fertilizers in general use with us are lime, plaster and barnyard manure. Airplane plowing is also much in vogue. Lime has been applied to land intended for wheat, oats, or corn, and are generally spread upon the ground after it has been ploughed. Fertilizer is principally composed of lime and plaster, which is sold at the rate of a bushel to an acre, which will increase the yield of hay about one-third. Fifty bushels of lime and plaster produce the same effect as forty bushels of lime alone. Lime is generally applied for four years, and then changed for another, renewed every one years, are generally applied for corn, oats, and wheat, which usually increases the yield 25 per cent, and the soil will be in good condition for the following crops."

N. Linton, Chester Co., Penna., very forcibly says: "Barnyard manure and lime are our main dependence. Lime is mostly spread on the sod at the rate of 30 to 40 bushels to the acre, once in each course of crops; but it is often scattered on corn ground just previous to corn planting. Many farmers think it the best way to apply it to wheat stubble shortly after the crops are harvested, as it is then put on, it is the basis of successful husbandry. Nearly all our lands for miles around were formerly worn out old fields, which, through the application of lime unlocked the hidden treasures of the soil, and rendered available as food for plants the inert organs of vegetation, which could only be calculated. This, accompanied by judicious cultivation and a proper rotation of crops, has entirely changed the appearance of our neighborhood. Searcely an old field is to be found."

Tree Trimming.

In trimming a tree several objects must be held in view. First, a proper balance of limbs and branches. A leaning tree or a one-sided tree may produce good fruit, but a straight, well balanced tree will produce more fruit and better fruit. I go once or twice...
around a tree, and try to take in the whole situation before I put my knife to the limb. I keep the priors of this plan for some five to ten years hence, and cut accordingly. Three years ago I set a row of plank trees where the prevailing winds must all blow, and I am in no great hurry to prevent my attending to them properly, and the next winter they were a sorry sight—all on one side. By making my cuts high enough, and encouraging one side and discouraging the other, they are now pretty equally balanced. Second, a proper degree or distance, so as to let in the sun and air, to perfectly fruit and branches; and not too much sun to wither up any part of the trees. Thirdly, Limbs must not cross each other, and certainly not be near each other. Fourthly. A crotch tree must be avoided as when one of the crotches splits off the tree is ruined. Fifthly. Shooters and sup limbs, and bugging branches must be kept in check. I suffer my trees to branch out low, often less than a foot from the ground, as so to have a long naked body exposed to the sun. I keep the lower limbs pretty well in, however, so as to not be too much in the way of the plow. To do this it is necessary to remove the lowest limbs to the insular bad. I trim all times of the year; as one nurseryman expresses it, 'whenever my knife is sharp.' I trim so at the top of the limbs that the brown is not exposed. One large limb taken from a tree is more injurious to its vitality than many scores of small ones. Indeed, if the thing were possible without introducing the inevitable Irishman, I would trim so often and well as not to have to trim at all. This, indeed, would be the perfection of fruit-growing when you can induce your tree to expand in the design for the production and perfection only of fruit and necessary growth. And, I think, by constant attention, it is possible to bring a tree to a condition much nearer perfection in this direction than is often done. I love nature; I like to see her in all her wayward moods, and I would do away with the knife to an ornamental or forest tree. These city evergreens, trimmed up in shape of bot- tles, pyramids and cones, are pretty, to be sure, but they look so constrained and dis- sorted that the sight to me is rather painful than otherwise. But when it comes to a fruit tree, it must be constrained to a shape of utility. The amomg the right tree with clustering masses of tangled boughs, so that the sun and air cannot penetrate to give color and flavor to the fruit, or with long straggling branches, which give a fierce winds and hot glare of the sun, or with neglected sprouts growing from the roots, sap- ping the life from the trees, is truly a sorry sight.

About Orchard Grass.

It is gratifying to note the number of in- quiries made of late concerning Orchard- grass. It is quite as valuable a grass as Timothy. It is more suitable for orchards, that grass, and should be more generally known. Its botanical name is Dactylis glomerata, the generic name, Dactylis, being nearly the Greek word for finger, and the genus probably applied to it on account of the size of its cluster of spikelets. Though called orchard-grass with us, it is generally known in England as ‘Mannock Cock’s-foot’, one of the most vigorous plants of Orchard-grass, and one of the earliest to select, established a variety known as ‘Mannock Cock’s-foot,’ the seed of which, at the present day, bring a much higher price than have been. We have not yet found out what it is possible for us to do in the improvement of many of our common grasses.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The Lancaster County Agricultural and Horticul- tural society held a stated meeting in their room, in city hall, last week. The reading of the minutes of last meeting was on motion dispensed with.

Messrs. Jos. F. Witmer, president; Parridge; M. D. Kendig, secretary, Grovers; Dr. Wil. Comon, John H. Kurtz, treasurer, Editor; M. H. Kurtz, editor; S. P. Eby, city; Henry Kurtz, Mount Joy; John H. Kurtz, John I. Kurtz, John E. Kurtz, John H. Landis, Millersville; Dr. C. A. Green, city; C. A. Gaa, city; John Miller, Millville; Warwick; W. W. Miller, Millersville; J. M. Kurtz, Millville; W. Brosius, Drumore; John Huber, Pequea; Israel L. Landis, Manheim; Cyrus Nef, Mannt; J. Hoffman, Millersville, Eby, and Dr. Wil. Comon.

Mr. Buckwalter.

John A. Moore, of Drumore township, was pro- posed for membership and elected.

President Witmer said he had within a few days received two boxes of apple proper. If the society holds a fair next fall, he will guarantee a profit of $150 to $300 from the publication of the premium list. Dr. Greene had recently said that he was running a plan on a plan suggested by him. President Witmer added that if it was the intention of the se- nate to approve the scheme, he would take action.

He said he had no doubt that if prompt and proper efforts were made the society could give a fair that would be profitable to itself and a credit to the county. He thought there was little making arrangements. Farmers want five or six months in which to prepare some of their exhibits.

H. M. Engle, if a few men as liberal as Dr. Greene were to take hold of the matter, the fair would be a success. It was not necessary to think, however, it should be conducted under fair, and for the proper control of the matter and push it forward instead of holding it back. The first thing to be done is to have a fair. The great question is to have a purpose should be at once appointed. Ample space should be secured; experience has shown that the ground should be at least one-half acre of a county fair. What has been done can be done again; there is a large demand for more. We will have them again; farming is not going backwards but forward; other counties hold good fairs; an- nouncements of special fairs for the county should be made, and the members. There is no reason for being cast down simply because our last fair, at the time, was a failure. We have made a failure, and burned the timber the society collapsed. Those fairs were made successful by liberal subscriptions from business men. One fair was subscribed to $5 to $50 each to promote the fairs. Unless the business men of Lancaster come forward and give liberally to this society, the committee will meet all probable expenses they would hope holding another.

Mr. Engle said we used to have good fairs before the war, but the after the war took possession of the fair from the city, and burned and buried the city, the society collapsed. Those fairs were made successful by liberal subscriptions from business men. One fair was subscribed to $5 to $50 each to promote the fairs. Unless the business men of Lancaster come forward and give liberally to this society, the committee will meet all probable expenses they would hope holding another.

Dr. Greene made a motion that a committee of three or more be appointed by the president to can- ceal the city for all its interests, to call upon business men, mechanics, manufacturers and men of wealth, and solicit their assistance and sup- port; the club would expect the meeting.

The amendment was accepted and the motion as amended was adopted.

The chair appointed Dr. C. A. Greene, H. M. Engle and Henry Kurtz said committee; but Messrs. Comon, Kurtz, and Eby were all against it. It was felt that the committee should be residents of Lancaster. The chair then substituted the names of Wm. McConney and Dr. Comm. Comon.

Dr. Compton positively declined. He expected to be able to secure the co-operation of the city for some months, and would not have any time to devote to the interests of a fair. Besides, he was opposed to holding the fair in the city hall, as it cost him $2,000 in debt if led one. He had been mixed up in one fair, and he wished to wash his hands of the matter. It was the city which must make the fair; the society resolves to hold a fair he will do all he can to make it a success.

The chair added the book of the success of the old time fairs, and had no doubt that sufficient funds could be raised to start another.

As Dr. Compton positively refused to serve on the committee, the chair substituted the name of John E. Leavitt.

Crop Reports.

Henry Kurtz said the condition of the crops in the vicinity of Mount Joy was rather discouraging; the
wheat looks sickly and is getting worse under the action of bad weather; clover and timothy is generally considered to be dead, and the grass fields and will plant them in corn or other crops.

H. M. Engle said that the condition of the crops had changed but little since last month; it is too soon to predict what the crop will be, but there is plenty of chances yet for a good crop of wheat if the season should not prove unfavorable; much of the grass is looking green, and there is still plenty of grass to make a pretty good yield. As to fruits he believed all the peach buds in his neighborhood had been killed; he had seen peach trees and all were dead; apricots and other tender fruits have been damaged; but the peach tree is not so hard of frost as many think. It is not so hard of frost as was expected, yet there was a "little nip" off the frost this morning; a full crop cannot be expected; pears stands severe cold without injury, and a good crop may be expected. The apple blossom is very pretty, and that several hardy varieties of grapes and raspberries, which in former winters, much milder than now, was grown into a good sized bunch, the rainfall for the past month was one of the heaviest had ever noticed, being 68 inches. Mr. Engle added other remarks, and the meeting was adjourned.

The Coloupa Spisiosa

Mr. Engle read an interesting article on the Coloupa spisiosa, or "wild cherry," written by Dr. Wm. Bailey, of Wisconsin farm, Mass., that was the first to thoroughly test, in this country, the former of which was the beauty and the only result was that the chickens were allowed to roost about the stable, and the rabbits had eaten the bark off several young walnut trees.

After assembling in the house, Joseph Griest read from the chair the following paper written by Dr. Bailey, of Winnebago farm, Mass., who was the first to thoroughly test, in this country, the former of which was the beauty and the only result was that the chickens were allowed to roost about the stable, and the rabbits had eaten the bark off several young walnut trees.

At the request of William H. Skilling, the secretary read an article written by Dr. Bailey entitled "A meeting about the paint on carriages suffering injury if they are kept near stables, in which the company of painters, etc., were to paint vehicles out of the reach of the gases arising from such stables.

William King read an article on pyrethrum, an insect poison for killing potato bugs, etc.

Carrie E. Jordan's "Theory of Taste.

Mary A. King read a temperance article entitled "The Island and City of Many Such.

Mabel H. Griest "The Two Ages."

Discussion.

On the question, "is it better to buy manure from the city or buy feed and straw and feed cattle to it?

Joseph Griest, who has used considerable of city manure, said he cost three and a half dollars per ton delivered by railroad at Peck Bottom, and it re-quires four tons per acre to give the land a tolerably good dressing. He believes at present prices farm manure will be cheaper at homes. Last year he fed a lot of steers by which, counting the manure to be worth the hay and straw consumed, he used about $15 to $20 a lot. Joseph R. Blackburn, who is another of the few stock stockmen from the community, the considerable of city manure, the members of the club, coincided with the above view on the subject.

William King said that if it would pay to fatten the feed the cattle could be kept at home, but it is often a wise business. Some who raise the feed to feed it on their farms and save going to the city for manure, it will pay others to do so. The amount of manure seems inclined to an opposite view of the question, and reasoned somewhat in this wise: if it takes 35 bushels of corn to fatten a lot of feed, say $15 worth of hay $16, and one ton of straw $6 to fatten one animal, the cost would be, say $58.30. Now if the steer is sold at an advance of $25 (as farmers often as get less as more) there will be a loss, the cost being $58.30, and the lot would be worth, in addition to this there is the loss of the labor. The librarian requested all those that have books belonging to the Club, to bring them to the next meeting, which will be held at Lindley King's on Saturday, April 14.

E. H., Sec'y.

APRIL MEETING.

The April meeting of the club was held at the residence of W. H. Skilling, the 8th instant, a number of visitors being present by invitation.

Allison Brown exhibited several ears of corn of his own raising, and also some ears that were sent for exhibition by Jesse Tobacco.

The exchange of plants of Canadian corn, an eight-rowed variety, which some of the Chester county farmers are selecting on their corn-stalk ground as a substitute for oats, its early maturity ensuring them to clear off the ground in good time to seed it with other crops.

Questions Asked and Answered.

Josiha Brown asked what kind of potatoes the club would recommend for planting.

The exchange of plants of Canadian corn, an eight-rowed variety, which some of the Chester county farmers are selecting on their corn-stalk ground as a substitute for oats, its early maturity ensuring them to clear off the ground in good time to seed it with other crops.

Day Wood asked if it would be of any use to sow timothy seed in the spring.

Joseph R. Blackburn always sowed timothy seed with his sower when in the spring. It sometimes died before the grass came up.

Robert Gibson, (a visitor), said it would take as well on flat ground when sown in the spring as in the fall.

Several others had known it to do well sown in the spring.

Lee B. Martin: Would it be worth while to sow clover on the wheat stubble where the young grass was thrown out by the winter?

He thought that it would in ordinary cases. If the ground was harrowed and manured it might.

Joseph Blackburn thought that it would not be worth while to make the trial.

Joseph R. Blackburn thought that it would produce the most feed per acre—corn sown for fodder, or Hungarian grass—feed to be used in winter.

Hungarian grass was preferred by nearly all present. It produces a good quality of hay, and cattle do well when feeding on the hill.

Wood and Robert Gibson thought that more weight could be obtained from corn.

Josiha Brown thought that it was a good way of putting on phosphate for corn, sow broadcast or put it in the hill.

Monell Brown had tried it in the hill several years. About one-half of the time it does well, but in dry seasons it is an injury rather than a benefit. It better as a general rule to sow and plow down.

Joseph R. Blackburn would sow part broadcast and put the remainder in the hill.

Robert Gibson thought that more weight could be obtained from corn.

The meeting then adjourned to the dining room, where a neat dinner was served.

The ladies of the club were seated in the rear of the room, while the gentlemen seated before the ladies. The men were seated in good order, and things generally looked well. Some improvement had been made in the dwelling, and a new hog pen built since the club last met there. He was at-
vised to put a joiner on his plow in order to turn in the corn stalks more effectually.

Papers Read.

After returning to the house the host selected an article entitled "More corn to the acre," which was read, and aroused considerable interest, as an account of crops raised by Joseph G. Pierce of one hundred bushels per acre. It was planted two feet apart in the same way, but he is so well pleased with it that he would increase its size next year. Mr. Pierce says he would be living on a prairie farm. Mr. Haines said that he did not suppose that Joseph had been and was again the same, but as it had turned out so well we might try it.

Montillon Brown said this is something new and wonderful, and that he wrote an article in the Germantown Telegraph warning people to be careful. In Europe, where it originated, it is by no means universal.

K. H. Haines. The French are not so much in advance as we. What they know to-day we know tomorrow.

Joseph R. Blackburn asked if a crop of corn raised for ensilage was worth more than if raised for corn.

Samuel J. Kirk thought it would be if it could be used in the Clemson way. "It would be an asset," he answered.

Montillon Brown: The advocates of ensilage have one strong ground to stand upon—there are no patents involved.

Day Wood had not much faith in it. It would suit him to try it this fall.

The question was left for further consideration at a future meeting.

An Interesting Essay.

Mary A. Brown read an essay on agriculture, written by William M. Way, recommending more attention to science in farming and closing with strong recommendations regarding the cultivation of tobacco, an article that was of no use, but an injury to mankind, and its bad effects would be likely to be visited on our children's children.

S. J. Kirk thought it a very able essay and it would be well for farmers to think about it.

William M. Way recommended the use of scientific farming. He had thought the matter over and had come to the conclusion that the cultivation of tobacco, an article that was of no use, but an injury to mankind, and its bad effects would be likely to be visited on our children's children.

We try an experiment and see. We are paid three or four fold, and we think that money can be made easily and fast. We try again and lose. We don't know the amount of sunshine or the amount of rainfall we are going to have. There are many things that will happen which we have no control. The results of chemical experiments are always the same.

Literary.

Emma King recited the ballad of "Thirty-six," Phoebe A. King recited "The Wish," by Isaac Allen, a school teacher, who was somewhat of a poet and musician, who has also recited at several of the previous meetings, Sudie Brown read the "White Parakeet," by the same author.

Anonymous. A letter from Joseph Brown's Fulton township, the first Saturday in May.

THE LINNEAN SOCIETY.

The society met on Saturday, May 28th, 1881, in the Museum, President Stahr and Secretary Davis in their chairs. Eight members and five visitors present. Reading of the minutes of the last meeting. The society invited the localities which have been the business following the donations to the museum and library were reported.

Museum Additions.

1. Mrs. Gibbous donated a specimen of anthracite coal, containing a large amount of impurities, of which exhibited their circular disks, indicating transverse fractures of the vegetation out of which the coal is formed, and not a single slice unperfect or complete.

2. Dr. Rathvon donated a small bottle containing alcoholic specimens of the larva of a species of Tenebrio—commonly called "meal worms," taken from the ground and from the diseased parts of the cornfield. This larva has the singular ability of moving either backward or forward with equal facility. Also a specimen of evening primrose, (Oenothera biennis), sent to him by a correspondent of Blackwood's, who last summer was elected to accompany young Joseph, who is entirely to harmonize with the general character of this insect. Also a specimen of the "Golden Cup" (Cyperus auratus)—the victim of an ill adjusted aquarium.

3. Mr. John May, of South Queen street, donated a fine specimen of flint which he found in a mass of common chalk; probably from the chalk beds of England. Mr. May has declared that he has a large number of very fine flints in his collection.

4. Mr. Krivnovi donated a fine specimen of "chilled iron," from the Peacock furnace, at the request of the museum, for further examination before they are disposed of. This iron is very hard and of granular structure.


6. Mrs. Gibbous exhibited a fine specimen of Heel Nuss, a kind of crystal, which she found is in the international exhibition of 1876, and was surprised to find such a large and beautiful exhibit of Rusean sugar on that occasion.

Additions to Library.


2. American Monthly, 1881, 184 pp., quarto, with 34 fold maps and charts from the department of the interior.


4. LANCASTER FARMER for March, 1881.

5. "Booksold" for March 1881, 100 pp.; royal octavo, with index and illustrations.

6. "Booksold" for March 1881, 100 pp.; royal octavo, with index and illustrations.

7. "Booksold" for March 1881, 100 pp.; royal octavo, with index and illustrations.

8. Sunday minor catalogues and circulars.

Historical.

Four envelopes containing 40 historical and bibliographical selections.

New Business.

Prof. I. S. Getz proposed William H. Butler, of Marlota, for active membership, to be acted on at the next meeting.

A letter from Mr. Haines, in which whom was referred the question involving the status of membership in the society, reported that no person had been elected an active member since 1877, at which time the maximum was $5 (for which he received a certificate of ownership), and that the affairs of the society were not sufficient to support it.

But as there are persons who desire to co-operate with the society, and who for sufficient reason to give up the membership, the committee recommended a prorogation, that such persons may be elected; and it shall be optional with them to continue it or resign.

Allowing the subscribers to the society to continue under this rule, after being three full years continued, may, for the purpose of receiving a certificate of ownership as a gratuity, and enjoy all the privileges and prerogatives of other members.

The report was debated and unanimously adopted.

Note.—Contributing members are entitled to all the advantages of the society, and are subject to the control of the certificate holders—whether they are members of the society or not—and to the amount of certificate of ownership.

P. W. Dickey, who was presented with a motion done secondly, the following resolutions were unanimously adopted:

1. Resolved, That the president appoint a committee of three to examine the libel and report the number of active members and correspondents from the organization of the society to the present time; the date of their election; how many have withdrawn, and how many have died; and their relatives, as far as known, their residences.

2. Resolved, That said committee report at the next annual meeting, the position of the society as it has progressed, and the progress it has made in the work assigned.

3. Resolved, That the said committee report at the next annual meeting, the position of the society as it has progressed, and the progress it has made in the work assigned.

The present directors, Drs. Rathvon, Davis and Baker, voted.

Scientific Gossip.

Under this head, half an hour of free social intercourse was spent very pleasantly. With good talk and good Nature, the subject of interest of the society. After the usual manner of scientific meetings, the subject was essentially formal and subject to rule, "scientific gossip" is declared by the president, when every one can say, that it is the month, when the society has been out of order, and also with more freedom than when confined to "place."

1. On the last Saturday in April, which occurs on the 30th, the last day of the month.

A chicken fancier says that he stuck corn planters over the windows, and in the winter the bird had been setting a week and in due time it gave a chicken as sprightly as any of the brood.

Agriculture.

About Limestone and Lime as Fertilizers.

Lime and limestone are often used as fertilizers, but as many queries. This is due to the extraordinary claims of parties selling ground limestone, or chalk. It is indeed true that the Chalk or Limestone, when used as a fertilizer, is probably the most generally distributed mineral, one of its purer forms being known as marble, and is found almost all over the United States. It is a carbonate of lime, and is a carbonate of lime, which is a carbonate of lime, that in Lime combined with water, in the form of a carbonate, is the rock which is so slightly dissolved by water that it is tasteless. It takes 1,500 parts of water to dissolve one part of carbonate of lime; while water and a strong acid is added, the carbonate is set free, and we see it pass off as bubbles of water. Limestone is so slightly dissolved by water that it is tasteless. It always contains free water as well as half as heavy as the original stone. What we have here is a lot of carbonate of lime, for the purpose of dissolving it, we take the water and some other acid. Before the acid is added, no bubbles of gas will be given off. The heat has driven out all the Carbonic Acid; it is no longer there, and the strong acid here is the acid carbonate of lime. Limestone will not dissolve in water, or Staked Lime. Limestone exposed takes up moisture from the air, and we have calcined Lime, Staked Lime, or Carbonic Acid Lime, as it is called. Lime is an ordinary element, but it is always present in the atmosphere, and when Staked Lime is long exposed, it takes up this Acid and becomes Carbonic Acid of Lime.—American Agriculturist.

Green Manuring. What is the best crop to grow in this? This question is often asked and does not admit of a very decisive answer, for the climate of the United States is so varied that it is nearly impossible to say what is the best time of year in which it is wished to manure in this manner, climate, etc. If the soil is worn out or naturally poor, or if it has been too much manured or tilled under in early autumn, buckwheat is recommended. If the soil is not too heavy, to be fall-sown, and yield a supply of food for other plants. In the Southern States the cow pean has proved very productive and quick, and the land is usually turned when quite small. The best treatment of fodder corn is to let it grow to a good size, and feed to livestock the hay before there is much thought to the ground.

American Agriculturist.

The Management of Liquid Fertilizers. There is no doubt that, with proper arrangements, the applications of liquid manure by a system of irrigating, or flooding, the land, by a farmer, or the owner of a truck patch, without proper apparatus, to transport liquid manure by means of an irrigation system, is probably most beneficial. Upon a barrow, it is very doubtful if it is the best method. The liquid manure is largely water, and water is not only a very heavy article to transport, but it is not, in the strict sense, a fertilizer. If one can make the water transport itself, and carry whatever fertilizer with it, one great item of the expense is saved. If this cannot be done, it will be better—"
Horticulture.

The Cow Pea.

The value of this pea, if its advantages were known, would be incalculable. In the south, it is only very recently that it has been brought to the attention of Northern征集 as a leguminous crop. It is not likely that anyone could notice due to a plant so important to agriculture. In the north, it has really been the means of rescuing some of the poorest and most exhausting land from total exhaustion. The cow pea, though called a leguminous, is not a true bean; it does not grow like beans, but is a forb, or herbaceous plant. It is indigenous to the Middle States and the South, preferring a warm season and dry soil. There are a number of varieties which may be utilized to the advantage of the grower.

As a renovator of the soil, next to clover, it has no equal. Growing with a heavy, dense foliage, ploughed under just as the nodules fill, it provides the farmer with a splendid green manure, rotting quickly and producing lasting effects. It can be grown for this purpose on land that will not produce clover, and this is a very important item. On inferior land that has had a crop of cow peas turned under, if a light sprinkling of lime is added, a venture may safely be made with clover the following year. It is put into the soil just as early as the ground can be plowed for hay, but care must be taken in harvesting it properly. If allowed to get too ripe the leaves will crumble off and provide no ground cover for the succeeding crop. It is best to follow the cow pea with a crop of clover, and if the nodules fill, to the advantage of the grower.

The cow pea is worthy of being introduced to every farmer. Its value as an article of food for man and animal is not doubted. As far as its use for man goes, it produces, its adaptation to the lightest and poorest soils and its usefulness as a green manural crop, it is second to none. Its adaptation to the enriching of the soil, and its refusal to grow to its fullest development by reason of the crop in favor of this piece with two green cropos placed under, compared with the rest of the land, is not questioned.

To Cornstalks as Manure.

A New York correspondent of The Canada Farmer writes: A few years ago, having a field of sowed corn of good heavy growth, I made an estimate of the green weight of the stalks growing on an acre by counting and weighing measured sections of different parts of the field, and found the amount to be thirty-six tons to the acre, which I should suppose was an average weight in the farm. As I intended to plow under part of the field I estimated that the amount of vegetable matter, counting the stalks and all the material in the barn or yard, was of a per acre to use for green manuring, and as this was a heavier amount than I could expect to get from another crop, the idea occurred to me that I could plow in the compost, as it is mixed with the soil, and the plant matter of it. Also the stalks of the barn cellar are thus placed economically within reach of the roots of the plants.

To Cut Sods.

Take a board eight to nine inches wide, four to six feet long, and cut downward all around the board, then turn the board over and roll down the sides, and as the bottom is not equally dry; if a very fine effect is wanted, throw a layer of grass on the sticks, and roll it up into the yard, and smooth it with the back of a steel rake.

Country Gentlemen.

A Difficulty with Shrubberies.

Shrubs, when set in the grass of a lawn, are often dwarfed by the grass and leaves that surround them. Spading about them only partially removes the difficulty as the spaded ground never extends to the root zone of the shrub. The shrub is cut down with each way as the height of the shrubs. Besides, the ground is necessarily more or less defaced by the removal of too much sod to allow the shrub, as the old phosphat, on such soils as are benefited by it, will answer a good purpose. The above account presents an unguisheable appearance like coarse manure. Finely pulverized old manure will not be objectionable. In many cases it will do well, and a little will answer. The top dressing should be done in Autumn or very early in spring, and special care must be taken to spread it as far from the stems as above indicated.

Onions.

Onions require rich soil and clean culture. A newly reclaimed swamp is the best soil, and the land should be drawn and dug clear before planting; the seed is sown in drills nine to twelve inches apart, and thinned out to three or four inches in the rows. After the first dressing is put on, the land should be rotted stable manure superfright of lime is the best artificial help.

Domestic Economy.

Butter Salt.

The salt used is of greater importance than might be supposed, and forms an essential part of the seasoning in salt, small, white specks of soapy substance, are found in the butter, thus injuring its value. A little experiment will demonstrate the fact that the present the flavor is injured, so that it is of the greatest importance to have the purest salt. Unfor- mun to the disadvantage of the poor and the ignorant, and uniformity for dairy purposes, and the best qual- nters and the like, by which milk and butter are rendered impure, uniformity of grain and freedom from objec- tionscale. As the difference in price between salt and good butter and bad butter is very large, the extra cost of a sack of salt is but a pittance. A hundred pounds of salt will pack 1,000 pounds of butter, and two to five pounds of salt, if of good quality may easily be made of means of bad salt, making a loss of $20 to $30 to off the gain of one dollar, or less. —Henry Stew-

Take Care of the Matches.

In nothing about the household does the injustice of the lack of strict enforcement than in the care of matches. What are known as "Park Match" light the
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How to Wash Clothes Without Fading.

A lady correspondent sends us the following recipe which she has tried with success on all kinds of fabrics: Wash and peel Irish potatoes, and grate them fine. Then take 3 cups of water and 3 cups of potatoes, and boil these for half an hour or until the color is gone. Let it cool, then take 1 quart of this condiment, and add 1 quart of cold water, and stir it for an hour or two; then pour it all into a pot and bring slowly to a boil. Let it simmer for an hour, and then strain it through a cloth, and use this to wash your clothes without the least danger that they will be spotted. It is a good plan to make two or three bags, and keep them ready for use.

Sugar, Take Glass Stoppers.

Young ladies are sometimes in a dilemma over a glass stopper that will stick fast in a pretty perfume bottle. Let them steam the neck of the bottle over a candle for a little while. If that will not serve the purpose a few puffs of sweet oil about the cork and set the bottle near the fire where it will get warm.

HOUSEHOLD RECIPES.

Fig Pudding.—Take one pound of figs and quarter them, one-half pound of flour, three-quarters of a cup of sugar, one-half teaspoonful of salt, one-half teaspoonful of spice, a little ginger, and a little cinnamon, and dough up, with a little salt; then put them in a small three-quarter pint mold and bake it over night. A little syrup will make it better.

Horseradish Grate. Grate the horseradish, take as much as you please; mix it with the salt and sugar made to a paste with a little water, and add the pepper and cayenne. Serve it as a condiment.

Olive Oil. — Make a mixture of olive oil, lemon juice, salt, and pepper, to taste. Serve it as a condiment.

Stir-fry. — Take a mixture of salt, pepper, and soy sauce, and add a little oil to it. Sauté the vegetables, stir-fry the mixture, and serve it as a condiment.

Filled Tomatoes.—Take a mixture of ground meat, onions, and green pepper, and fill the tomatoes with it. Bake them to order.

Rice Parmesan.—Take a mixture of rice and Parmesan, and bake it to order.

Vegetable Fudge.—Take a mixture of chocolate, brown sugar, and butter, and bake it to order.

Sand Bag in a Sick Room.

The writer of "Household Hints" in the Evening Post for March, 1881, gives the most pertinent articles for use in the sick-room. The sand-bag is a sand-bag. Make a bag about eight inches square of flannel, fill it with coarse sand, and boil until quite tender, and then are to be drained and allowed to cool, and thus it is contained in a common method of cooking, and it has the demerits of digesting the gum and sugar and other fine constituents of the meal and rendering it much reduced. The other part is to be washed quite clean, but is not to be polished or scruped. Boil it in water for 15 or 20 minutes, and then long to cook as the one that was cut. Upon trying to say a fork you find it quite tender, when it is cooked, and you will be surprised at the difference. Instead of salt use "rank" or "bitter," it will be delicious, for flavor and will contain all the nourishment that was in the meal.

Potatoes. — Take two potatoes, a couple of half-sized, and one large-sized potato. Bake the potatoes carefully, and cover the bag with cotton or linen cloth. This will prevent the sand from falling out of the bag, and will keep the potatoes warm for some time. Place it in the oven, or even on the top of the stove. After one hour you will never again attempt to cook potatoes in the same way. Serve them with a bottle of hot water or a brick. The sand可靠 heat a long time, and the bag can be tucked up to the back without burning the invalid. It is a good plan to make two or three bags, and keep them ready for use.

RECIPE FOR KIDS — Best way to make beef tea for children is as follows: Save meat, bone, from the shin or the neck. Cut the meat up fine, and put it into a small bowl. Add cold milk to the bowl until it is full, and then put the milk in a small bowl. Boil it in a pot, not boiling, and let it simmer for two hours; then put it all into a saucepan, and let it simmer until it is well sharpened. The first thing, and skin and secure this; it is the very essence of beef being thrown out. Put it in a clean bottle and let it stand. If you let it stand no longer, pour it through a sieve to the first skimings. Stir it before using. In older children than that, give them some sugar, or any other dessert. So completely does this way of making beef tea taste good, that a dog would not eat the meat that is left.

OJUES A L'ORANGE. — Make a stiff pudding, with a pint or milk, put on fire with a small half cup of sugar, and roll it together until it is kept. A tablespoonful of corn starch, dissolved in a little cold milk, previously preserved from the pot, is added until it thickens, then add the best whites of eggs, and flavor with a teaspoonful of orange juice. Boil it well together and place it in a little wooden bowl, then pour into their vacuum an orange juice from a bottle. After mixing these together pour on the whole a half pint of boiling water. The mixture is not to go near before the pudding is cold, to the pudding or set away to get firm. Then slip the bowl into a plate, and serve it. They have the appearance of pointy, and will be very nice. A set of these pans and barrels will be very useful.

Mayonnaise Dressing for Salad.—One pint of olive oil, salt and cayenne pepper to taste, half teaspoonful of French mustard, the juice of one lemon, and a half teaspoonful of white wine vinegar. Mix well, and then put it in a little wooden bowl, then pour into yours an orange juice from a bottle. After mixing these together pour on the whole a half pint of boiling water. The mixture is not to go near before the pudding is cold, to the pudding or set away to get firm. Then slip the bowl into a plate, and serve it. They have the appearance of pointy, and will be very nice. A set of these pans and barrels will be very useful.

Pineapple Salad. — Take pineapple, cut it into small pieces, and add salt, to taste. Serve it as a salad.

ONION SWEET. — Take two tablespoons of soft butter, and mix it with a little sugar, salt, pepper, and cayenne, and mix well. Then add to the mixture, and serve it as a condiment.

Olive Oil.—Take a mixture of olive oil, lemon juice, salt, and pepper, to taste. Stir-fry the vegetables, and serve it as a condiment.

Stir-fry. — Take a mixture of salt, pepper, and soy sauce, and add a little oil to it. Sauté the vegetables, stir-fry the mixture, and serve it as a condiment.

Vegetable Fudge.—Take a mixture of chocolate, brown sugar, and butter, and bake it to order.

Fried Tomatoes.—Take a mixture of rice and Parmesan, and bake it to order.

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CLAY CROWDER.—One quarter pound of salt pork, one quart of white onions, two quarts of potatoes, one cup of water, two pints of tomato juice, fifty cents; cut the pork in small pieces and fry; chop the onions fine and fry; boil the potatoes in their skin; add the onions and water and sauce, and simmer gently until the tomatoes are cooked. Turn above quantity once or twice in the course of cooking, and serve hot.

CROW’S NOSE.—Fill a deep pudding tin or dish with apples cut in thin slices; sugar; cinnamon, or lemon juice; and a little flour; secrete the ingredients together and set simmer gently until the apples are tender; serve hot with hard sauce or cream. It is a good plan to cut airholes in the crust to let the steam escape.

POTTED MEAT.—Remove all gristle, hard pieces and fat from the meat, be it veal, beef or mutton. Cut it very fine, and pound it in a mortar with a little butter, some gravy or water; a spoonful of Harvey’s or Worcestershire sauce; and then boil. In the mean time during the process with pounded clove or allspice, cut up and stewed onion in a little vinegar, and when the Boiling meat is done, command the top prices, while five years ago they were not known in these yards. In five years more these men are likely to be worth a third more than they now are. A picture of the London market in England for the last hundred years or thereabouts.

Potato Salad.—Take about ten nice, neatly, fresh boiled potatoes; cut them into slices; cover them with a thick crust made as above until apples are tender; serve hot with hard sauce or cream. It is a good plan to cut airholes in the crust to let the steam escape.

CRAWFORD’S STRAWBERRY CULTURE, with catalogue, price list, and notices, London, 1851. This is an octavo pamphlet of 22 pp., in tined covers, descriptive of twenty-six of the most popular strawberry varieties. It will be found that in the mode of culture, the insects that prey upon them, and the remedies for their prevention, expulsion and destruction; including the questions of irrigation, manuring, testing, fertilizing, etc.

ANNUAL CATALOGUE OF FRANKLIN AND MARSHALL COLLEGE, CAMBRIDGE, Mass., 1879. The publication of the catalogue suggests the publication of paper covers, including also the catalogue of the Theological Seminary, its faculties, number and catalogue of its students, course of study, price of tuition, etc.

E. B. CARE’S BOTANICAL INDEX, spring supplement, 1881. This contains a table of 4000, splendidly illustrated, including a splendid colored frontispiece, embossing over forty categories of the principal classes of plants. It also contains a list of the present carders, proceedings of the past public to the public what it has, but also tells how the public can obtain it with the same, with particular views upon cultivation, etc.

The SUGAR BEET, (4th quarter number), a royal quart of 30 pp., finely illustrated with designs of the best varieties; also a variety of beet plants, beginning to boom up in the progress of domestic production, and ought to, and demands commercial attention.

THE NATURALIST’S LUXEMBOURG, a monthly bulletin of science and practice, published by Dr. A. P. Potier, at 10 cents per annum, semi-annual, and quarterly.

The Journal of Forestry, and estates managements, an octavo magazine, price 25 cents per number.

THE JOURNAL OF FORESTY, and estates management, an octavo magazine, price 25 cents per number.

EDWARD J. TAYLOR, New Town, E. C., Lon- don, with publication offices in Edinburgh, Dublin, Liverpool, Birmingham, Manchester, Leeds, and other places. The March number of this excellent journal is replete with valuable information on the forest industries of our country, the present and prospective, and the growing interest.

Eleventh Quarterly Report of the Pennsylvania State Board of Agriculture for the years 1877 and 1878, January, 1879. Contains a list of members elected by the Agricultural Societies of the State; the several agricultural societies and their annual meeting condensed from the minutes of the society; fourth annual report of the Agricultural Society of the State; annual meeting held January 20th, 1879, embracing local reports, correspondence, commercial fertilizers, suppression of pleuro-pneumonia, contagious diseases of live stock, new source of profits for farmers, best sugar, forestry and horticulture, &c., &c. Also lists the price per acre of timber land in nine States of the Union; and the report of the Secretary of Agriculture, by Prof. J. P. Lesley; estimated average value of farm lands in nine States of the Union. Also contains the report of the committee of the Pennsylvania State Board of Agriculture for 1881; an act to regulate the manufacture and sale of seed corn, hay, and grass, for the use of feeders, by Dr. Gentz, chemist of the Pennsylva-
nia Board of Agriculture. The average value of farm lands in nine States of the Union is $100 per acre; and the average value of one square mile land in the State of Maine, $45; in Massachusetts, $50, and in New Hamp-
shire, $45. These papers are all interesting and valuable, especially that by Prof. Lesley on geology.
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All communications in regard to the editorial management should be addressed to Dr. S. S. Rathvon, Lancaster, Pa., and all business letters in regard to subscriptions and advertising should be addressed to the publisher. Rates of advertising can be had on application at the office.
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The Lancaster Farmer.

Dr. S. B. Bathvon, Editor.

LANCASTER, PA., MAY, 1881.

Vol. XIII. No. 6.

EDITORIAL.

A COUNTY FAIR.

A Meeting of Citizens Called to Consider the Matter.

The citizens of Lancaster county and this city who are interested in holding a grand fair of the farming and manufacturing interests of this county are requested to meet in the spacious reading room at the Stevens House, on Wednesday afternoon at 3 p.m., April 27, to appoint committees to act in concert with the Agricultural and Horticultural Society in showing next fall on our Fair Grounds the great resources of this favored spot of Pennsylvania. The exhibition will be of considerable magnitude, and an immense tents and buildings to be prepared for the occasion.

Every farmer and artisan will be astonished at the wealth and manufactures, and it is expected that all of the citizens will take hold with willing hands to make it the grandest exhibition ever held of our age seem to be a Horticultural products, of our numerous cattle, sheep, hogs, poultry, &c; also, of all the various manufactures of every kind here produced.

On each day of the fair there will be exhibited in a ring prepared for the occasion a cavalcade in which each farmer can show his animals to advantage for the benefit of the thousands of visitors. Hundreds of animals will be in this immense ring at one time, led or driven by their owners or attendants. There will probably be the largest exhibition of poultry ever brought together in Pennsylvania, containing fancy fowls from other counties. A list of articles and premiums will be published as soon as the committees can prepare them. At the last meeting of the Lancaster County Agricultural Society this matter was well discussed, and a committee of three were appointed to make the preliminary arrangements.

We insert the above in this number of the Farmer, because, having noticed it in only one of our city papers, we do not think it was sufficiently advertised, according to the vast importance of the subject involved, and hence, perhaps, the reason for the meager gathering on the day appointed. From the same paper from which we quote this, we observe that there were only four or five persons present at the meeting at the Stevens House, and that these transacted no business. This is very much to be regretted; but we hope it is no indication of what will be ultimately done in the premises. Lancaster city and county ought to accomplish and acompan- plish through competition, or with an end only to pecuniary speculation. Those who necessarily give their time to it, with no interest in it save their other daily labor, should be reasonably compensated; but in all prosperous and progressive communities, there must be those who have an indirect or ultimate interest in the success of these enterprises, and these ought to labor or use their influence in behalf of the common good. There must ever be a mutual intercourse between city consumption and rural production, and public exhibitions lead to that commerce between these communities which develops the best articles and the most compensating rewards. In short, a public exhibition of industrial products, is one of the most practical and satisfactory advertisements that can possibly be made, because, the objects on exhibition in mute eloquence speak for or against themselves.

But the ground work must be unity of purpose, mutual confidence, unirating energy, disinterested perseverance, and abstention of self, relying for compensation upon reacting effects.

"O UR HELLEBORE."

The winter of 1880-81 will doubtless long be remembered as one of the longest, coldest, "snowiest and blizzardiest" in the annals of meteorology—so much so, indeed, that we surely thought our "Black Hellebore" (Helleborus nigra) would perish. The pelishment of the insect world had been forecast by grave sarcasms, and if those all fell victims to the frigid blasts of King Boœsus, how could we expect a blooming winter flower to escape? We say blooming, because the last we noticed it before the winter set in—about Thanksgiving Day—we observed that it had begun to push forth its flower buds, and in the winter of 1870-80 it bloomed from November to April, and never had less than a dozen opened flowers at a time. But during the winter just ended it was nearly all the while covered with snow and slush, most of the time frozen nearly as hard as a rock, and what plant could expect to pass through such an ordeal unscathed or unscorched by frost?

But, when winter's frigid reign relaxed, the ice had thawed and the snow had melted away, there arose old Hellebore with half a dozen snowdrops on its toothed flower stems, congratulating the tiny snowdrops on the prospective advent of spring. Some of his leaves were nipped by frost and partially discolored, but the flowers were intact. When we first examined the plant, March 16, we counted over sixty flowers, about half of which were open—each expanding over two inches in diameter—and about as many bees were holding a sort of carnival among them. What a singular provision of prolific nature, that the dewdrops of the insect and the floral worlds should thus be rolling in jollity before Saint Patrick's day.

When we planted our Hellebore five years ago, it remained stationary for nearly two years thereafter, apparently never making a single leaf. But all the while it was invisibly gathering strength, and now the "bush" measures nearly two feet in diameter. It looks like a huge composite flower, surrounded by a very dark green frill of leaves lying flat upon the ground. This is perhaps an objection to the plant. If it bore its flowers more aloft, it would be more desirable, but they have a short stem and all come up from
the earth around the bases of the leaf stems.

It is interesting and instructing to observe this singular plant during an open winter, and when there are no snows upon the ground. In a warm and genial day, its flowers expand, and it seems to rejoice with you that even in bleak winter and in the open air, it can recall the semblance of blooming summer. It seems to say, "Now, enjoy yourself while you may, and to the extent that you legitimately can. Don't put it off until to-morrow and then run into excess, but improve each day and hour as it passes. Let your chief delight in life be in your duty, and let your duty be your delight." "Don't be afraid of wasting your precious fragrance on the desert air, for its outgoing will be a boon to somebody or something. Why, I have been visited by the gentle little busy bees" in the months of December, January, February and March, attracted chiefly by the perfumed aura that exhaled from my winter bloom, when all the other objects of the flowery realm are transiently enveloped in the sleep of death."

But when summer is fairly initiated, or when "showery, bowery, flowery May" has made her advent, it seems to speak a different language. It seems to say, "You do not need me now. There are fairer, loftier, sweeter and more winsome forms than mine. Anon, worship these, and leave me to my accustomed summer rest. When the 'last rose of summer, left blooming alone,' sadly retires, I will awake from my long sleep and cheer you again. During all the precious summer you have been banqueting on the ‘balm of thousand flowers, and you have quite forgotten me, but I will not. When the Chrysanthemum fades and wither under the chill November winds, and the memories of God's incarnation begin to loom up, I will peer forth with becoming humility, and hail the auspicious day."

And it will redeem its pledge, if it is only vouchsafed the "ghost of a chance." Having on it or around it, all the blessed winter, old boots, broken crockery ware, coal screenings, coffee grounds, snows, ices and slushes don't improve it much, although they may not destroy it, and every intervening winter period throughout the winter it will expand one or more flowers, which will greet with a cheerful "Here am I; the tip of the morning to ye!"

Perhaps one of the most singular characteristics of the Black Hellebore is the successive changes in the color of its flowers; in that respect, seemingly affecting the habit of the common Hydrangea. When the flowers first begin to "blow," they are white, tinged with green—at least this is the color of the outside, for they force themselves up inverted and with the flower stem abruptly bent. As they expand they turn their faces upward, or towards the older margins of the crown. The corolla, or the inner surface, is ornamented with a delicate pink coloration, which is intensified about the base. They continue in this condition for some weeks, and then they gradually change to a dull crimson, from which, during the month of April, they change to a light green, after which they become bronzy and shriveled, and by the first of June they have all passed away. The seed pods become enlarged, and look like six small peas united by their stems, resembling the seed pods of the Aquilegia, or columbines, to which it has a family alliance. The leaves also become broad and oblong, and in May and June new leaves are developed. While it reposes other flowers can be cultivated all around it, completely hiding it from view—provided, always, that they are not perennial.

As the plant is very lowly, perhaps a slightly elevated mound in the centre of a circular bed would be a proper situation for it. Also, if some regard was paid to shelter it might improve it some. We have not been noticing specially the effects of culture upon it, but rather its singular progress under neglect.

The "Black Hellebore" belongs to the order Ranunculaceae, "Crowfoot family," and, because of its winter blooming, it is also called the "Christmas rose." There are three well-known species of the genus Helleborus, namely, the H. niger, or "Black Hellebore;" the H. foetida, or "Petit Hellebore," also called the "Bear's-foot;" and H. viridis, or "Green Hellebore." The first named is a native of Austria and Italy, but was introduced into England by Gerard in 1590. Just when or by whom it was introduced into the United States is not known, but it is known to have been cultivated in this country since 1824. The second species is a native of many parts of England, especially in Yorkshire, where it has long been used as a vermicide for children. Its substance is an acid cathartic, and it owes its virtues to these qualities. The third named is found growing wild on Long Island, near Jamaica and Brooklyn, but is supposed to have been originally introduced from Europe.

The Black Hellebore was extensively used by the ancients as a purgative, in cases where there was obstinate constiveness. In modern practice it seems to be less frequently used, and then chiefly in small doses, as an alternative in obstructions of the uterine discharges, or in dropsy.

There is also a plant called the "White Hellebore" of a more poisonous quality than any of the aforesaid species, but this belongs to a different genus and a different family. This is the Veratrum, or "False Hellebore," and is included in the order Melanthaceae, or Colchicum family. This plan is a native of Italy, Switzerland, Austria and Russia, and Gerard is supposed to be the person who introduced it into Great Britain. There are three or four species of Veratrum recorded as native to North America, but the album is not among them.

It is singular how difficult it is to correct a wrong start in nomenclature. The true and the false hellebores are already so much confounded by writers, that it is difficult to tell exactly which the ancients attempted to describe. When the average individual wishes to procure the poisonous "white veratum," he must ask for "white hellebore," or it is possible he may not be able to obtain it. It has long been suspected, in specific cases, as an effective insecticide, and in all works, or in cases where it is recommended, it is invariably alluded to as white hellebore. So let it be, if it can't be otherwise, until it shall be of sufficient importance to change it.

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theskunk, and could only be used as fillers, and perhaps were disfigured for that purpose. We confess we are at our wit’s end to con¬ceive of a remedy that would reach this second, so-called breed of the fennel-beete. But it will never do to give it up so, and therefore we suggest the trial of any and every reasonable thing in playing for such a stake. The following paragraph from the same source, may do no harm, if administered in time.

"The present is a good time to destroy insects which harbor beneath the bark of trees. Scrape off the bark and then wash the trunk and lower limbs with strong soap sods, or with a solution of potash, or even with lime from wood ashes, but do not use whitewash."

THE SKUNK.

(Mephitis americana.)

I have at length succeeded in procuring for the Museum of the Linnaean Society, a local mammal that I have been endeavoring to obtain for fifteen years or more without success; not that the animal is at all rare in Lancaster county, but that it usually emulates such a nauseous odor that no living being, civilized or wild, will come near one, excepting one of their own kind; and yet, if advantage can be taken of them, they are as offensive as a rabbit, and their flesh is said to be far superior to a rabbit’s, as food.

About two weeks ago, two citizens of Martin township called upon me and offered for sale the skin of a "skunk," which they had trapped in a "deadfall" the night previous, and so sudden had been the capture that the animal was killed before it had time to discharge its fetid liquid. I purchased the skin for a trifle, and placed it in the hands of Mr. George Hess, one of our local taxidermists. It is one of our most beautiful animals, but all its beauty is entirely negatived by its repulsive stench. To obtain this specimen, therefore, under these circumstances, was a rare opportunity that I could not resist, and especially because of its color and condition, for many of these animals are a rusty black or brownish, and the lighter parts are not so clear a white in color. It is said that these differentials are the bases of various species, to which will allude farther on. And here it may be well to say that the fetid liquid of the skunk is not its urine, as has been commonly supposed, and perhaps is still, by many intelligent persons, so regarded; and the idea, also prevalent, that the animal discharges this liquid upon its bushy tail, and thus scatters it abroad, is equally erroneous. This animal has two glands, corresponding to the musk glands of musk animals, but in the skunk they are located near the inferior extremity of the alimentary canal, and these glands secrete an extremely fetid liquid, which the animal has the power of emitting at pleasure, as a means of defence, and although a carnivorous animal, and amply provided with an efficient dental apparatus, it never attempts to defend itself in any other way—either by "fight or flight." This liquid is said to possess valuable medicinal powers, but its extreme offensive qualities interfere with its use.

Whenever it prepares to charge upon its foes, it carefully turns its tail over its back, for it is a scrupulously clean and neat little animal, and will not soil itself with its own

fetor or anything else. At night the offensive liquid exhibits a phosphorescent light, and is so strong that it may be detected ten to fifteen feet. It is not the stench alone that is to be dreaded, but the liquid is exceedingly acrid, and when discharged into the eyes of its assailant, it produces severe inflammation, and even blindness.

The term "skunk," is said to be a contraction from Squanku, whatever that may mean. The group of animals including the various species of skunks, is confined exclusively to North and South America. It is true that we have here and there found a disagreeable odor, called the "Pole-cat," but this animal belongs to a different genus—

Mustela putorius—aliene to the true wents.

The term Pole-cat is said to be a contraction of Poultry cat, because it feeds largely on poultry; it is also called the fitchew, or fitchel. Pole-cat is also pretty extensively applied to our skunk in Pennsylvania. Our common species of the skunk abounds from Hudson’s Bay to the plains of Missouri, and was described by Linnaeus and Gueneil under the name of Florida. The pole-cat species are described as North American, yet Dr. Godman held that they were all merely varieties of the same species. The same author places the skunk in his second Tribe which includes the Digitalorides—animals walking on their toes—between the wentsles and the oters. Other authors place it in a family between the Viverridae or civets, and the Ursidae or bears, and claim that it is more plantigrade than digitigrade—that is, walking on palms, or flat-footed. Desmoulin described it first under the name of Mephitis americana, and the significance of the generic term being a foul, offensive or noxious exhalation from decomposing substances, fifth or other sources, and the specific term from the fact that it is exclusively an American animal. America therefore enjoys the distinguished honor of possessing the "least smelling" quadruped on this planet. Among the early (Spanish, English, French and German) settlers of America, this animal is the "skunk" and "Pole cat" of the English; the "Pecce pantone" of the French; the "Mephit" of the Germans; "Fiskata" of the Pennsylvania Dutch; "Seecawk" of the Cree Indians; "Mapunto" of other tribes; "Mestitso" of the Itallians, and also the same of the Spaniards.

The French naturalist, Buffon, called it the "Chineh;" Pennant, the "Skunk-Wessel;" Father Charlevoix, "l’Enfant du Diable"—the child of the devil; the German naturalist, Kalim, called it Fiskata; so that an animal so able to make its presence manifest, it will be seen, has not been slighted by the absence of a "local habitation and a name."

Tenny assigus it to his sub-order Carnivora, and family Mustelidea, placing it generically between the Otters and the Badgers. He also drops the specific name of Americana and adopts that of Chinga, or Chichu, of Tiedeman. He also claims four distinct species north of Texas and east of Missouri, namely: Chinga, varians, occidentals and mesetlenon. In addition to these species there are the biobor and mexicana of Mexico; the meconelus and nuisus of Texas; the chilensis and conspeak of Chili; the sorana and intercepta of California; and the castanea, quetlais, fenillici and plustina of South America. Although the skunk habitually a night prowler, yet when pressed by hunger he will also roam abroad by day—indeed, the only first I ever saw at large, full sixty years ago—I saw about four o’clock in the afternoon; but they seem so be more frequently met with about human habitations during the morning twilight, although I have been sensible at other hours of their whereabouts scores of times. They feed on rabbits, mice, frogs, insects, poultry—especially young chickens, and have a great fondness for eggs. It is very seldom that they attack domesticated animals, on account of their offensive smell, although Catesby, in his natural history of Florida, states that he saw one domesticated, and that it never made use of its offensive battery. A number could be written on the encounters of different people with this handsome little animal, in which the assailants always had been vanquished. It never moves very rapidly nor makes any special attempt to escape, seemingly conscious of its repelling power with pleasure, and perhaps because of the desire to watch the taxidermist, and thus demonstrate to the latter that one of these animals once crossed his path as he was taking an evening walk, and not knowing what it was, he heaved a volume of the British cyclopaedia at it and struck it; the consequence was that the volume had to be buried, and after remaining for months in that condition the effluvium had not diminished.

A skunk was in the habit of entering a cellar in the vicinity of Rochester, New York, through an avenue known only to itself. It had often been seen in the cellar by the members of the household, and by discovering his whereabouts, they were enabled to drive him out. It was a small, furry animal, with a peculiar characteristic, had never alarmed or assailed it. But an uninformd servant maid, recently hired, on going into the cellar on one occasion, commenced an attack as soon as she saw it, with the following result: The girl had to be carried to bed, where she lay three weeks before she was able to work again; her clothing had to be buried or burned, and all the butter, cream, milk and meat in the cellar spoiled, and had to be thrown away. I think it is Hearne who recorded that when he was in the Indian country, looking and eating the skunk—and indeed, he ate of it himself, and found it excellently flavored and tender. He himself helped to kill one, soon after which the place was covered with snow, and on returning to the same place again the following spring, when the snow had melted away, the odor was quite as strong as it had been four months previously. The odor of the skunk is not easily definable, and I suppose its substance has never been chemically analyzed. The one I saw, to which I have before alluded, was surprised near a "sink hole" in a har¬vest field, which had been partially filled up with stones, collected from said field. Two bigger boys and an inexperienced dog were in advance of me in the effort to capture it before it could gain its burrow under the stones. The animal, perhaps, saw that it would be intercepted, and immediately opened its battery on its assailants, and the rout was immediate and complete. The dog began to root in the ground, and ran home to the farm house. The foremost boy disgorged a lunch, taken a few moments before, and the re-
THE PEACH CROP.

From all we can learn, the peach crop will doubtless be nearly a total failure throughout the entire country where peaches have been heretofore cultivated as a special crop. There may be a few here and there, where they have had more than ordinary protection. This is to be regretted, for there were millions invested in it, but it cannot now be helped. Perhaps in the end, there may be some compensation for the losses thus sustained. It is very certain that there were many inferior varieties under cultivation, and it is to be hoped that where it will become necessary to remove the old trees, better varieties will be substituted in planting the new. The business of raising peaches should be by no means relaxed or abandoned on account of the late "slight discouragement," for such a winter as we have just passed through may not occur again for many years; moreover, past experience has abundantly demonstrated throughout the entire world, that no crop of any kind is exempt from meteorological contingencies. To illustrate the loss which the country (and especially the peach growers) sustains in the present season from the failure of this single crop, we adduce the following, made by a recent agricultural correspondent, and the newspapers all over the country speak about the same language:

"There is no longer hope entertained by the fruit-growers of Delaware of any profit from peaches in that State this season. Not in the least, from the latest reports circulating in this town, and not only have the growers giving up all hope of having a crop this season, but the belief is general among them that a great majority of the peach trees have been killed, while almost all the rest of them have been so injured as to make them useless. Many of the most enterprising growers are already arranging with the farmers in the vicinity to have them go in and cut down the rest, and to plant the place to corn and hay, for next year. The growers are but few who have not been deceived, and will result in serious loss, as not less than $5,000,000 are invested in peach cultivation on the State, as much or more than half of which is invested in Delaware."

It has been alleged that such paragraphs have been heretofore put in circulation by the peach-growers themselves, when there was no foundation for them in fact, in order to "create a corner" in the market, but we think they can be exonerated from such a suspicion the present season, for the wolf this time seems to have really carried off the sheep, and places which seem to have bloomed as freely as usual, and in rare cases of protection this has also been the case with apricots, but the peaches are almost universally shabbily looking. How the case stands in this county, may be inferred by glancing over the proceedings of the May meeting of our local Agricultural and Horticultural Society, which is by no means encouraging, although as a whole, the crop may not be a total failure. Suggest the condition of the peach crop, however, is not at all a new thing; for we can remember its periodic failures and devastations there very many years. We have seen the peach crop a mere drug from our earliest boyhood, and we have also seen its absence lamented as much, perhaps, as it will be the present season. Peaches are so universally and so intensely esteemed, that every year as soon as the Christmas festivals have subsided, the next thing was to indulge in speculations about the "peach crop"—its status always seemed precarious.

QUERIES AND ANSWERS.

FALSE FLAX.

Mr. Wm. A. M.—The plant which you find so abundant in your tobacco field of last year, is the noxious weed, known as "False Flax," and belongs to the crucifer family. It is generally known as a noxious weed, and abounds in fields—especially flax-fields—and on the roadsides, and seems to have been introduced into this country from Europe. It is said to have been very largely cultivated in Germany for the sake of an oil which was expressed from the seeds; from which you will observe that, noxious and useless as it may seem, it is still of some use; and although it may never pay in this country to develop that use, yet it might be intrinsically of more value than tobacco. Its abundance on your premises has no special significance other than that it has found the soil unoccupied and congenial, the seeds having been scattered from contiguous properties last season, and were germinated and protected by the snowy mantle of winter.

It has been observed this spring that from the same cause many plants have survived the past winter unscathed, which in milder and more open winters have been entirely past-frozen. It was also observed that as soon as the snow had disappeared, the ground, so far as concerned frost, was in a condition to be spaded and plowed. The past long and intensely cold winter will therefore, afford no immunity from noxious weeds and insects during the coming season. Their enemies rest too easily in their "little beds," corrected with a "tick" of feathered snow, until the vernal suns bid them rise. From a paper read before the Linnaean Society by Mrs. G. on Saturday, the 30th ult., I quote the following:

"Our late very severe winter has not affected plants very much that were close to the ground; owing, doubtless, to the early and long continued snow. Thus I have found this spring calliopsis and pushees that have survived the winter out of doors." The plant under review seems to be unique, both in genus and in species, and our young botanist, Mr. T. B. of North Queen street, identified it as Camelina sativa. It grows from six inches to two feet high—according to the strength of the soil—and bears a small yellowish flower. Its cogens are the mustards, the pepper grasses, the turnips, radishes, cabbages, &c., &c. Indeed, its cruciferous character is apparent from its odor when bruised, being akin to that of decaying cabbages. Perhaps it might be utilized as "greens," especially when other "sauce is scarce." If you do not care about going into "green famine" the best thing you can do is to "root it out" of your premises before it matures its seed. After your tobacco is once fairly started, there will be little danger to be apprehended from the "false flax," for tobacco will not allow much else to flourish where it becomes domiciled.

Rev. E. H., East James Street, Lancaster, Pa.—The beautiful little green beetle you sent us is a variety of Gastrothlypis corubillipes, and as a variety, it might properly be named corubillipes, or "green-winged." They belong to theCHRYOMELALS a Lady-bird family. They strongly resemble the "Fla-Beetle," but they have not the leaping powers of the latter named. We have found them on several occasions feeding on the leaves of various species of "Dock," (Rumex) and also on "Smart-Weed," (Polygonum) entirely destroying the crop, which was of no very serious loss.

Mr. J. H. S., Manheim, Pa.—Your small box and postal, by mail, were duly received. The box contained sundry fragments of a
specimen of *Cernaria foetida*, an animal that belongs to the *Myrmicinae* or "many feet;" and they destroy cockroaches and bedbugs, and are therefore very desirable about the house. They are quite common in some localities in this county.

### SELECTIONS.

**CULTIVATING SPRING CROPS.**

The first grain crop to be put into the ground is spring wheat, and this should be sown so soon as the ground can be made ready. Out of its proper district, marked by climate, it is of no use to grow spring wheat. There are other crops that are sooner and give much better returns. Oats should come immediately after spring wheat in time of sowing. Success with oats in our hot climate largely depends upon early sowing. The cooler climate of Canada and New Brunswick is more favorable for oats, where they are plumper and much heavier than those grown in most parts of the United States. By using seed from the northern localities above mentioned, we can grow heavier and better oats than when our seed is sown. The aim should be to harvest fifty to sixty bushels per acre. This can be obtained by having the soil rich and in good condition, and sown with about three bushes of the best seed. Oats are a successful crop in the far Southern States, as they can be sown and make their growth in winter and the crop kept out of the way of hot weather.

Growing Barley.

Barley, under favorable conditions, is a reliable and profitable crop, and should not be considered simply as material for brewing. There is no better grain to feed to horses, and when sown with corn it makes a most excellent feed for cattle and growing swine. The two rowed varieties yield more than the six-rowed, but bring somewhat less in the market. The grain should be sown thickly, 21 bushels per acre. Barley will succeed in any good, well prepared soil, but it prefers a mellow, clay loam, in good tilth.

**Corn Planting.**

Corn planting comes later in the spring, as it requires a warm soil for the grain to germinate, and suffers from late frosts. The time of planting of course varies with the locality, and the soil can be prepared in readiness for the coming warm, settled weather. Soil turned under not too deeply is conducted as the best for corn, but excellent crops can be grown upon stubble, provided there is a good supply of manure given to take the place of the vegetable matter of the rotting grass, etc., of the turned sod.

**Cultivation of Beets.**

Beets, including mangels, need to be put in very early. There is much difference of opinion as to the advantage of soaking and sprouting the seeds before sowing them. If thus treated they should be carefully watched, and be sown as soon as soon as the minute germ or sprout appears on a few of them. Drying with fine gypsum (land plaster) will make the sowing easy. This treatment will insure quick germination, and the young plants will get the start of the weeds. As soon as the plants are up sufficiently for the rows to be seen, run a hand cultivator between them and within an inch or so of the plants. This will leave a strip next to the rows to be treated with hand cultivation. Use a horse hoe for most of the latter cultivation. The manufacture of beet sugar promises success, provided enough roots are grown in any one locality to make it profitable to erect the necessary buildings and machinery for extracting the sugar. This needs co-operation among the farmers themselves, and between them and the manufacturers; upon this the success of beet sugar making in our country depends.

**The Potato Crop.**

Farmers have so thoroughly learned how to manage the potato-beetle that it is not necessary to plant early with a view to escape its ravages. But it is well to make an early crop, especially if it can be saved, and there is a ready market. The earliest pays the best, and the one who is first gets the cream of the market. The Early Rose still holds its rank among the most desirable varieties.

**SOILING MILCH COWS.**

Soiling is a method of feeding cattle. Those confined in yards, pens or stables, with green fodder grown for the purpose and cut and carried to them. It is a practice suited best to lands that are of high value, and to small farms upon which pasturing cannot be made profitable. For instance, a farmer that has 50 acres of fair land would do well to keep 10 cows upon it under ordinary circumstances, but if by soiling his animals he can support a cow on the land at a profit, it is very obvious; and this result has been reached by farmers who understand the system and know how to apply it economically. The method may be described as follows: To begin, a green crop should be prepared for use early in the summer, but a beginning may be made at any time. The system can, however, be better understood by going through the whole detail, supposing everything is in working order. The first crop prepared is winter rye or wheat, or both, sown early in the fall and late, so as to give a succession of fodder long enough. A piece of clover and grass is also kept in readiness, and a field of orchard grass is useful. The rye or wheat is ready for cutting in April and May, and is cut and fed as it is required. One square rod will supply a cow for one day if the crop is good, as it ought to be. Near the end of May orchard grass and clover will be ready for cutting, and timothy and clover in June. Oats are to be sown on fall plowed ground as early as possible in the spring, one acre or more at a time in strips so that the fodder will be fresh and tender. Oats and peas sow together yield twice as much as oats alone; barley and vetches also make a good crop as a change from oats. This lasts until early Canada corn, or early sweet corn becomes ready. This is ready as soon as it is in tassel, and lasts until the ears are hardening. If there is a market the ears can be sold for grain corn; if not, they make rich fodder. Corn is sown in succession so as to keep coming in in the best condition.

When the first rye is cut it will make a second growth and may be pastured if desired, but it is better to plow the land at once and plant corn or mangels, or oats and peas on it. The oat ground is usually sown and planted as soon as the snow is cleared, and in this way the land is never idle but is always producing Hungarian grass or millet is sown in July on the late oats or the earliest corn ground, and these crops carry the cows through until the frosts make it necessary to cut the corn and millet.

Rye may be sown in August for late pasture if needed or for early cutting in the spring, and later. When a new crop is ready, what is left of the former one is cut and cared for winter feeding, which is in good condition and before it gets ripe and hard. An acre or two of mangels or sugar beets should be planted in May or early in June for winter feeding with the surplus fodder or hay not used in the summer. The corn is planted in drills from 18 inches apart for the small kinds, and three feet for the larger kinds, and the hills are made from six to twelve inches apart. Some bran and cornmeal should be fed, as these make the marnure rich and pay for themselves in the increased growth of the corn crop.

The fodder is fed in racks in the yard or feed troughs in the stables, and all the manure is saved by using abundance of litter, such as dried swamp muck, leaves, hard wood sawdust or even earth drawn in from the fields and scattered around liberally. An enormous quantity of the richest manure may be made by feeding liberally of such feeds as malt sprouts, bran, middlings, palm meal, cotton seed meal, and the extra milk and butter paid for the feeders. A cheap stable for ten people is used for soiling may be made by setting posts in the ground fourteen feet apart one way and seven feet apart the other way and boarding up and dividing into stalls; two cows can be kept in each stall, fastening each to one side of the stall. The stalls are 9x7 feet and a feed passage runs in front from which the fodder can be given. The fodder is best cut 12 or 24 hours before feeding, and it can be put into the feed passage through windows from the wagon so as to be readily distributed to the cows. Each cow will eat 50 pounds of this sown-up hay and 30 pounds of meal, or 80 pounds without, but the meal, if it has to be bought, is always advisable. The feeding should be in the morning right after milking, at noon, and after milking at night. Abundant water also should be provided, as much as if the cows had dry food.

The manure should be wheeled out twice a day and a deep gutter made to carry off the liquid into a hollow where it is absorbed by proper material of some kind. As soon as a piece of land is ready, the manure is spread, but as it may be, and plowed in, so that but little of it accumulates and none of it is wasted. The cows may be kept very clean if well littered, or the stable is well drained and cleaned twice daily, and a brush and card should be used before milking. It is but little trouble and it pays both in the health of the cows and cleanliness of the milk.

**FOODER CORN.**

With your permission I will give your readers my experience in raising fodder corn. There are but few articles that a farmer can raise at a better profit than fodder corn, yet how many farmers now over fields year after year
year that will not cut more than half a ton to a ton of hay to the acre. The last three or four years I have raised considerable quantities of fodder corn in this way, with but little labor, and a saving of labor is a saving of money. Four years ago I bought a piece of moving-land that had been to grass for twenty years, without any manure, except one or two years during the time horses were pastured on it. Each year I have plowed-up from an acre to an acre and a half and spread on it a fair coating of mostly green manure, say fifteen to twenty-two horse loads to the acre, or less, and harrowed it well; then sowed broadcast about two bushels of Southern white corn to the acre. The corn cost at different seasons from sixty-five cents to one dollar per bushel. This kind of corn, I think, is much preferable to sweet corn, because the stalks grows much longer, therefore, giving a larger quantity of fodder, and the seed costs much less than sweet corn.

I break up the land and sow the corn any time between the first of May and the second week in June, the last two years from the 19th to the 30th—can all be done after the other planting is over; but sometimes the drought begins the last of June. This is all the labor I give the corn, except putting up twine or something to keep the crows off until harvesting time. When it has got its growth nearly I cut it before there are any signs of ripening, taking a strip say six to eight feet wide, with a corn corn cutter, and place it in bundles as large as can be bound with convenience and let it lie a few days in the sun to wilt, but not long enough to become mouldy and slimy on the under side. Had rather bind it up green, which I do at times; then I put it up in stocks of six to eight bundles, and let it dry as much as it will; then put two or three stocks together in a dry day and bind around the whole with a large twine or strong cord, a little above the middle (twine for an acre will not cost more than fifty cents) and let it stand in the field, and draw in a lead or two at a time as I want to feed it. It comes out as bright and green as if it had been well housed, except a few leaves on the outside. My cows eat it up clean as if it were good hay, and it makes much milk. I am confident I got equal to four or five tons of good made hay to the acre.

I believe it almost impossible to have it dried by the weather so as to pack it in a row and not have it hurt. Mine stands until winter, if I do not wish to feed it before. Small farmers can raise an acre or two without being at the expense of silage. The next year I plow the same land and manure it the same, harrowing in the manure, and sow about three bushels of oats to the acre, and obtained two tons of oats to the acre, and obtained two tons of moist ox fodder for winter food. Sometimes I manure in this way and plant corn the usual way, if I have plenty of time to cultivate, which is preferable to oats.

I can make the most winter fodder with less expense in this way than with any other I know of.—C. P. Barney, in Germantown Telegraph.

**Ensilage.**

A Pennsylvania Farmer's Conclusions.

In the Western States where land is worth from $20 to $30 per acre, and corn can be raised profitably at 20 cents per bushel, I think the present plan of allowing the corn to mature, and feeding the ears to hogs and the stalks and leaves to cattle, will pay better than any plan with which I am acquainted. But in Eastern Pennsylvania, where good land brings $100 to $200 per acre, according to distance from great markets, and where the siloing system is practiced in order to keep one cow to each acre of arable land, and where good butter brings from 40 to 50 cents per pound in winter, and 25 to 30 cents in summer, it seems to me that ensilage is the most economical cow food. I have the "ensilage fever" this spring; last spring I had an attack of the root fever, but I am cured of that. I planted an acre with sugar beets, but only about a pound of seed corn at 50 cents per pound, and I feel at the rate of ten tons of beets to the acre. I fed the two tons I raised in five days, giving thirty pounds to a feed, and decreased the regular ration of cut corn fodder from two heaped baskets to one per day, and fed as usual eight quarts of bran and two quarts of cottonseed per day. My cows did not increase any in their flow of milk by the change of food, and I am convinced that I can raise one bushel of sawed corn cheaper and on less land than I can sixty pounds of beets. I am also convinced that it would be better to keep the corn in a green state than to store it. I suppose I had two tons of ensilage kept green in a silo this winter by Enos Barnard, one of my neighbors. He is now feeding it to 70 of his 150 milch cows, and the man who feeds and tends to the cows says they like ensilage better than any other food, and are thriving well upon it. Mr. Barnard informed his butter buyer when he commenced the feeding of ensilage, and requested him to test thoroughly the quality of the butter, and inform him if the butter was not up to the standard; but he has received no word, and still gets 43 cents per pound wholesale. When a man like Mr. J. C. Holman pays $15 and more for two sheep pups, and $20 to $100 for calves and yearlings, and who sends away whole carloads of high priced cattle, talks about the expense of a silo, it strikes me as bordering on the ridiculous.

I propose to build a silo this summer 40 feet long, 20 feet wide and 14 feet deep; the walls will contain about 100 perches, and a mason will build it for 50 cents a perch. My hired man will dig the pit with a little assistance, and I have the stone and most of the timber that will be required. I think $100 will build a silo for me to hold 200 tons of corn fodder, which I expect to raise on 7 acres of corn land. I have not charged 50 cents a load for the stone, or $30 a month for my hired man and $2 a day for my team; but I have the team and man, and not work enough to keep them and myself busy unless I grow roots. I would like to know where there is a farmer who would not lose $1,000 a year if he charged such exorbitant rates for his labor and the use of his team, as some of the writers calculate when trying to run up the cost of a silo.

I think by buying from $300 to $400 worth of grain a year and adopting the system of ensilage, I can cut down the cost of pork, and raise more wheat and corn on 70 acres, than I now do by keeping 20 cows and farming in the old way. I will set apart 7 acres of my best land, and give it a good cost of manure every year and one ton of superphosphate. About the first of June I will drill my corn at the rate of 15 bushel per acre, and in September will ensilage the corn. After taking off the corn, I will drill in rye, and by manuring every year, will increase the fertility of the ground. I will make them 5 to 15 acre fields, and follow corn by two crops of wheat and the wheat by clover. By keeping more than double the amount of stock, I will have plenty of manure for the last crop of wheat, a clover sod for corn, and will drill phosphate for the wheat which follows corn in the fall. In this way I will have 30 acres of wheat and 15 acres of corn. The only loss will be in the timothy hay now raised on eight acres, and a little pasturage.—**Walter Darlingdown in Country Gentleman.**

**Castor Pomace as a Fertilizer for Tobacco.**

As there has been of late considerable inquiry concerning the use of castor pomace as a fertilizer for the tobacco crop, I will give you the details of our experience in the castor pomace here in the Connecticut Valley. Twelve or fifteen years ago, some of our tobacco growers were casting about for fertilizers out of the usual course, having become disgusted with the use of some of the superphosphates with which our valley was so persistently flooded. Some experimented with shorts, others with corn meal and cotton-seed meal, and still others with castor pomace.

At that time the most desirable color for the leaf was a light cinnamon, something that would grow a wrapper largely of Claro or Claro Colorado. As these colors were the most fashionable among consumers, so of the wholesale dealers were obliged to seek light colored leaf. Hence, light sandy soils were in request for tobacco lands, and any fertilizer that had a tendency to give a dark colored leaf was ignored. The only exception to the latter rule was the use of Peruvian guano, and this was used with care. As fertilizers, corn meal, cotton-seed meal and castor pomace were generally discarded.

At the present time the trade demands a darker leaf than that in former fashion. Cigars of a shade as light as Colorado are sometimes painted or colored, either by the manufacturer or by the resweater, through the use of some mixture in dampening the leaf for the resweatering process, that shall give a fine, dark-colored cigar. To enable the leaf to bear the second sweat successfully it must possess more body than is possessed by such leaf as is usually grown in light soils. Consequently on account of this present demand for a darker and more fashionable leaf, and also of a heavier body, our farmers are once more resorting to the use of castor pomace and cotton seed meal as cheap and desirable fertilizers in the growth of tobacco. They are also cultivating the leaf on heavier, darker soils than formerly.
Superphosphate is very quick in its effects, and it has always been remarked that a spoonful of it in the hill will ripen the tobacco plant a week or more sooner than when well-rotted manure was alone used. It has also been the experience of our growers that superphosphate gives a fine, thick leaf. Thus of all the fertilizers it is comparatively used by many, since if the plant remains of a dark green, exhibiting a healthy growing appearance, for a longer time, the leaf will be heavier and of a darker color. This is effected, as is claimed, by the use of castor pomace and cotton-seed meal. Perhaps this theory needs longer testing before it becomes a fixed principle, yet this is the common view of growers.

Tobacco growers, like all other producers, should seek to produce that article for which there is an active and positive demand from buyers. Now it is well known that among tobacco buyers who are well posted in their business, there is a demand for tobacco grown in connection with the use of castor pomade and cotton-seed meal as fertilizers, in preference to such lots as are fertilized with other matters. Our Connecticut Valley farmers use about half a ton of either the above-mentioned pomace or meal to the acre, in connection with the usual quantity of farmyard manure, sowing it by culture.

In this connection, it may be remarked that growers do not crowd their rows or hills as closely as formerly, preferring to give each plant more space in which to expand and develop, experience having shown that this practice gives a better leaf than can be secured when overcrowding the plant prevails. The castor pomace is generally harrowed in by the use of a pulverizing or wheel-harrow.—*Hill Top, in American Cultivator.*

**TO MAKE AND MAINTAIN A LAWN.**

The preparation of the soil must be made thorough, as it is the very basis of success. If there be a good natural clay subsoil, with a covering of loam, this part of the work will prove comparatively easy; but if, as is often the case in newly improved grounds, there is only the cemented clay to begin with, or if the subsoil be a heavy gravelly, the preliminary preparation is not light.

Suppose the plat to be a bald piece of clay, from which, in the grading, every vestige of the superficial soil has been removed. If beds of rich loam are at hand and available, the loam may be carted upon the plat to a depth of from eight to ten inches, and leveled by thorough harrowing and rolling. If good soils are convenient, small lawns may be made by sodding, in which case a dept of three or four inches of loam upon the clay, underlining the soil, will be sufficient. If suitable heavy and not attainable an artificial soil may be made.

The clay should be ploved when moist, or spaded into clods and allowed to lake in the sun till the clumps can be pulverized. A heavy wooden mallet or beetle is a good tool for breaking the clumps. Upon the surface of the broken clay a layer of from three to four inches of screened coal ashes should be spread and thoroughly mixed in. The pulverizing and mixed should proceed together, for if rain should chance to fall on the clay after it is beaten fine it will again form a coherent mass. The mixture of clay and coal ashes will not compact like the raw clay. The ground so prepared should next receive a layer of two or more inches of street dirt, which is better if it has lain in a heap for a year or so. The manure, whether it be from the stable or from the streets, should be thoroughly heated by firing the ash and clay, and then the stratified surface, by forking if the plat is small, or by harrowing and cross-harrowing if large, and after sealing or sodding the surface should be well rolled.

Gravely sandy soils are the worst for lawn purposes. It will be cheaper in the end to cart clay upon the gravel to make an impervious stratum, when clay can be cheaply obtained, superimposing a suitable soil upon the clay. No matter how thorough the preparation may be, a good deal of attention is required every year to keep lawns in perfect condition.

When weeds have made their appearance, as they are sure to do when animal manure has been used or when natural sods have been laid, they must be carefully removed; and to avoid their appearance, the subsequent fertilizing should be by artificial fertilizers. We find in the Boston Journal of Chemistry a recipe for a lawn fertilizing mixture which commend itself to our judgment as being among the best.

**Nitrate of soda**... 80 lb.

**Superphosphate of lime**... 100 lb.

**Rectified gypsum**... 200 lb.

**Gypsum**... 120 lb.

500 lb.

This amount is sufficient for one acre, and should be applied once a year, or twice a year, for poor soils. The best time is early in the spring, after the snows have melted. It must be distributed evenly and with care. Those who have small plats of ground devoted to a lawn can readily estimate the amount of fertilizing needed if they will measure the plats. The mixture of the materials should be as perfect as possible.

A mixture of 125 lb. nitrate of soda with 150 lb. superphosphate of soda, also makes a good dressing for an acre of land.

The substitutions named should be of prime quality to render the quantities named sufficient. The superphosphate of lime is very often adulterated. The nitrate of soda should not be less than 90 per cent pure.

These fertilizers will also renovate lawns when they have partly run out, and are considered by some as better than manuring with stable manure, turning it under and seeding again, a course which is enriching, but apt to disfigure the lawn with unsightly weeds. A top-dressing with stable manure will also renovate a lawn, but it also rotes the weeds, and is offensive to sight and smell. (Bone meal is a capital thing for a lawn. It is odorless, clean, and gives a rich green color to the grass.)

Lawns should be mowed as often as once a week, leaving the short cut grass on the plat. The wilted cuttings protect the roots from the sun, nourish them, and help the soil to retain moisture.

A lawn which has a good clay subsoil will stand very dry weather, but there are occasional seasons when it is absolutely necessary to water artificially in order to prevent the appearance of unsightly yellow spots. On small lawns this may be easily done by a garden hose; large lawns may be watered by an ordinary street sprinkling machine having wheels with very broad tires to prevent cutting the turf. (Just before nightfall is the proper time for watering. During the night the water will soak down to the roots instead of running to the surface, as it would in the hot sun.) *Scientific American.*

**ORIGIN OF FULTZ WHEAT**

The place where Fultz wheat originated is in Mifflin county, Pa. It takes its name from the discoverer, Abram Fultz, of Allenville. How it was discovered is related by Mr. Fultz himself, in the following letter written more than a year ago in reply to some inquiries on the subject.

**ALLENVILLE, Aug. 6, 1879.**

Mr. John Swartzell—Dear Sir: I received your letter yesterday. In regard to that wheat, it is now nineteen years since I first noticed it growing on the farm of Christian Yoder's wheat fields, where I was harvesting. In a low place where the wheat was lodged, I saw three stalks standing upright, and because they stood up straight in the season why I noticed them. With my pocket knife I cut off the tops of those three stalks and stuck them in my hat. When Mr. Yoder came and showed them to him again I asked whether I might have them; he said I should take them. I told him that I intended to raise a new kind of wheat from these heads on a spot of ground where I learned a brush heap. The next year this yielded nearly a pint of clean wheat. This time I attempted to drill it up, but the drill did not sow it thick enough, and by the next harvest I saw that this was mixed with other wheat and I was obliged to assort it. I assor ted only a part of it, and kept that by itself. That seed I had enough to have it drilled in. The next season I had enough to have some of this wheat ground into flour; that was before any person got it for seed. I offered Mr. Yoder three bushels in exchange for other wheat, but he refused the offer. After other persons got it and tried it, then Mr. Yoder exchanged these stalks with me. The foregoing statement is as nearly correct as I can give it from memory.

Very respectfully,

**ABRAM FULTZ.**

**TOBACCO CULTURE.**

**How to Grow the Coming Crop.**

The soil well mulched, the next care of the tobacco grower will be the proper preparation of the ground on which the crop is to be raised. Here quite as much judgment and care must be exercised as in the preparation of the seed bed. Thorough preparation of the soil will tell on the future crop just as certainly as carelessness will result in failure. It is important, therefore, to start right and keep right to the end of the season.

**Rich Soil Required.**

We presume no one needs to be told that the tobacco plant is very exacting in the matter of soils, and will be contented with none but the best. He who cannot supply this want might as well not undertake the cultivation of the crop. Under proper treatment and favorable conditions tobacco will do well on many soils, but the best seedleaf is with very few exceptions grown on limestone land. There seems to be something especially conducive in this geological formation to the production of choice cigar tobacco. A warm, rable soil, such as is commonly known
among farmers as a sandy loam, resting upon a limestone formation, is much the best to
bacco land. Fine alluvial soils, such as are found along river bottoms, excel all others.
In many of the northern counties of this State there are fine tobacco lands along the Susquehanna and its tributaries while those a few miles distant are comparatively worthless. Perhaps the best tobacco land in the world is furnished by the islands in the Susquehanna.

New Ground the Best.
It is equally well known that new ground, a virgin soil that has never been made ac-
quainted with the plow and the harrow, is far better than land which has long been un-
der cultivation. It is on such ground that the best results in tobacco culture have been attained.
In the Southern tobacco growing States, where lands are plenty and cheap, and where forests still cover much of the country, new lands are commonly used. In fact, their system of culture necessitates such a course.
With us in the hills and valleys, this course is practicable only in exceptional cases. Our forests are nearly all gone, and new lands seldom attainable. During recent years, however, the limited woods still left have been heavily drawn upon to supply tobacco ground. It seems a pity that our forests should be felled solely for this purpose.

The Best Localities.
Tobacco ground should be chosen as well for its localities as for its richness and pro-
ductiveness. It should have a southern exposure, if possible. It ought to be slightly rolling, rather than flat, on account of the better drainage, which is of no little impor-
tance. Lands sloping gently upwards from the water courses are preferable to uplands, although these are frequently damaged by heavy rains and floods. Dry, well-drained soil is of much value and importance in this matter. In many places this brown or choco-
late-colored soil of this county rests upon a shiered instead of compact limestone forma-
tion, affording a most excellent natural drain-
age downward, which relieves the ground of its surplus moisture. This is another of the many natural advantages which the farmers of this county have for the production of this crop. Although tobacco requires a liberal share of rain, an excess of moisture is fatal to a good crop and to fine leaf. This is why a loamy, friable soil is best suited to the culture of the tobacco plant. This also makes slate, sandstone and free-stone formations approp-
riate for tobacco-growing. The color of the soil has also much to do in influencing the crop. Just as the dark-colored soils of this county are largely to be credited with the rich, chestnut-colored leaf of which we boast, a light-colored ground will be likely to impart to the tobacco: but its color to the tobacco crop grown on it. In the northeastern portion of Lancaster county there are red sandstone districts in which the earth and rocks are fairly red, but buyers assure us that when these lands are heavily manured the tobacco grown on them is of excellent quality and hardly distinguishable from that grown on more favored soils.

A Change of Ground Desirable.
Most farmers are accustomed to change their tobacco ground from year to year, although some plant on the same ground two or more years successively. There is no good reason why the same ground should not pro-
cede good crops continuously, if well fed and cared for. Two years ago we saw a crop taken off an alluvial field on the Conestoga, which was the ninth in regular succession. The grower told us it was equal to the first one, and although he had to try hard to beat it. But while these repeated cropings are possible, we do not think they should be encouraged. They are likely to work harm to the rest of the farm, and in this way: If tobacco is grown on the same ground for a series of years, an un-
der share of the contents of the barnyard are carried to one spot instead of being distribu-
ted in the course over the entire farm. When the manure is carried upon the same spot in excessive quantities year after year the re-
main ing acres are bound to suffer and the gen-
eral condition of the farm will in all proba-
ility run down. There can be no doubt that except in special cases one manure every year or two for the tobacco field is advantageous. In this way all the fields in turn get their heavy coating of manure and the average fertility of the farm is kept up. The tobacco grower should ever bear in mind that a time may come when tobacco growing may be no longer desirable or profitable, and when he will have to fall
back on his usual farm crops. If he discover-
s that this special crop has, through the un-
due prominence given it, lowered the general productive capacity of his acres, it would have been well for him perhaps, if he had never grown a single tobacco plant.

Fall and Spring Plowing.
It is hardly worth while at the present time to more than simply allude to the fall plowing of tobacco ground; but we cannot allow the opportunity to pass to advocate its more general practice. Spring plowing only is the usual and exclusive rule among our farmers, but we believe it is contrary to their ad-
vantage in many respects to give the ground an initial plowing in the fall. We say initial plowing because more than one plowing is almost indispensable to a good crop, and is largely practiced by tobacco growers in Lan-
caster county. As a rule tobacco is put on the previous years corn ground. A few old growers, however, turn down soil, and do it in the fall. Their testimony is conclusive upon a very important point: they are agreed that the cut worms are far less numerous in the following spring and consequently less destructive to the crop. This is an important consideration and deserving of attention.
Of course, the land should be turned before the grass has withered and died. Unless this is done little or no advantage is derived from the grass crop turned under. The heavier the vegetable growth on the ground the more satisfactorily the result the following year. Then, too, to let the turned up furrows lie in ridges during the winter, exposed to the vari-
ous weather changes, has a most happy effect upon the soil. No good results could come from furrows turned in the spring for to-

The Lancaster Farmer. (May)
bacco. There would be no time for the ve-
etable mass to decompose and become avail-
able as plant food for the tobacco plant. No doubt corn stubbles would be all the better for like treatment in the fall, although in the latter case it would be best to plow under the manure, so that in the following spring it would be brought to the surface again better prepared for the decomposition to feed the tobacco plants.

Use of Fertilizers.
The general rule, however, as we have already stated, is to plow corn ground in the spring for the purpose of preparing the tobacco field. Two or three weeks before the plowing is to be done haul out your manure, and let us say right here, put on nothing but stable manure. The experience of the past quarter of a century in this county has unmistakably pointed out that no other fertilizers so far used give such excellent results. We do not think we err in saying that much of the reputa-
tion the tobacco of Lancaster county has so justly acquired, is due to the almost exclusive use of barnyard manure. We cannot impress this fact too earnestly on the minds of our tobacco growers. We do not say artificial fertilizers have not given good results. The tobacco grown by their use is, however, not in favor with packers or manufacturers. It burns with a darker and less compact ash, whereas with a good soil and well rotted barn-
yard manure a tough, light-colored ash is al-
most always the result. These are the char-
pes demanded by cigar manufacturers, and the grower must cater to their needs. If the buyer is aware that artificial fertilizers have been used, he will rate the crop lower than if barnyard manure had been put on the field.
Let no tobacco grower lose sight of this fact. Let him not be deceived by attractive analyses of this, that or the other artificial fertilizer. They may be just as represented; but if he wants to grow the best tobacco and com-
mend the top market price, he must stick to barnyard manure. That, and that alone, will enable him to produce the best article that can be grown.

Quantity of Manure.
It is unnecessary to go into minute details as to the proper quantity of manure to be drawn on an acre of tobacco ground. A good rule to go by, is to bear in mind that you can't well put on too much. Two years ago Col. Young, of Middletown, hauled it so thick that the men who spread it declared they could hardly fish place enough on which to put it; the ground was completely covered, but the crop proved the wisdom of the plan and amply repaid the outlay. Besides, it must be borne in mind, the manure is not in-
tended for the food of the tobacco crop alone. Wheat commonly follows tobacco, and it is a well known fact that the crop of this grain grown on tobacco land is commonly the best raised on the farm. Therefore, in manuring tobacco land you are at the same time pro-
viding for the succeeding crop as well. Al-
ways bear that in mind, and then haul out a few loads more. What the tobacco cannot make use of will most likely give you an in-
crease of five bushels per acre in your wheat crop.

Plowing the Land.
Tobacco ground must not be scratched over, but plowed and plowed deeply, espe-
cially at the first turning of the soil. The roots go down a considerable distance, and the ground must be prepared to that end.
The subsoil must not be turned up, however, as that would produce an injury rather than a benefit. Where a second plowing is intended, the earliest period the season will allow should be chosen to plow down the manure. The second plowing may be done a week or two before the time of planting comes around, not so much because the ground would be in better order as because unfavorable weather may intervene and the land not be ready when the plants are large enough to be set in the field. The prudent planter will so regulate these matters as not to be caught napping, but have his plans and means to avail himself of every favorable condition of weather that may present itself, and thus lose no time in giving his crop the most favorable start the circumstances will allow.

The Proper Condition of the Ground.
The old adage, "A good preparation is half cultivation," is nowhere more applicable than in the thorough preparation of the tobacco field. Let no labor be spared to put the soil in perfect condition. The more complete and thorough the tilth, the more likely is final success to attend the grower's efforts. The cultivator and the harrow should be put into the field until every clou and lump has disappeared, and it looks more like a carefully prepared garden bed than anything else. The more frequently the soil is given the way, the less likely are the worms to bother you, or the grass to annoy you. Let the latter get no foothold thus early, and the field will be all the better for it the entire season through. Nothing more offends the tobacco planter's eye than a tobacco field in which the few weeks' old plants are hidden from sight by a rank growth of grass and weeds. A few acres of tobacco ground are soon gone over with a harrow, and every time this is done another step in the direction of final success has been made. The season may be dry, and therefore unfavorable to putting the ground into the best condition; unusual and persistent efforts must, therefore, be made to do the best possible under the circumstances. If the grower has availed himself of the earliest opportunity the season afforded him of preparing his ground properly, he will attain the desired tilth and not be compelled to trust to luck and the elements when the last moment arrives. It pays to take time by the forelock in this matter as it does in many others.

Throwing up the Ridges.
The ground having been thoroughly gone over, and brought to its highest possible condition, it is ready for ridging. The favorite implement with our farmers for this work is the common plow. It is not well to plant on an even surface, as heavy rains may inundate the young crop, and do it irreparable injury. The ridge is made by throwing two furrows together from opposite sides. These should be about eight inches high and raked even at the top, all stones, clods and rubbish being carefully removed. After this is done the ridges should not be higher than six inches. In a wet season a greater elevation would do no harm, but it would hardly be beneficial, while in a dry one the plants would certainly suffer from drought. The ridges having been made, a man should go over the field with some stick of proper length, or a wooden compass of the requisite expansion, and mark out where the plants are to be set. Another person with a hoe should come after him and cut down the row slightly at the marked places and press the place lightly with the back of the hoe to provide a firm and level bed in which the plant may be set.

Distance Between the Rows and Plants.
Considerable difference of opinion exists as to the proper distance at which the rows should be apart, and also as to how closely the plants should be set in the row. The former varies from three to four feet, and the latter from twenty-two to thirty inches. These matters should be controlled by the quality of the soil and the kind of tobacco planted. Where the soil is thin, and a heavy growth cannot reasonably be expected, three feet between the rows may be enough. When "Havana seed" is planted, three feet will also be ample. When, however, the soil is naturally rich, and has been heavily manured besides, four feet is not too close. We have seen a crop of "Pennsylvania Scourlet" and of "Glesner" at maturity completely hide the ground when planted at this distance, showing that any nearer distance would have given inferior results. Extremes are, however, to be avoided in this matter as in all things else, and we incline to the opinion that the distance should vary with the kind, and, one with another, the most satisfactory results will be obtained by making the rows 3½ feet apart.

This is the general practice by the large majority of farmers. The distance between the plants in the row, as we have said, varies with the whim of growers from 22 to 30, and sometimes even more inches. Cuban tobacco, which grows tall, is short-leaved and not so spreading as our native varieties, would not be too close probably at 22 inches, but this is entirely too little for our varieties. For the latter, 28 to 30 inches has been found to yield the best results in average seasons, and is pretty generally adopted. These distances allow ample room for a sufficient development of leaf, which in due season shades the ground most effectually, not only keeping down the weeds, but preventing the rapid evaporation of moisture from the ground. The planter cannot go far amiss if he adopts the schedule of 3½ feet by 27 inches in setting out his plants.

INSANITY OF FARMERS' WIVES.
It has been currently stated that of insane women a large proportion are the wives of farmers than of any other class. The statistics [illegible] of insane women, and the cause of the sad condition of these sufferers is supposed to be their excessively hard work, enforced upon them necessarily in the duties of their position.

This is a very serious indictment of the domestic side of farm life, and "can it be true?" is the spontaneous and anxious question. If it be accepted as true, it casts a gloomy shade over all our farms. I am not able to show how the records of the institutions for the insane reckon the proportions. Do they show that there are more wives of farmers within their walls than those of other classes, or more in proportion to the whole number? If the latter, then it should appear that about half of the women in these hospitals are the wives of farmers, for it is known from the census that almost half—forty-eight per cent. —of the families in the United States are farmers' families. This estimate is entirely contrary to my knowledge and belief concerning the matter. From a wide and extended acquaintance with farmers' families all my life, and from my historical knowledge of them over several generations, I testify that there is, in my observation, no class of the country, heads of families, more exempt from insanity than the wives of farmers, and I have reason to believe that this is true in the rural population of the whole land. Out of all the insane women I have ever known, personally or otherwise, only a small proportion were wives of farmers, and I do not know of a single instance where the malady was induced by excessive work.

Two or three generations ago, domestic labor in the farm or household was not less or less than it is now. Then the dairy was more entirely in female hands than at present; and then there were the domestic manufactures, not at all known in rural households now. It does not appear that there was any tendency to unsoundness of mind in the industrious women of those days.

At the present day there is scarcely any more work for female hands in the farmer's house than in the houses of other well-to-do rural families. It is not the farm that makes so much work; it is generally house-keeping, house-cleaning, carpet-making, dress-making, company, perhaps boarders. The industrious farmer's wife will find work to do, or make it; if they are relieved in one department of labor, they make themselves busy in another; the sewing-machine becomes as wearying as the churn was—and that instrument is not confined to the farm.

It is not the hard work in a comfortable country home that damages the mental constitution so much as the toil of those who are shut up in the narrow and unwholesome shops of a town. It is not, indeed, work that makes people insane; it is excessive desire for wealth, strife for social position, vitiated imagination, excessive ambition to excel. Too much society, late hours, exciting literature, and having nothing to do. To these hurtful influences the wife of the farmer is not greatly exposed. She enjoys the wholesome influences of surrounding nature. She is out of the giddy whirl of fashionable society. She escapes the terrible anxieties of a hazardous business, and gains health in the hopefulness of moderate gain. She has good hours for sleep and time for books, with her family about her. These are some of the reasons why the wives of farmers are less disposed than others to become insane, and it is a happy thing if a right understanding of this may remove an unnecessary shade from our farm life.—N. Reed in *Country Gentleman*.

Lice may be destroyed by dipping the plants in hot water, so hot that the hand can just bear it, and then hang them in and take them out again instantly, and repeat it two or three times. It will not hurt the plants.
THE LANCASTER FARMER.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular stated meeting of the County Agricultural and Horticultural Society was held in their rooms over the City Hall on Monday afternoon, May 21.

In the absence of the President, Vice President H. M. Engle called the meeting to order.

Members Present.

The following members were present: H. M. Engle, Marietta; D. M. Kendig, Creweville; A. F. Hostetter, city; Johnson Miller, Warwick; Hon. John S. Landa, Manor; W. H. Brosius, Drumore; Henry E. Mooney, Joy; Frank Greist, city; C. A. Gast, city; Dr. C. A. Greene, city; F. R. Difffen- diller, city; Levi S. Reist, Manheim; M. L. Grieder, Mount Joy; Washington L. Hershey, Chickles; J. M. Johnstone, city; J. H. Hershey, Rohrerstown; C. L. Hunsecker, Manheim; A. D. Hostetter, Millers- ville; James Wool, Little Britain.

The reading of the minutes of last meeting was, on motion, dispensed with.

Reports of Committees.

Dr. C. A. Greene read a little report in which he recounted his attempts to get up a city meeting in favor of holding a county fair and the success he met with. He plans to hold a meeting in order to attain the end in view, which is to secure guarantee subscriptions. He complained that the other members of the committee had given him no aid, and he declined going it alone any longer.

Henry Kurtz thought this an important matter, but as one man could not do all that was required, he thought we ought to interest others. He believed the people of the county would cooperate.

Johnson Miller was timid in this matter; he was afraid we could hardly make a fair a paying success. He would not go into the project unless the subscriptions were secured in advance to make it a success. He thought that as the fruit would be a partial failure, it might prove a drawback to the success of a fair. He admitted we have all the necessary elements, but how to bring them out was the question.

W. H. Brosius said our fairs have never been what they should or could have been; but until there is a guarantee fund to secure the society against loss, he would not vote to make a fresh attempt next fall.

On motion, the committee was continued, to report at next meeting.

Crop Reports.

Johnson Miller said the wheat fields were thinly set and backward. The grass fields look poor, and a short hay crop may be expected. Potatoes and corn are partly planted. The peach crop will be a failure.

Henry Kurtz said the wheat is backward, and so is the grass.

Mr. Wood thought one-half the wheat crop looks well, but the other half won't make half a crop. Some corn is planted.

Mr. Hartley reported the farmers busy with their tobacco fields: much manure is brought from abroad; 1,000 tons have arrived at his nearest railroad station. There is a great demand for homemade manures. He has experimented with seed corn and finds that forty-five of that selected in the fall and thirty of that taken from the crib with sprout. The tobacco plants are coming along well. No beetles so far. No peach blossoms are visible; cherry blossoms are plenty. Tobacco is moving off, although the prices are down a little.

Henry Kurtz thought no farmer should plant corn that does not sprout 90 per cent. If corn is well selected in the fall, not more than 5 per cent. ought to be lost. It is reasonable to suppose that the cold weather having set in so early, and having been so intense and prolonged, may have had some influence on the viability of the corn.

W. L. Hershey reported some good and some bad wheat fields in Raphe. The clover is poor, but the timothy is better. The tobacco beetles are already about.

W. H. Brosius reported the crop in Drumore about the same as elsewhere throughout the county.

H. M. Engle thought there would be an average crop of wheat. He believed the farmers would get a better hay crop than they expect. There is a profuse cherry bloom. There is bloom on the peach trees in some places, but a majority of trees have none.

How we are Poisoned.

Dr. Greene read a supplement to his former article on this subject, in which he amplified somewhat upon the statements there made.

C. L. Hunsecker said the terrible afflictions which the essayist predicted have not yet been realized. Instead of the lives of men becoming shorter in consequence of the use of tobacco, the years and generations of men have actually been prolonged. More lives longer to day than they ever did. Men use many substances that are regarded as poisonous, but somehow they manage to get as old now as they did a hundred years ago.

C. L. Hunsecker read the following essay:

Is Land Improved by Lying Many Years in Grass?

This depends very much upon the geography, soil, climate and the method of managing land in a country. The surface of the earth contains 500,000,000 square miles and, of this quantity, a small proportion is occupied and under actual cultivation. This being the case, it follows that the proportion of the surface of the globe that has never been stirred by the plow is vastly greater than that which has passed through the cultivation of man.

The great pasture ground of our western country, is an illustration of the fact that land is at least not exhausted, worn out and valueless by lying in grass for many successive years, but the natural soil of much of the prairies is so deep and rich and the great expanse of the tall grass lands as boundaries, that, without being stirred and sown by the husbandman it furnishes its rich pastures year after year to innumerable herds of animals. This is also true of the blue grass region of Kentucky and other portions of the north where grass grows spontaneously. Here in America was surely the land was lying a long time in pasture; when plowed and planted in corn and other grain it produced for several consecutive years bountiful crops without the application of any manure. But as a large proportion of the land occupied for our culture is not in the best condition for which so much of which is poor by nature and utterly exhausted by severe cropping, may, although it should lie fallow for a number of years in succession, produce much grass and still be very poor. But when again brought under cultivation for many years by man and under cultivation for a number of years, which is poor by nature and utterly exhausted by severe cropping, may, although it should lie fallow for a number of years in succession, produce much grass and still be very poor. But when again brought under cultivation for many years by man and under cultivation for a number of years, which is poor by nature and utterly exhausted by severe cropping, may, although it should lie fallow for a number of years in succession, produce much grass and still be very poor.

W. H. Brosius stated his property was on the highlands of Manor; it was 18 acres of meadow land, is still rich in the resources to produce magnificent crops of grass and grain.

In France the farms are small, often a few acres. Fifty acres in a field is a large farm, in contrast with the farms of England and America. From necessity, one would suppose, that the French acres should be thoroughly rotated, yet it is a fact that it is still the custom to let land lie fallow to a much larger extent than in England. Yet the land holds out remarkably well.

In Holland, in Europe, is a low, flat country, reeding from the sea, and its meadows are covered with the forest verdure upon which are browsing numerous herds of cattle. From the nature of the country it naturally enough lies much in grass, and without failing to produce luxurious abundance of herbage for years without cultivation. On the whole it is questionable whether the land is more improved by lying many years in grass. In some sections of the earth it may be best, in other sections not.

Dr. Greene read another essay on horse clipping. He has been read剪牧羊by a good farmer referred to him.

"Why Do Farmers Keep Dogs?" had been so ably discussed by a late paper that he hardly thought it necessary to say anything further. Said paper answered the above question in this way: "Because it is good for them." -- Levi S. Reist.

What to Substitute for a Falling Hay Crop may not definitely be answered, but that a deficiency in the coming hay crop is almost sure to take place is very certain. Very few new grassfields look promising. The best thing that could have been done is to have put out less tobacco and given their now deficient grassfields a thin coat of manure and plowed them down for corn and kept their good old fields another year in grass. That would have been the best and proper remedy, but it is now too late, as the corn ground is prepared, but the next crop can be somewhat entertained with leguminous grass or now corn for provender.

The cause of the grass failures is in a great measure attributable to our farmers themselves. We read in Holy Writ that in ancient times they had tar-"rars of rest in certain tinds, and among them in their land under cultivation, but such an idea is all lost on young America. I recollect that grass fields were generally given from two to five years rest, when they were often overgrown with meadow and blue grass, and then it was past, and the hay was so good that horses were kept in a good condition on hay alone. The same
THE LANCASTER FARMER.

Young Chicks.

Mr. Brockhart said he had 40 ducks—Plymouth Rocks, Polands, and Hamburges. He has lost only 4 chicks during the past four weeks. He has 40 laying hens, which averaged 20 eggs daily during March, and 27 during April. The cagers have developed but slightly thus far and are very different from this season. He feeds the Plymouth Rocks to lay about as well as the other two varieties.

M. L. Grider said his early sittings did not hatch so well. He has about seventy chicks, and has lost only two or three. He has no diseases among his fowl.

George A. Geyer has twenty chicks that are doing very well, as are the old ones also. His birds are very healthy, and no disease has so far been developed.

J. B. Lichty remarked that his pullets all wished to be fed as though they were of old birds. This is because as rule pullets begin laying earlier than the old birds.

J. W. Bruckhart, in response to a question, said that it was doubtful whether eggs would hatch if the content rattle. He thought this was caused by the air chamber in the shell becoming destroyed and giving the contents more room than they originally had.

F. R. Differenler said his young chickens were all afflicted with that dread disease, the gapes. By the timely use of a horse-hair probe he has been able to save many of his pullets. This remedy must, however, be applied as soon as the symptoms are fully developed. At that time the young bird is still strong and able to bear the severe ordeal. If left, however, they cease to eat, become weak and then when an operation is performed upon them they are likely to die in the operator's hands. The remedy is an infallible one if practiced in time. The worms are not detached only, but removed, which is certainly better than to leave that to be done by a bird enchanted by disease. The failure which some record here and elsewhere is probably due to the fact that the operator has not gone far enough. The parasites are at some distance from the orifice of the windpipe. Dr. Dickey has written a very excellent article on this subject, in which he takes the ground that once this disease becomes fully developed in a poultry run there are only two practical ways to eradicate it; either the run of the birds must be changed or else their runs must be plowed or dug up deep. There can be no doubt of that, of itself, it will not disappear, but makes its appearance every spring with renewed vigor.

J. W. Ralston said it was the best time to hatch out chicks to produce the best results.

The general opinion was that the earlier the birds were hatched the better it would be. They would lay the earlier. Early-hatched Leghorns have been commenced for sale to the extent of fifty, and Pigeon, Rock fowls, and five and a half months.

Mr. Bruckhart said that very early birds began to lay earlier with him, but they stopped when cold weather came on. Those hatched later kept on laying during the cold weather.

THE LINNEAN SOCIETY.

The society met on Saturday afternoon, April 30th, in the ante-room of the Museum, Vice-President J. H. Dubbs in the chair, and Dr. M. L. Davis, Secretary. Reading of the proceedings of last meeting dispensed with, inasmuch as they had been published, and were accessible to all. After the formal organization, the following donations and additions were made to the Museum and Library.

Museum.

A large specimen of Silicous fossilized wood, was donated by Mr. J. William Rooting, of Elizabeth-town, Lancaster county, Pa. This fossil seems to abound in that part of Lancaster county, and forty miles to the south and west. The Lancaster and Middletown railroad was excavated, large quantities, embedded in sandstone, were thrown out, and appropriated by collectors of minerals and fossils. This specimen was found exposed by the washings of a ravine in the vicinity of the town, although at a different locality.

A bottle containing several alcoholized specimens Nalaluma erythronea et S. glutinosa, collected and donated by master James Munson of the Lancaster High School. Cold as the past winter has been, and late the spring, numbers of these replies were expected to grow in a very abundant and prolific number of their branches. They are perfectly harmless, and yet, many people foster the deepest prejudice against them, on account of their reptilian affiliations.

Library.


Historical Relics.

Mr. Rooting also donated a quaint looking knife and fork which have been in his possession for twenty years. The knife is fifteen inches in length when opened, and it closes like an ordinary pocket knife. It is supposed to have been a German pruning knife of a past century, although Mr. R., does not profess to know where or by whom it was made. The fork is a common kind found in tridents, about six inches in length, differing in its proportions from the modern fork. In demolishing a very old building in Elisabeth-town, it was found in the attic between the roof and rafters. It evidently is a rural relic of a past period; and of a fashion that never will return. Five envelopes containing sixs-fives biographical and historical scraps.

Papers Read.

Mrs. P. E. Gibbons read a paper on miscellaneous subjects entitled, "Linnean Notes." Prof. Dube read and elaborated paper on "Book-worms," with several sharp edges cut which more ways than one. Miss S. S. Le Fever was present and became an active member under the rule unanimously adopted at the last stated meeting of this society.

Committees appointed at the last meeting reported progress and were continued. A vote of thanks was passed to the donors for their generous contributions.

After some "Scientific Notebook" the society adjourned to the last Saturday in May, (29th.)

AGRICULTURE.

Encouraging Reports from All Over the Union.

The reports of April 1st, received at the Department of Agriculture, indicate a crop increase of nearly four per cent. In the area sown in winter wheat, Kansas and Missouri show the largest increase, Ohio and Illinois but slight, and New York and Pennsylvania remain the same as last year; Indiana, Kentucky, Tennessee and Virginia, each report an increase. Ohio reports an increase of snow at the date of the returns, the condition of the crop was not given in large portions of the principal wheat-growing States, but wherever mentioned it was stated as below the average of last year; the condition of the cotton crop in Georgia and Alabama is good. March was the most detrimental of any weather during the winter. The live stock of the country, notwithstanding the scarcity of food and provender caused by the long and severe winter, has come out in fair health, though reported very low in flesh. No malignant or prevailing disease is reported over.
any large extent of country, local disorders of lungs and asthma are often mentioned. Great harm from cold and exposure are reported from the plains of the far West.

**SYSTEMATIC FARMING.**

How Hon. J. Z. George Manages His Mississippi Plantation.

If Southern farmers would systematize the labor and expenditures on their plantations with the same scrupulous care and exactness practiced by Northern manufacturers, for example, the good results would surprise those who go to work year after year in the same slipshod way. In the first place the pecuniary rewards would be augmented; in the second place a cash account would be kept by the colored people in that direction where they are almost lacking—teaching them habits of industry, economy and prudence. School-houses are great agencies of themselves; but a race long in bondage, thrown upon their own mental and physical resources, need other training than that furnished by the school teacher; other friends than those interested and hypocritical politicians who are continually crying out for a "free ballot and a fair count."

General J. Z. George, the new Senator from Mississippi, who is as painstaking and exact in grouping his facts and figures as a farmer as in presenting his facts and arguments as a lawyer or a statesman long ago systematized the labor on his plantations. Two of these are in Leflore county, Mississippi, the richest section of the State, and when he moved there from the South through The Capital, I trust your readers in that section may adopt his or some like system in the management of the important industry of agriculture. Each agent reports monthly:

No acres in the plantation for — month, 1881.

" deadened during the month.

" houses burnt during the month.

" of one room each.

" miles of rail, wire and plank fence each.

" mangers, hay-stores, log-chains, &c., &c.

The condition of each and all must be reported.

The number of acres worked, price per acre where rent is paid in money; the number of acres worked on the shares; condition and progress of crops, with remarks on the weather, &c.; condition and morale of the tenants, their health, supply of labor, &c.; number of horses on hand; number of mules, cattle, &c., and the number at last report; how many have died, their condition and apparent value; how much corn and other grain on hand; amount of provisions; amount of supplies purchased for sale during the month, and amount not for sale; amount of money paid for wages, freight, &c.; amount paid for ditching, rail making; drafts drawn, and on accounts, amount due for supplies.

The above, though not full, of course, will give an idea of the system which General George has adopted for the management of his plantations; and if he is sent a report, he will return it at once for a corrected report. The reader can, at a glance, conceive of the advantages, not to the planter alone, but to his tenants, and the influences which are impressed upon their moral character.

**Weeds.**

The farmer should be deeply interested in the two leading points concerning weeds: how they get into fields and gardens, and how to get those out that are already there. They are not a serious pest to the farmer as compared with those of the crop, especially this the case with those that are nearly the size, color, etc., of the grains, and grass seeds. Great care should be exercised in sowing only pure seeds. If the weeds are already in the soil, the quicker steps are taken to eradicate them the better. Let no weeds go to seed. This work of preserving the crop is more difficult in some cases, but it should be remembered that they are much more easily destroyed when young. Cut frequently and dig out by the roots when possible.

**Table Corn.**

With frequent plantings through the season a dish of boiled green corn can be on the table daily, after the first moist, until late in October. As it is deservedly regarded to be one of the most desirable things that can be grown, there is a reason why even people with a small plot of land should not indulge in it. There is now an early variety of sugar corn for the first planting that we have found to be excellent. It is called the "Extra Early Crosby Sugar." A single plant will produce several ears. Another variety of lower price is called "Stowell's Evergreen Sugar," which is the best variety for the general crop that we have yet found, and have raised it for at least twenty-five years. A planting should take place every ten or twelve days, and the season will require from six to seven crops altogether. The first planting can be put in now, and followed at these periods into June. These will give a daily supply until frost in the latter part of October.—Germantown Telegraph.

**Are Roots Worth Growing?**

We have not yet been able to determine, to our entire satisfaction, whether there is any profit in growing beets, mangolds and the like for stock-feeding purposes, in our dry, hot climate, although we have grown and fed more or less each year for years back. The pros and cons seem to balance equally. Let every enterprising farmer cultivate and feed a small lot, carefully observing cost and results, and then determine for himself whether or not to make them one of the regular crops. A correspondent of the Maine Farmer says he says as follows:

For the garden, and for the garden plots of bunches of mangolds to swine and they always thrive on them. Last year I fed over 600 bunches to swine with good results, keeping my breeding sow unboiled mangold alone fed raw, they not having one dollar's worth of any other food for the winter, and in the spring they brought me from $30 to $60 worth of pigs each. This winter I am wintering eighteen swine of different ages and more than three-fourths of the feed has been mangolds, and my son is afraid that rations are too cheap for breeders and that we must feed more sparingly. If the roots are so nearly worthless, what makes the pigs grow? If any one that don't think roots are good for anything to feed has a pair of nicely matched steers and a plenty of those worthless roots, I would like to have him give one steer nothing but dry hay, and the other four-fifths as much hay, together with as many pounds of roots as he gave the other in hay, and see if when spring comes he don't think the watery things are worth something.

**Stumps.**

The Scientific American has the following important information for those who desire to get rid of stumps:

"In the autumn bore a hole one or two inches in diameter according to the girth of the latter, and about eighteen inches deep. Put in it one or two ounces of sulphate, fill the hole with water and plug it up close. In the ensuing spring take out the plug and pour in about half a gill of kerosene oil and ignite it. The stump will smolder away, without blasting to the very extremity of the roots, leaving nothing but salt."

**The Wheat Crop in Kansas.**

Reports collected within the past ten days from every county in Kansas show that on the whole the crop is of a very good condition; but, better, in fact, than usual at this season. Everything now depends upon rain. The farmers say that with favorable weather the crop will be the largest ever harvested in Kansas. The spring wheat crop appears to be in unfavorable condition. In seventeen counties its condition is fair. In forty-three counties it is poor, but little confidence is felt in regard to it. The aggregate acreage of rye is rather limited, and the reports concerning it, as a whole, are quite favorable.

**Some Items in Farm Economy.**

The arrangement of the buildings and the division of the interests among the several persons in the character of the farm, the kind of farming, individual taste, etc., is that the question to have a fixed plan that is the best one for all farms of any given size. There are certain general principles which should serve as a foundation for the arrangement, but there is a variety so great that there is no one fixed plan that is the best for all. The barns should be on the rise of ground where a cellar can be built opening to the lower ground at the rear. The fences should be so arranged that there shall be as little fending as possible, and so located that all the fields can be easily reached from the lane. A long field has considerable advantage over one of the same area that is square—in the longer "boutis," and therefore less time is spent in turning, plowing, harrowing, sowing, harvesting, etc. A pasture close to the house is better than a far one, as it is easier of reach, and the work being equal, the orchard should not be put at the rear of the farm, where the wood lot had best be located. There is much labor to be saved in having everything so placed—and this applies to the various details that seem to enter into the arrangement. There is no extra steps or turns in doing the everyday work of the farm. For example, many days work can be saved by having a pump in a handy corner of the barnyard, where the stock from a number of years may come to the troughs. If the masters of the farm are not already economically arranged, it would be well to make such changes of fences, buildings, etc., as to finally secure the desired end. By the degree the thoughtful farmer will improve his farm until it approximates to a model and therefore economical farm.

**Horticulture.**

Flower Garden and Lawn

If any seeding of grass or turfing is to be done, attend to it early, that the grass may become well established before hot weather comes. In turfing, select the soils with care, and endeavor to introduce no weeds. For seeding on light soil, red top is best, and for heavy clay soils use Kentucky blue-grass. Either of these, with a quart of white cloverseed to the bushel, is likely to give as good a lawn in our climate as when a mixture of a dozen kinds is sown. Select only the best seed, as there is a great difference in quality in grass seeds. A good top-dressing of ashes, plaster, guano, or fine bone should be given the lawn each spring. In the planting of trees and shrubs always preserve the balance between the tops and roots. Where the lawn is put in proper shape the comfort and beauty of the exterior of the house should not be overlooked. Most houses have a piazza or veranda of some kind, and this should be furnished with an abundance of climbing vines. The following are among the best for this purpose: Akebia, Virginia creeper, wisterias, Dutchman's pipe, ever-blooming honeysuckle, and climbing roses. For lower climbers the large flowered kinds of clematis are desirable. With these properly arranged, the veranda of a house may be made attractive and afford a comfortable shade.—American Agriculturist.

**Magnus Bonum Potatoes.**

Recently I have received many questions concerning the origin and yield of Rosa's Magnus Bonum Potato. This variety was sent to me by the Farmers' World, the potato originated with me, and in 1878 I had accumulated enough to plant 27 rods of it one hundred and two bushels (six hundred bushels to the acre). In 1879 on one measured acre I raised 546 bushels. The
On June 10 on acid ground, and no manure was used whatever. The crop was dug in six to eight days from planting. In 1840, on eighty-two rods of the same acre, I raised 507½ bushels (which is 600 bushels to the acre). Also, July 20 I planted seven and a half rods to Magnum Bonum; dug them September 25, 1840, 600 bushels (620 bushels to the acre). On another piece I planted 25½ acres. On account of a dry soil and no rain for nine weeks the yield was only 460 bushels to the acre. This potato is a seedling from the peach-blow. It is remarkable for earliness, freedom from disease, and quality. The variety may be planted either early or late and do well. The vines stand firm as a tree, protecting the hills from the hot rays of the sun. They will also permit of closer planting than any other variety, are easily dug and produce scarcely any small tubers. The Magnum Bonum are nearly a round, a little flattened, skin russet white, small pink eyes, flesh white and mealy; they will cook dry and meshy when only twothirds grown. On rich manured land, if planted three feet by three feet, this variety attains a large size.

For large yields per acre and choice smooth size for the table, tubers one-half to three-quarters pounds each are best. They should be planted three feet or less between rows and not more than twelve inches from the vines. This variety is very sensitive to every hill. This ought with good culture to yield 600 bushels to the acre. This variety will stand even closer planting.

Good results have been given with ten inches apart in the rows.

There is an English potato in the market named Magnum Bonum. It is quite distinct from Rose's Magnum Bonum here described, though often confounded with it.—Alfred Rose in Farmer's World.

Prepare for the Fruit Crop.

This is the month when all should prepare for the fruit we anticipate in time to come. They all require a longer or shorter period of time before one can enjoy their wholesome bounties. The strawberry is the quickest to repay us for the labor bestowed, and pay us, too, a thousand fold. It is a wonder to watch the little shy plant producing in a single year's growth such enormous, captivating and, to many, unequaled fruit. The raspberry, thence the currant, and the gooseberry are the next in order in their haste to contribute to our enjoyment.

But considering all these manifold blessings vouchsafed to us by the Great Giver of every good and perfect gift, how insignificant is the labor required of us. We only have to cultivate from the ungrudging munificence which overwheels us.

If the occupants of plots of ground, even in some of our largest towns, would look about them carefully, they would be surprised at the space they possess for the growing of fruits of almost every description—from pears down to currants. Space can be wonderfully economized for this purpose when we once set about to do so. Room would be found for a dozen dwarf pear trees, one standard Lawrence pear tree, a couple of cherry trees, half a dozen grapes, a few raspberries, currants, or any cuttings, get manure. Study the character of the soil and seek to give it the manure best calculated to enrich it, and there is nothing better than well rotted stable manure. Let it be well worked into the soil. It is of little use to a gardener to throw it upon the surface; it is killed by too much heat. Then intermix a little of the manure, and the soil will show its gratitude in the result.

Raising Peas.

To raise green peas in perfection requires good good geland. The garden room will bring them earliest, but in time of drought the quality of the crop upon such land will be very inferior; still, since earliness is very desirable, it usually pays to risk a small piece of early peas upon sandy soil, and to depend upon birds and the later crop. It should also be observed that the hard varieties, such as Den O'iroucke and Black-eyed Marrow, will thrive on much poorer soil than the sweeter green sorts, such as the Adventurer and the Champion of England, which require rather more moisture to produce their full effects; the latter varieties are much more easily raised on land which is not so rich, and will produce a good crop on poor land, and a large acreage of this pea might be raised on land which is not best suited for the pea, and at the same time raise a good pea crop. As the pea is a very hardy root, it will do well in a cold, dry, and mealy soil; this is especially so if the peas are spread along the furrow from the cart and covered lightly with the hoe before sowing the seed, which is then covered with a rake or hoe about half an inch deep. The manure should be as fine as possible to get it—New England Farmer.

Manuring the Garden.

The cost of manuring a garden plot is so trifling, and the result so satisfactory, it is a matter of wonder that those who desire a fair harvest of fruits or vegetables do not treat the soil a little more liberally in this respect, for in this way we secure the healthful or cutting fruit, get manure. Study the character of the soil and seek to give it the manure best calculated to enrich it, and there is nothing better than well rotted stable manure. Let it be well worked into the soil. It is of little use to a gardener to throw it upon the surface; it is killed by too much heat. Then intermix a little of the manure, and the soil will show its gratitude in the result.

Raisng Grapes.

The grape is an entirely disseminated as the apple, and there is no good reason why it should not be. The large vineyards can supply our city population, but to supply the agricultural districts grapes must be grown at home. This can be done at so small a cost, and with so good a return, that it will pay.

Hartford Prolific and Izas Seedling. There are grapes of better quality than these, but they are good enough to suit popular taste and are hardy. They can be relied upon to bear fruit every season in generous quantity. The

Domestic Economy.

Pig's Feet.

P. T. Barnum's Recipe for Cooking Them.

"Broiled pigs' feet," in a P. T. Barnum, is one of the dishes printed on the Sturtevant House bill of fare, in New York. "Pigs feet, property conceded to me, gave me to eat long before I was permitted to participate of any other animal food," said Mr. Barnum yesterday. "When old and young feet are boiled two and one-half hours, as usual, the old ones are tough and worthless. If they were boiled three hours, the new ones would fall from the bone, or go through the plate and take the gelatine swim away. Now, the secret is to wrap each pig's foot in a cotton boudoir wad two or three times around it and well corched with twine. Then boil them four hours. Let them remain in the boudoir as long as you please; they will never stick to the plate or go through the plate. A man who has been at it for a long time, and there is a hotel in this State where pigs' feet are a special feature of the bill of fare, and the reputation of the dish has extended far and wide. They are cooked in the way described by Mr. Barnum.—Brookport Standard.

How Voltaire Cured the Decay of His Stomach.

In the "Memoirs of Comte Segur" is the following anecdote: "My mother, the Countess de Segur, being asked by Voltaire, in 1750, how he kept his agile health, told him that the manner of living she had adopted from the decay of her stomach and the difficulty of finding any kind of aliment that it could bear. Voltaire, by way of a consolation, assured her that he was once for nearly a year in the same state, and believing to be insecure, that, nevertheless, a very simple remedy had restored him. It consisted in taking no other nourishment than yokes of eggs beaten up with the flour of potatoes and water." Though this circumstance took place as far back as fifty years ago, and regarded so extraordinary a thing as Voltaire, it is astonishing how little is known, and how rarely the remedy is practiced. Its efficacy, however, in cases of debility, cannot be questioned, and the following is the mode of preparing this valuable article of food as recommended by Count Segur:

1. Beat up an egg in a bowl and then add six table-spoonful of cold water, mixing the whole well together, then add two tablespoonfuls of farina of potatoes; let it be mixed thoroughly with the liquor until it will not mix with a little water. Stir the whole into a jelly, and mix it well. It may be taken alone or with the addition of a little milk, in case of stomachic debility or consumptive disorders. The diet is light and easily digested, extremely wholesome, without nearly so extraordinary a thing as Voltaire. But it is not known that it has yet been taken with it as the stomach gets stronger."

Fences.

The question of fences is one that has been for a few years past, a topic of considerable thought and discussion. It is a fact there are too many fences—many more than can be profitably kept up, and all places..."
OATMEAL AND BEEF TART
I find this dish useful to regain strength to weak patients; take two tablespoonsful of fine oatmeal and make it perfectly smooth in two spoonfuls of cold water; pour into this a pint of strong beef tea; boil it eight minutes; keep stirring all the time; it should be very smooth; if lumpy pass through a sieve.

HORSEBACK RIDING.
Fifty or a hundred years ago the saddle was quite sure to be found in the farmer's barn as one of the necessary articles of the farm; but now it is too much put to one side for the harness and baggy. When the roads are bad the saddle should be more generally used on the ground of both economy and comfort. Boys and girls should learn the art of horseback riding. As far as possible every farmer should have a horse suited to the saddle.

ENGLISH AND AMERICAN IMPLEMENTS.
The English manufacturer makes his implements heavy, without much regard to the strength needed. Their forks, whether for spading, or hay, or manure, are much too heavy, and are most unwieldy, as compared with the neatly shaped, lightly built, and easily handled American forks. The English plow is usually three times as heavy as ours, twice as broad; if you cut it all off. The cradles they use in cutting their grain would not be used by one of our reapers, and so with many other of their heavy farm implements.

CEMENT FOR AN AQUARIUM.
Cement for an aquarium that will not crack or peel from glass or galvanized iron: Take by measure ten parts of linseed, ten parts of plaster of Paris, ten parts of fine dry white sand, and one part finely powdered rosin. When wanted for use mix into a stiff putty with boiled linseed oil. Do not use the task for three or four days after cemented.

IN TESTING EGGS.
The frower the egg the smaller the air chamber. This can be seen at the broad end of the egg if it be held against a strong light in a dark room. Stale eggs have a mottled, grayish look about them. A new-fried egg will always give a feeling of warmth if the tongue is pressed to the large end.

TO TAKE THE WOODY TASTE OUT OF A PAIL.
Fill the pail with boiling hot water; let it remain until cold, then drain off the water; having beaten it, give it a little time to it, and wash the inside well with the solution; after that scald with hot water and rinse well.

HOUSEHOLD RECIPES.

BLUEBERRY CUSTARD.—To one cupful of any sort of jelly add one egg, and beat well together with three teaspoons of cream or milk. After mixing thoroughly bake in a good crust.

MARELBROOK PIES.—Grate six apples, one cup of sugar, three tablespoons melted butter, four eggs, juice and grated rind of a lemon, two tablespoons brandy or wine; beat the ingredients as much as if for short crust, omit it. Bake in an under, but without top crust.

VERMICELLI SOUP.—Boil three pounds of veal for three hours in three quarts of water. Then strain and add to it a cupful of vermicelli which has previously been boiled for twenty minutes in water. Add salt to taste and serve with a plate of grated Parmesan cheese.

BROILED CHICKEN.—Cut and split open the chicken and broil it on the gridiron over a brisk fire. When the skin looks crisp and halfway done, brush it with the best fresh butter and serve on a hot platter with a few sprigs of watercress around it. Serve the lettuce salad with it. Dress the salad with oil, salt, pepper, and vinegar.

SHOW CAKES.—Half-cupful of butter, three eggs, two cupsful of sugar, four of flour, one of milk, two teaspoonfuls of baking powder. Stir butter and sugar together, add the beaten yolks and half the flour, with the baking powder in it; pour in the milk, beat the whites thoroughly and mix in; then stir in the cream and little by little the small, fancy-shaped pans, and ice when cold.

LIGHT POT PIE.—One pint of sour milk or butter-milk, one teacup of sugar and one teaspoon of soda; add flour and mix hard, like bread, and let it stand one hour to rise. Never roll out or cut it, but nip it off in pieces the size you wish. Roll thirty minutes, and you will always have it as light as a puff. At most any kind of fresh meat will make good pie, though chicken, beef and veal are preferable. Prepare the same, as for baked chicken pie; drop one thickness of the crust all around the top of the pot, divide the meat into the fifteen minutes, then cover it and boil fifteen minutes longer. Be sure that it does not stop boiling from the time the crust is put in until you take it up; bring it to the table immediately.

CHICKEN PEDDING.—Cut up as for fricassee and parbol, seasoning well with pepper, salt and a lump of butter the size of an egg, spread on the fowl should be young and tender, and divided at every joint. Slew slowly for half an hour; take them out and lay them on a flat dish to cool; set aside the water in which they were stewed for your gravy. Melt the one-seventh of the butter, add the Returned cups of flour, three tablespoons melted butter, one half teaspoon soda and one spoonful cream tartar, four eggs well beaten and a little salt. Put a layer of chicken in the bottom of the dish and pour about one half cupful of butter over it, enough to cover the meat; then another layer of chicken and more batter till the dish is full. The batter must form the crust. Bake one hour in a moderate oven. Beat up an egg and stir into the gravy which was set aside. Thicken with two teaspoonfuls flour, boil up, and add to the inside of a gravy dish.

PUDDING.—A white, soft, heavy dough of mealy flour, with a cupful more of flour and a tea-cupful of water, and the juice of a lemon, a cupful of sugar and half a pint of wine. Stir and strain. Have two mounds, one holding two quarters the other a quart. Put a layer of jelly in the large mould, and place on the small one. Take fifty for an hour, and cut several cherries cut in two. Pour in a few spoonsful of liquid jelly, not hot, to hold the cherries, and then pour in enough to cover them. When the jelly is perfectly hard, set the small mould in the center of the large one, and fill the space between jelly. Fill up with jelly for an hour, then with a spoonful of jelly, and a basin of ice-water. When the jelly is again hard remove the ice from the small mould, which fill with warm water, and lift it out carefully. The vacant space is to be filled with custard, made by the follow recipe: The yolks of five eggs, half a cupful of sugar, two tablespoonful of wine, one tablespoonful of vanilla extract, half a box of gelatine, soaked in half a cupful of cold water, a scant cupful of milk. Put the milk to boil, add the gelatine, and the eggs and sugar beaten together. Strain both and add the wine and vanilla. When the custard begins to thicken add half a pint of cream whipped to a stiff froth. Pour the custard into the space mentioned, and let it stand until it hardens. Turn the pudding up with a small spoon, and serve with soft custard poured around it.

TO MAKE CHEESE (it must never be cut with a knife) so ounce and a half is requisite for a cup. Dissolve it gradually in hot water, stirring it the while with a wooden spoon; let it boil for a quarter of an hour, and serve it hot with milk, or without. The following is a good recipe: By James Brillat-Savarin, "Madame d'Arverel, the Lady Superior of the Convent of the Visitation at Belley, told me that if I wished to drink really good chocomate it must be made the night before in an earthenware pot, and left. The night's repose concentrates it, and gives it a softness which makes it much better.

HOW THE CHINESE MAKE TEA.—"The tea is put in a clean teapot and hot water poured on it, and left to stand fifteen or twenty minutes and steep. Here
Live Stock.

Care of Cattle in Warm Weather.

As the days grow warmer the ticks will increase upon the sheep and become more troublesome. A strong decoction of tobacco in water, used as a dip, or poured along the back, will destroy them. As the lambs increase in size the dime suffer, and the lambs must either be fed some meal daily, or the ewes be given an abundance of rich food. Lambs can begin to eat at four or five weeks, and thus relieve the ewes.

Pigs need a clean place, and breeding sows should be by themselves, with an abundance of cut straw or chaff, as fresh manure will soon make them ill.

Horses that have had good care will come out in the spring in good trim for the seasons work. As the coat begins to loosen the skin is irritated. An ounce of equal parts each of sulphur and cream of tartar, mixed with a pint of milk, makes a good poultice to keep this. Good grooming with a soft brush should not be neglected. Ground feed, mixed with cut hay, is an excellent food in the spring for working horses. Three quarts of equal parts of corn and rye (or oats) mixed with a pint of milk makes a good feed. A pint of milk is enough for a meal. An occasional feed of cut beets or potatoes is useful. With many experienced horsemen an occasional feed of half a peck of potatoes is regarded as remedy for worms in horses. However this may be, they can prevent the general condition of the animal in a most positive manner. The main point is to keep the horses in good health and strength, for upon them devolves a great part of the spring work. As foaling time approaches brood mares should be turned loose in a box and receive the most gentle treatment, as the temper and disposition of the colts is thought to depend much upon this.

Raising Calves.

James Fisher, Jr., of Harrison county, Ohio, gives his calves a water supply of fresh water from their first days of life.

In the first place after a calf is a day old I take it from the cow and I have no trouble in learning it to drink milk. I feed for one week on new milk and then change to sweet skimmed milk, then to water, and when 13 months I feed milk to the first three months and then commence adding a little mush and bran. If calves are kept growing all the time for six months you have no idea how large they will be. As a general thing calves are turned out on grass after three months and are castrated when thin and "po-gutted," and when winter comes they are but very little larger when you quit feeding them. It is very little trouble to keep feeding a calf six months; then look how large it will be. If any kind of your calves are fed with the right amount of extra feed to bring it up to where it ought to be at six months or a year old. Now let every farmer's wife or farmer's daughter try and see what she can make out of her calves. It is as easy to have steers heady for market with very little trouble, as giving them the proper attention, as it is to let them run and be half kept and not marketed until three or four years old. What stock you keep make it your aim to keep them in the best manner. Keep no more than you can comfortably feed. If you have a surplus of winter time keep them in fat stock feeding a buyer. Make it a rule to feed high and feed plenty. It should be your constant aim to see how soon you can bring your cattle into market, and, in carrying this plan out, always be on the alert to catch the right kind of calves when growing right along. Much and milk is a first rate food for calves after they are three months old.

Treatment of Cows with Calf.

Cows with calf should receive special care, both as to feed and handling. Good hay is the best feed; overfeeding must be avoided, as with high bred cows, especially, there is danger of milk fever or garden. Light feeding, before calving, is the best preventive of this, followed by a milk laxative after the calf is dropped. The udder should be watched closely, and upon the first appearance of hardness and heat,ether should be used to cool down the infection. It is well to let the calf suck the cow if there is any trouble with the udder. Save the half-er from the best cows and thus constantly improve the stock. A poor cow is an unpredictable animal and should be sold. If the calf is ready for the sut, the cow is healthy and a good property in the herd. Calves, with care in feeding, may be raised on skim milk by replacing the cream with a little olive cake meal.

Raising Camels in Nevada.

The Virginia City Enterprise says: "We are informed that the Frenchmen who owns the herd of camels ranging to the eastward in the valleys bordering the Carson River will utilize his "ships of the desert" next summer in carrying goods from the terminus of the Carson and Colorado Railroad into the mining camps. The camels now number about forty, all but two or three of which are natives of Nevada. In our deserts these animals find grasses and bitter and prickly shrubs and plants suited to their taste, and probably the same or varieties of the same plants that grow elsewhere. Desert conditions call for a hardy, strong, and trouble, and costs much less to grow camels in Nevada than were used to rear cattle in the Atlantic States."

The Value of Water for Cows.

Cows should have access to water at all times, especially cows that give milk. They want to drink often and return to their feed. The best stable, and one in which stock do the best, is one where water is always running in through troughs before the cattle. Thus managed, cows may be kept up to a full flow of milk either in winter or summer, and for this reason if the pastures falls from draft, it may be replenished in water. Others of water cannot be remedied. So in winter cows that are only watered once a day, as many do who consider, themselves good farmers, the cows shrink in their milk and it can never be regained. The same rule will hold good when water may be supplied, but if the water supply fails, the profit will be nil. The necessity of plenty of pure water for stock is one of the first importance to breeders and feeders. It must not only be in abundance, but it should be in such supply that stock may either take it at will, or if supplied that it should be offered at least twice a day, and three times will be better. No animal can thrive properly that has access to water but once a day. Every good feeder knows this, and hence in all large feeding establishments the greatest care is taken to have an ample and constant supply. Many farmers neglect this, and always to their cost. If water cannot be had in any other way, wells shall be dug, and the water raised by wind or other power, so that the stock get it as regularly as they feed. It will pay to remember that animals should be treated well in order to thrive properly. We are familiar with troubles incident to the neglect of regularity in food and drink with the human body, and the consequence are somewhat analogous for our cattle.

A Cow's Cud.

The situation, the structure, and the size of the rumen of a cow will point it out as the first general receptacle for the food which receives only in the mouth sufficient mastication to enable it to swallow it. When swallowed, it is then received by the rumen, and morsel by morsel is taken until this, the first of the animal's four stomachs, is comparatively full. A sense of repulsion prevents mastication, and swallowing. If the cow is now to the fore, the cud itself is not so abundant that all the food taken is again masticated; it is only the bulky or solid portions that undergo the process. When the rumen is moderately full, it will contract on its contents, and first squeeze off the fluid portion, which will pass into the third or fourth stomach, whilst the solid part will be embraced by the esophagus, or stomach pipe, and returned to the mouth. By the term "fill of the cud," is meant a cessation of the chewing of the cud, and the fact of the solid and fluid parts being the most internal diseases of cattle. 

Beef and Mutton in England.

Notwithstanding the constant importations of these from America and Australasia, the English papers inform us that the prices not only keep up well there, but are likely to continue to do so. This is owing mainly to the increasing population, and the increasing prosperity in the manufacturing districts. Moreover, those poor people who formerly got meat of a poor quality once a week, on account of its high price, now that abundant importations have placed before them a superior quality at a lower price, can afford to have it nearly every day for their daily meals, and this has much to do with the consumption of meat in the United Kingdom. As to mutton more particulars, the river-rot has again broken out among the flocks of Great Britain, causing many deaths in them from the disease, and this has tended to keep up the price of mutton as well as beef and pork.

Feeding.

The horse, though essentially gregarious, is capable of sustaining life and doing work on a great variety of articles besides those in general use. Grass is the natural food of the horse, and in his wild state it alone constituted his food. In a state of domestication the horse, when at grass thres and gets fat if he has either water or other food to eat; but if work has to be done, other food besides the grass must be given. The reason why the horse is not able to do much work on grass alone, simply because its nutritive properties are in so small proportion to its bulk that he would require to
eat a larger quantity than his stomach is capable of digesting. The same applies to hay and straw. The horse has a small stomach in proportion to his size, and therefore requires his food in concentrated form. He cannot digest hay in the same way that he cannot digest corn, but he can store it away for longer periods if he cannot have it when he wants it. For this reason it would require a larger quantity of grass or hay than the horse is capable of digesting to give him that amount of nourishment necessary to repair the waste of tissue occasioned by active exercises, hence the reason of our making the oats the staple, and hay the adjunct.

It is a fact, however, that his food must not be too concentrated a condition, as experience teaches that when so administered, it is passed indigestibly. Oats, when given alone, are extremely difficult of digestion by horses, and therefore, if it is necessary to feed the horse in this way, an attempt is made to keep on until little remains. Being suspended, it does not waste or become polluted, and it will remain in good condition to be eaten at will.

**Second Report of the United States Entomologist:**

The second report of the United States Entomologist, on the Rocky Mountain Locust, 1878-79, by Prof. Rilley, Packard and Thomas. Through the courtesy of Prof. Rilley a copy of this work was sent us from the Department of the Interior, at Washington, D. C. It is a royal octavo of 522 pages, with 80 additional pages of appendices and an index. The typography and the quality of the material employed, are rather an improvement on former similar publications of the Government, although this may not be saying very much. It is very copiously illustrated, and its literary and scientific contents are able, elaborately, and interestingly and usefully. It contains six colored maps illustrating the permanent, sub-permanent and temporary locust regions, and the limits of their eastern, western and southern range, their original breeding grounds and their occasional and localities. It also includes other color maps, showing their migrations in 1876, where the young were hatched, and the course of their flight and return flight. Also, seventeen full-page colored anatomical plates, and a large number of wood cuts, besides other line and wood cuts representing many of the locusts and other allied subjects, showing an immense amount of hard and persevering labor devoted to the interests of the agriculturists of the country; and yet, there is no small amount of grumbling about the greatest benefit, as it is gathered, by those who are not competent to render an intelligent opinion on the subject. If the ravages of the Rocky Mountain Locust are not now circumvented, it will not be because there is no literary and scientific knowledge of the subject extant, but simply because the people are not in the condition to receive, and benefit from, the results of the researches; and the recommendations they contain are now on populace record, and can be drawn upon and diffused through the public press, as contingencies arise and necessity demands.

**Home and Science Review:**

A four-columned, six-page semi-monthly magazine, published by Andre & Illingworth, Rockford, Ill. The first number is one dollar a year in advance. No. 5, Vol. 5, for April, 1881, is on our table, and it certainly is one of the most readable publications that we have seen for so many a day," especially to those who have the least leaning towards "popular science." The material and mechanical execution are equal to any $1.00 publication in the country, and having but one page of advertisements, it has room for a large amount of gossip on Geology, Mineralogy, Paleontology, Geology, Ichthyology, Anthropology, Numismatics, Philately, Astronomy, Botany, Chemistry, and Zoology. It is especially rich in Geology, including Ornithology, Entomology, etc., Microscopy, Chemistry and Miscellaneous Science; also, Poetry and General Literature, Anatomy, Physics, Health and Hygiene, Household Hints, Fruit and Ornamental Gardening, and Potting Pastime; also, Flowers and Plants, Flashes of Fashion, and Wit and Humor. Surely this is a "Home Journal" to those who are able to realize "This home where the heart is wherever that be, in city, in village, in the country."

Salt for Poultry:

Hens often have a habit of biting and pulling their feathers and greedily eating them until their bodies are bare. This practice, it is believed, is occasioned by a want of salt, as when salted food is given them they make no attempt to continue the salt. Poultriers who buy hens fed twice a week has been adopted with success, but if kept long, this practice of salt with two parts of meal shortens molting, well mixed, and fed twice a week. Fowls, like human beings, to be healthy, must have a certain allowance of salt.

So long as the American people price sugar sweet cakes, and the N.Y. hotels consume 1,800,000 chickens and poultry and 5,000,000 of eggs every week, the poultry business in this country will remain a good one. Give warm, clean houses and dry, grassy runs, if you would have them clean during roost and cannier. And feed them regularly with good, nourish-

**Poultry:**

*Feeding for Eggs.*

Hens are the most valuable stock of the farm. They require little care and yield large dividends. The writer has kept three horses, one cow, a brood of turkeys, and a large number of chickens; he has gone through the winter, and he thinks that the hens have paid the whole bill, without attempting to obtain the best retail prices. The eggs were sold at wholesale the buyer making a profit of ten cents per dozen. Perhaps I may add a word which other writers have already said, kill in the fall nearly everything but early Spring pullets; these can be made to lay all winter. The older the hens the fewer the eggs. Second, warm the food for the first meal especially. Let there be a variety of food—blood-meal and wheat screenings are the best grains; corn and oats come next. The best animal food in my experience is a beef's head. They will consume everything except the eyes. It costs twenty-five cents and will last a week. When they have eaten the outside meal, crack it open for the bran; next, give them a selection of grass; besides, an ash pound on top of the portion of the bone daily. Next step and listen—here they stick and see them run for the next. A beef's head is more profitable than hard scraps, as the latter has been pressed under the substance is nearly gone. Keep an iron stove and stow the kitchen, into which order all the scraps from dinnertime or so. This usually goes to the pig; hereafter let it go to the Bramah toward events. Buy your pork if you think it is fit to eat.—W. L. T. in Country Gentleman.
The Lancaster Examiner.
We desire to call the attention of the readers of the Farmer to the Daily and Weekly Examiner. The Daily was enlarged over six columns on January 1st, and is now the largest daily published in the county. The weekly supplement was also enlarged over three columns, and the weekly is now one of the largest weeklies in the State. Subscribe for the Examiner. They are both, daily and weekly, good factory newspapers.

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CULTURAL SOCIETY.

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All subscriptions will commence with the January number, unless otherwise ordered.

Dr. S. R. Rathon, who has so ably managed the editorial department in the past, will continue in the position of editor. His contributions on subjects connected with the science of farming, and particularly that specialty which he has so thoroughly a master—entomological science—some knowledge of which has become a necessity to the successful farmer, are alone worth much more than the price of the publication. He is determined to make "The Farmer" a necessity to all households.

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The Lancaster Farmer.

Dr. S. S. BATHVON, Editor.
LANCASTER, PA., JUNE, 1881.

Vol. XIII. No. 5.

EDITORIAL.

GAPES OR STRONGYLI.
The term *gape*, in ornithology, means the opening between the mandibles of birds—that is, between the upper and the lower parts of the beak. The plural of this term is therefore applied to fowls of various kinds, when they are affected with *strongyli*, a peculiar kind of *Entozoa*, which infests the trachea, or windpipe, because under the infestation the birds are compelled to open their beaks in order to breathe. The *Entozoa*, which is the plural form of the word, infest not only domestic fowls, but also many others of the feathered tribes. Nor are they confined to the class Aves alone, but also infest mammals—including the human species—fishes, insectans, crustacans, &c. The term *Entozoa* is Greek compound—from *euteran*, within, and *zoom*, an animal—and includes an extended group of sub-class animals located somewhere between the *Articulate* and the *Radiate*; or, according to various authorities, in the one or the other of these classes. It is on record that, among fowls, these parasites have been found in the tracheas of turkeys, pheasants, partridges, ducks, lapwings, storks, magpies, crows, woodpeckers, starlings, swifts, as well as in the common barnyard fowls; and allied species have been found in hawks, owls, &c. But they are not always found in the trachea or windpipe of the animals they infest, being sometimes found in the brain, the eyes, the stomach, the intestines, the kidneys, the spine, and in the muscular tissues, and the lungs. The particular species which infests the common domestic fowls is *Strongylus syngamus*, which is of a blood-red color, about 12 mm. in length, and is distinguished by the singular phenomenon of having a male and female attached, as though they were the blind elon- gations of one another of a single animal. This condition, however, may not always exist, but perhaps only through the fertilizing period, as we have frequently seen it in *Lumbricus terrestris*, or common “fish-worm.” The head is a sort of a cup-shaped “miller,” by which the animal adheres to the trachea of its host, and exhausts its vitality. These parasites particularly infest young chickens of various kinds, and they seem to inherit them, or get the germs into their windpipes at a very early period; but there is no truth in the surmise that they have their parentage in ice; and I allude to this subject here because recently an attempt has been made to assign the presence of these vermin as the cause, or progenitors, of the parasites which produce the disease popularly known as “gapes,” simply because it had been observed that those fowls affected with *gapes* were also infested by lice, which I only deem a coincidence that has its parallel in other departments of organic nature. It seems that a weak, diseased, or emaciated condition of either animals or plants, is more favorable to the development of their parasitical enemies than a physically healthy, vigorous and progressive condition. It often occurs that the punctures of insects, or their eggs and young larvae, are thrown out of the circulation of vigorous growing fruits and plants, which under more favorable circum- stances might develop into a gall, tuber- cle, or an excrescence. Notable among these coincidences is the extraordinary development of fruits and plants that have been punctured by *ceratocids* and other insects; in which their developmental efforts are rendered abortive, through the vigor and rapid growth of the fruit or plants. It is not at all unlikely that the instincts of insects should lead them to prefer an emaciated tree, fruit or plant, as a nidus for their own, to a healthy and vigorous one, in which their object of propagation might be defeated; and this rule to some extent might be the case in relation to strongyli, which weak animals. Under any circumstances, strong animals or plants are better able to withstand the attacks of their insect enemies than weak or enfeebled ones, solely because of their greater powers of resistance. But I am digressing.

The history, propagation and development of the *Entozoa* are perhaps not as well understood in their details as they should be, to make the subject clear to the comprehension of the general reader. The question no doubt often arises, “How do these parasites get into the trachea of our young chickens, seeing that they are too young to have had access to substances infected by *Entozoa* in any of their forms?” The same question has often been asked in relation to *Erizozoa*, when there is a general infection among horses, cattle and other animals; and so also when swine or human beings are infected with *Trichinosis*, more subtle in their development than any form of *Strongylus*, or gapes, by ten to one. It seems that *Strongylus* are not easily desiccated. Professor Ewen, after they have been success- fully dislodged and removed from the trachea of fowls, the work of entire extermination has only been properly begun. It is like some careless and slovenly tobacco-growers, who, when they are about to cut off their crop, content themselves with merely shaking off what “Phynx-worms” there may happen to be on it, thinking if they only get their “weeds” safely housed, the worms which they have left in the field will perish from frost and want of food. “Not so fast.” These worms will find sufficient food to complete their larval development and then retire to their pupal sleep under ground, and the parent moths will come forth in increased numbers the following summer, to the great consterna- tion of the grower, who thought they had all been starved or frozen the previous autumn.

Even so some careless or slovenly *strongylus* operator, who had dosed the parasites, and by various devices had withdrawn them from the trachea of his fowls, may “sling them away” in disgust, and feel that he has accomplished the desired end. To illustrate the simplicity of such a course, allow me to quote from a competent contemporary authority. “Erevermi has found the *strongylls* living thirty days after exposure to the air. They were dried up, but being moistened with water, they moved and gave other signs of life. The freed eggs, at the time of their maturity, contain elinated embryo, capable of active progression. The prolonged action of heat and moisture, being aided by vigorous movements of the air, the animal is set free.” This being the case, it must be manifest that their appropriation by chicks, and even old fowls, through their food or drink, or through their incessant searching after “tildits in the earth, is an easy, and even a natural thing. When once lodged in the stomach—even if they get so far—their progress to the trachea of other parts of the animal body would be a natural and easy one; especially since allied species have been found in the horse, and the eyes of birds, and even within the eggs of domestic fowls. They are not the orderly animals that only enter into their locate through the proper door, but on the contrary, they are sure to climb in some other way, or, in many ways. In addition to the species *syngamus* which infests the trachea and bronchial tubes of fowls, the trachea of calves are often infested by *Strongylus mirturica*. This species is also occasionally found in the horse and the ass. The trachea and lungs of lambs and kids are often infested by *Strongylus flavia*, and the lungs of many, or nearly all, yearlings exhibit tubercular deposits, which are due to analogous parasitic productions. The pig is also subject to the infestations of *Strongylus contortus*.

In addition to these typical species, there is the closely allied genus *Eustrongylus*, which in its local habitat and development, is still more remarkable than any of the foregoing. These singular animals were described and figured by Dr. A. S. Packard, Jr., and published in one of the volumes of Heyden’s Sur- vey of Montana, Idaho, &c., by the United States Government. *Eustrongylus buetiocum* was found in a hawk, belonging to the genus *Buteo*, and which is still more singular, it was found in the brain of the bird.

Mr. A. C. Walker found specimens of *Eus- trongylus cordii*, in the brain of the Night- hawk, (*Cuvicile Virginianus*) shot at Camp- ton, New Hampshire, and *Eustrongylus prap- thana* was found in the brain of a species of *Papilo*, or “Toowe Bunting,” of Florida.

Every “now and then” sensational par- graphs get into the newspapers relating to small animals—dignified by the name of worms, cels or snakes, which have been found in the eye of a horse, a cow, or some other animal, including the eggs of fowls. These all belong to the same class of animals as the foregoing, but perhaps to different genera. On several occasions I have found many of
THE CURRENT STATE OF THE WORLD

The common Locusts ("Grasshoppers") and especially the genre Acridium, Callistethus, and Philogale, infested by certain species of Philo, which are nearly allied to the Gondians, or Hair-worms.* The common notion in regard to Hair-worms is, that they are horse-hairs, which have become animated by long immersion in water, under the influence of a hot sun. I believe, however, that no one has yet succeeded in animating a horse-hair, under his own observation—at least I have not, although I tried.

On one occasion I drew a protruding hair-worm, about four inches long, from the body of a specimen of Hydrophilus triangularis, one of our largest species of water-beetles. They have also been found in the bodies of other beetles, both terrestrial and aquatic. In the collection of the Linnean Society are quite a number of specimens—black, brown, yellow and white—which have been found, either in pools of water, on the moist earth, in the solid heads of cabbages, and in the seed cavities of apples. Just how they get into such places it would be difficult to explain, but from the fact that the same animals have been found both in and out of other animals, fruits, and vegetables, evinces that certain stages of their development must take place in these various places; and that, subsequently they must pass out of them and lay the foundation for a new generation.

In the Linnean collection is a large female Gor- dius—or supposed to be such—that is tangled up with a string of eggs and partly developed young. These are so very minute that they could easily be swallowed by animals with their food or drink—even by Beetles and Grasshoppers.

But this chapter on Entozoa development does not close with these. Trichinized pork, and other animal tissues, exhibit other forms of the same general class; and recently a paragraph has been going the rounds of the public press, that Dr. Rowe of Cincinnati has demonstrated that a fish, brought to him from the market of that city, was infested by genuine Trichinae. His attention had been directed to worms embedded in the backbone on cleaning the fish, but on further investigation he found that the fish was trichinized in all its tissues. This case (if true) is supposed to be the first instance of Trichinae being found in fish, and very much enhances the interest and importance of the subject. The various stomach and intestinal worms, both of human beings and various animals, belong to the same category. It is said that the voracity of the shark is mainly due to a mammotis species of Entozoa which infests its stomach, and is incessantly chewing for "more."—perhaps a Tapis cited.

In an old illustrated work entitled "The Naturalist’s Miscellany," published in the city of London without date, but dedicated to her Majesty Queen Charlotte (wife of George III. and afterwards George IV.), I first recorded the discovery as nearly as much about the history and development of "Hair-worms" as is known now; including the popular notion that it was an animated horsehair, and also a refutation of the notion. It was then known that this entozoa was found in the bodies of beetles and other insects, but no attempt was made to classify it, or ally it with other animals of a similar form and habit. A notion then also prevailed that the hair-worm could bite, and that its bite produced a disease called "Whitlow"—an inflammatory disease of the fingers or toes. I one time imagined that I felt a slight stinging sensation whilst handling an active hair-worm, but it was only momentary, and no inflammation followed. I felt the same sensation, with the same results, in handling a specimen of Pelecypus polycephorus, a stingless species of Hymenoidea.

Although the foregoing may be interesting as a matter of information or speculation, it does not contain much that is of practical interest to the galliniculturist, as a means of prevention or cure of "Gapes,"* as it is termed, yet it may be of benefit to him in his hands, although the infested birds were not reared without impediments. One of his birds had died of suffocation, but he tells us that change of food and change of place, together with the infusion of rue and garlic instead of plain water to drink, and chiefly humpedseed, independently of green vegetables which the grass-plot of the manure affixed, recovered the others in a very short time.

Fourthly. "The plan I have here adopted, by way of experiment, of opening the trachea and removing Mr. Montagu’s mode of treatment at once. This method is evidently only necessary when the disease has advanced so far that immediate suffocation becomes inevitable; or it may be resorted to when other methods have failed. In the most far-gone cases instant relief will follow this operation, since the trachea may with certainty be cleared of all obstructions."

Fifthly. "The most essential thing to be observed, in view of putting a check upon the future prevalence of the disease, is the total destruction of the parasites after their removal; a precaution, however, which cannot be performed, as the "Hair-worm" is not known to be propagated through the eggs."

Sixthly. We here adduce Prof. Riley’s mode of treatment, from page 150, second volume of the American Entomologist. "Dissolve one grain of pure crystalline carbolic acid in ten drops of alcohol, and add half a dram of vinegar to it. Strip a small quill-feather till within half an inch of the narrow end of the shaft. Secure the feather patient, moisten the feather in the solution and introduce it into the windpipe, turning it round once or twice, and then remove it. It will dislodge the worms and bring back many adhering to the slime upon it. Great dexterity is required, and some little knowledge of the anatomy of the parts; a slow, unskilful operator may kill the already softened bird instead of curing it."

This much by way of what may be termed surgical operations; what follows may be classed among precautions and preventions.

In this category Prof. Riley continues: "Next I put the bird in a coop, with some shavings dipped in a solution of carbolic acid (half an ounce of the crystalline acid, well mixed with one quart of water). Food and water is given, but no addition is made to the bird. Administer flour of sulphur, with a little ginger, in poultaceous food, composed of barleymeal and coarse cornmeal. In the drinking water placed before the birds should be mixed a few drops of the last mentioned solution. The mouth and beak should be washed morning and evening with some of the solution. The shavings should be removed every morning, or be sprinkled

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* "Hair-worm" is an obsolete term, now more commonly known as "Protozoa."
well with the solution morning and evening. If at all curable, the bird will be free from the disease in three days. The bird should be kept in a dry, warm place, apart from the rest of the fowls." Prof. R. then concludes: "As a preventative, I feed young chicks twice a week with wheat, steeped in a solution of carbolic acid, the solution to be in the proportion of one teaspoonful of the above mentioned acid to one pint of water. All wood and corn ashes from the house are thrown into the nest-house, and on the floor of the roosting-house—having the two houses separate. The roosting house is thoroughly cleansed every Saturday, and some of the solution of the carbolic acid sprinkled on the floor once every month. The disinfecting and deodorizing properties of carbolic acid, render it alike valuable as a preventative of contagion and as a destroyer of vermin. As carbolic acid is sparingly soluble in water, the solution recommended should always be fresh before used." From the foregoing the reader may infer that the disease of fowls is neither caused by the fowls themselves nor by the gaps, or to prevent them from contracting the disease, even after he understands the theory of their propagation and development. Of course this will depend upon the time, occupation, and peculiar temperament of the operator. There are, however, some very singular people who regard the gaps as a mere bagatelle, easier to cure than to cure pork; and, by the same substance too. From page 90, Vol. 9, (1877) of THE LANCASTER FARMER, we reprint the following but we are not entirely ignorant of its authority.

"The more the naughty children of mother earth try to put themselves in accord with her beneficent laws, the more pure, clear, few and simple they will become, instead of being the complex multiform and often contradictory beings they seem to be. For instance, the simple little disease called gaps in chickens is a strong case in point. Treated in the light of natural laws (common sense) it yields readily to the proper remedy—the same remedy for the same disease that is indicated in the human being; for we are all essentially the same, and food, from the lardpole to the President, and what is good for one, is good for the other. Now, what do we use salt for in almost every thing we eat? It not only furnishes no nutrient, pleasure, or anything else, but is absolutely a poison; and that is the reason we take it, to prevent undue generation of worms within us. The old-time Holshanders used to punish their criminals by giving them unsalted food, and they were thus soon literally devoured by the worms engendered in consequence. But what causes gaps in chickens? Worms. What is given animals to prevent this? Salt. But all the books, &c., say salt will kill chickens. So it would you, if you took too much, as they often do through the habit of bolting their food without mastication and tasting. In brief, and in fact, when the weather is damp and cool always put about as much salt in the chick's feed as you would in your own bread, and I will answer for the life of every one. I never lose a chick by gaps in my life, and have raised thousands." If at all curable, the bird will be free from the disease in three days. The bird should be kept in a dry, warm place, apart from the rest of the fowls. From the foregoing the reader may infer that the disease of fowls is neither caused by the fowls themselves nor by the gaps, or to prevent them from contracting the disease, even after he understands the theory of their propagation and development. Of course this will depend upon the time, occupation, and peculiar temperament of the operator. There are, however, some very singular people who regard the gaps as a mere bagatelle, easier to cure than to cure pork; and, by the same substance too. From page 90, Vol. 9, (1877) of THE LANCASTER FARMER, we reprint the following but we are not entirely ignorant of its authority.

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THE LANCASTER FARMER.

June, 1851.

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of years; and it is rather surprising that any practical mind could concoct a theory contrary to the facts involved. The inhabitants of the northern regions of our continent never freeze when they become buried in the snow. They may subside or starve, but they do not freeze, unless they are near the surface, and after death supervenes. If they were endowed with the powers of vital suspension, as insects are, they could survive a winter of impunity, from November to March. insects were almost as well protected as if they had been covered with a featherbed, especially those species that hibernate in Mother Earth, and there is where the most noxious and numerous kinds do hibernate. As an intelligent resource of warfare against noxious insects allow us here to make a suggestion. Let every farmer keep a "scrap-book," divided into alphabetical departments, and every paragraph he notices in his daily, weekly, or monthly readings, relating to the habits of insects, and the remedies recommended for their destruction, let him "cut it out" and paste it in his book, under its proper letter, for future reference. It is true that repeated publications of remedies may be as necessary as repeated preachings, but even repeated preaching only avails to the extent that the congregation practically co-operates with the teachings of the preacher. Our suggestion involves a forewarning, in order to successfully meet any forewarning that may occur. The memory cannot retain these knowledges, they must be "booked," in order to make them available for future use. Of course, there are many remedies published, or recommended, that are entirely worthless; but if the farmer keeps a record of these in a scrap-book as well as those that have merit, and makes an appropriate notation when their worthlessness is discovered, he will have gained just so much practical knowledge that he did not possess before, and that is the only kind of knowledge that is of any use to him. We have always believed that the most practical, effective and reliable details about insecticides, preventives and exterminators, ought to be developed through the manipulations of the farming, gardening and fruit growing public, and believe so still. Who has a more immediate pecuniary interest in the subject than the persons named? Who is in more immediate and constant contact with the subject? Who is the greatest pecuniary sufferer from the depredations of insects? Whose secular occupation is more compatible with the observation and study of insect destruction? If these are the questions that excite the curiosity of the noxious characters? And who could do more toward fusing the knowledge he thus gains among his collaborators in the field of agriculture?

If it be answered that this all involves time, patience and labor, we would just like to know what there is in this world worth having that does not draw upon all these sources of human effort. What more profitable use can be made of time, patience and labor, than to employ them in so beneficent a manner—in conferring a blessing upon the human family, moreover, there is not an editor or a publisher of any journal who is in sympathy with agricultural progress, that would not cheerfully prepare and publish any thing of value to the community on such subjects, if practical farmers, &c., would condescend to furnish the facts, no matter how common the language in which they are communicated.

Finally, when a man "puts up" his beef and pork for future use, does he forget to salt it? Must he be told this at the beginning of every season? No; it has become a matter of course, and he habitually prepares for it. Even so we must regard insects and insect remedies; simply because the more improve-ment made in vegetable culture, the more likely will insects be attracted by it, and depurate upon it.

We append a few more instances in conclusion, of the mortal effect the past cold winter has had upon the denizens of the insect world:

In Boyle county, Ky., the fly has almost destroyed the wheat crop. Locusts, by eating the buds of fruit trees in Oconee county, curtailed the crop that they die.

About two-thirds of the apples in Ohio have blighted and fallen off within the past two weeks.

Great clouds have totally destroyed large fields of the growing grain of Mc-Elman county, Texas.

In Fannin county, Texas, grasshoppers are found in millions, and farmers are in a great state of alarm.

Nebraska is completely overrun with grasshoppers. They consume a crop, leaving nothing green behind them.

The farmers around Kirkville, Mo., report the country alive with chintz bugs that are doing great damage to the wheat, corn, and beans being set out, and the crop will be short for a year.

Grasshoppers are on the march on the Truckee, Cal., meadows. They ate up forty acres of prime wheat for one farmer.

The corn in much of the State of Indiana has been so thoroughly damaged by wire-worms and grubs that replanting became necessary.

The North Carolina locusts are doing great damage to the peach orchards. They split the fruit-bearing twigs, which soon wither and fall to the ground.

Grubs or frost have made very many missing hills among the hop fields of Onondaga, N. Y. Many millions of dollars worth of fruits and vegetables have been destroyed, because the ground. It ruins a tobacco field in a single night.

A parasite has appeared in the orange groves of the West Indies, Florida and California that has ruined vast numbers of trees and threatened to seriously interfere with orange culture.

The chestnut trees around Echo Lake, in Passaic county, N. J., look as if scorched by fire. A large number, in three-quarters of an inch long, is found rolled up in the leaves. The pests have so thoroughly sapped the trees that it is thought they will die.

Kitchen gardens in Bergen county, New Jersey, are many of them ruined through the cut worms and the carrot fly. Tomatoes are now in blossom, and melons in their third leaf, but the worm turns the former upside down by cutting off just under the ground, while bugs will eat up the edge of the latter in a few hours.

The Charlotte (N. C.) Observer announces the appearance of the seventeen-year locusts in that vicinity by millions, and that they are eating every bit of vegetation. Color cover the landscape over with their yellowish brown damask wings like summer dusters on parlor furniture. They come, millions upon millions, they come. From every direction they call to each other, "Come over and help us eat them up." The woods are filled with them; the ground alive with them.

Of course, there is nothing very remarkable about these excerpts; for, not a season passes in which similar agricultural experiences do not occur. But that the "Great Grasshopper Locust" although present in millions, is "eating up everything," is the most egregious "bosh," notwithstanding the enumeration is made by one ostensibly an Observer. A la Cuvier, we reply, Histoire - Sectional—they "can't do it."

FIRST ANNUAL EXPOSITION.

The first annual exposition of the mineral, agricultural, and industrial products of New Mexico, to be held at Albuquerque, N. M., commencing Monday, October 3, 1851, and ending on Saturday, October 8, 1851.

Ten thousand dollars in cash premiums will be awarded to the most elegant and valuable specimens of gold, silver, copper, lead, and coal, from the mines and mining districts of New Mexico.

Magnificent display of the agricultural resources of the south-west.

The most beautiful displays of horticultural products ever witnessed—fruits, grapes, wine and vegetables. From the plains, and sheep from the mountains of New Mexico, &c., &c.

E. S. Stover, President.

W. M. Patton, Secretary.

H. R. Whiting, Cor. Secretary.

Albuquerque, May 5, 1851.

The foregoing and much more in detail is in a double column advertisement in a recent number. of the Albuquerque Weekly Journal, and although some of the claims may be high-sounding, if the exhibition exhibits an enterprise in correspondence with that exhibited in the journal aforesaid, there is not a doubt it will realize all it so sanguinely promises.

Let our readers, who have the pecuniary means, "stick a piece in there," and at the proper time make the trip—especially as there is no place of which all who may wish to attend. Premium Lists obtained from the Secretary. In this connection we regret that we are unable to make any announcement as to the time, place and programme of the Lancaster County Exposition. Since the May meeting of the Society we were incidentally informed that an adjourned meeting of the Committee, who have the initiatory steps in charge, was to have been held in the Stevens House, but we have looked in vain for its proceedings.

Regarding this direction seems to "split" on the "Horse-rin" question, which has been a "bone of contention" these many years.

We have often really wondered whether the opposition to ring speed was real or only feigned. No doubt there are many who seemingly oppose ring speed, who would participate in them if they could do so without being particularly identified with them. So far as the matter concerns ourselves we don't care a button about a race of any kind, either legitimate or illegitimate, but if an exposition is essential to the development of our industrial resources, and if one could not possibly be held without being handicapped by a race or "trial of speed," then we would say, "let the ball go.
ENTOMOLOGICAL.

THE APPLE WORM.

How It Goes to Work and the Means Whereby Its Ravages May Be Stayed.

The apple worm is among the worst enemies with which the fruit-grower has to contend, and of all the pests that abound, it is not very often destroyed by either birds or insects. It does not confine its attacks to the apple, but also infects crab-apples, pears, peaches and even plums. The last brood of worms spin their cocoons in the autumn and remain in them unchanged until the following spring, when they are changed to chrysalides, and about two weeks later to moths; the latter are commonly called "cooling-moths." About the middle of May these moths deposit their eggs singly upon the young fruit, usually placing them upon the blossom end, but sometimes also upon the opposite end, rarely upon the sides. As soon as the young worm burrows into the fruit, casting its excrements and other refuse matter out of the hole by which it had entered the fruit. It reaches its full growth in about one month, and then measures about one-half an inch in length. Its body is provided with sixteen feet, is of a yellowish color, usually tinged with pink, and marked with a few polished, raised, dark-colored spots; the head and a spot on top of the first segment are polished brown. When about to assume the chrysalis form the worm deserts the fruit and crawls beneath a piece of loose bark, or any other object which offers it a shelter, and after gnawing out an oval cavity it spins therein a thin whitish cocoon. There are two broods of these worms produced in one year, but these brood overlap each other, so that worms of all sizes may be found at almost any season of the year. The fruit infected by the worms of the first brood usually falls to the ground before the worms have deserted it, but that infested by those of the second brood usually remains upon the trees until harvested, and the worms are thus carried to the store-house or cellar.

In our warfare upon the insect our first work in the spring should be to carefully examine the bins and barrels in which the apples have been stored and destroy all of the worms and cocoons that can be found; this can probably be done easiest by the use of hot water. Later in the season, the ground beneath the infested trees should be examined daily, and the fallen apples gathered and either fed to the hogs, or such use made of them as will destroy the worms which they contain; or, if the hogs are allowed to run in the orchard, they will devour the fallen fruit, and thus save us the trouble of gathering it.

Prof. A. J. Cook, of the Michigan Agricultural College, recommends thoroughly airing the infested trees with a solution of Paris green, or London-purple and water, using two tablespoonsful of the former, or one of the latter, to each gallon. He states that on the 25th of May, and again on the 20th of June, he thoroughly sprayed the same Siberian crab apple trees with this liquid; the fruit of the trees had been seriously injured whenever they had borne in previous years, yet a careful search made on the 19th of the following August failed to discover a single injured apple, although the fruit on other trees only a few yards off, but not treated with this liquid, were very much infested with the worms, one-fourth to one-half being wormy. To ascertain whether the fruit had retained any of the poison, he cut off pieces from some that grew in places that had been sprayed so much as to destroy the foliage, and sent them to a chemist; the latter could find no traces of the poison, it having been applied so early in the season that the rains had washed it all off before the fruit matured. A safer plan is to place around the trunks of the infested trees bandages of paper, beneath which many of the worms will crawl and spin their cocoons. For this purpose paper may be used; it is usually sold in sheets 18 by 20 inches, and each sheet folded three times upon itself gives eight layers, between two and three inches thick, and large enough to band many of the most ordinary trees. Pass one of these around the trunk of each infested tree, and fasten with a tack. This should be done about the first week in June; about two weeks afterward they should be carefully removed, and the larvae and pupae found beneath them destroyed, and, as the larvae are sometimes hidden within the folds of the bandages, some method must be adopted that will destroy these. As the bandages are so cheap they may be burned and replaced with fresh ones; or a quantity of them may be collected in a basket and taken to some convenient place and be run through a clothes-wringer, and then be replaced upon the trees. The great drawback to this method is that the worms are not destroyed until they have done all the damage that they are capable of doing. Although much safer in its application than Prof. Cook's method, it is not near so effective, since the latter not only destroys the worms before they have had time to injure the fruit very much, but also destroys the canker-worms and other leaf-eating insects.

CURREN'T WORMS.

Those who have experienced annoyance through the ravages of the currant worm, may find it worth while to try the plan of a writer in the Fruit Record. He says: "In starting a currant patch, I confine the bush not to exceed one from three to the plan, and give them as fast as possible to their support. As hinted above, sprouts will start from the roots each spring; but they must be rubbed off when about six inches long. All currant growers are aware that worms first make their appearance on the new growth and then spread over the bush. Consequently, no sprouts with worms. This is just as plain as that two and two make four. I have followed this plan for the past two years to my satisfaction, and have rarely seen the effect of worms on one or two bushes where my plan was not fully carried out. But such currants I never saw grow, the common red Dutch being nearly as large as the cherry currant and a better bearer. I have a few bushes that actually broke down from their load of fruit."
RAVAGES OF THE INSECT ARMY.

In the great war against weeds we are in danger of forgetting that we have an enemy about of far greater power, because working often insidiously and unseen, which requires to be as much guarded against, namely, the insect enemy. We complain of weeds because they rob the plant of food, and like the place where a good plant ought to be; and we fight with the feathered enemy because he takes the fruit, which have struggled through all other troubles; but the insect which we do not see rarely troubles us very much, though after it is too late to apply a remedy, we see what terrible havoc has been done. Then, overwhelmed with our great loss, we think there is no help for it. Yet we have the evidence everywhere about us that much less labor is often expended by the exasperated farmer or fruit-grower in shooting birds that are rather his friends than his enemies, would be more than sufficient to preserve a fruit crop against the worst enemies that ever existed.

We are moved to these remarks by a communication we recently read in a horticultural journal in regard to the celery-grub. All who have had experience in the culture of this vegetable know that they have much trouble some seasons from the operations of a very small worm, which gets underneath the surface of the leaf and feeds on its green cellular matter. Celery, when attacked by this insect, rarely does any good. This correspondent had tried lime, and ashes, and sulphur, and all the easy remedies so often named, but with no good at all. Finally he wrote to some one whom he thought could tell him what to do, and was told to go over the leaves on the first appearance of the insect and pinch them, "dead." He thought this very absurd; but he was tempted to try the advice, and found to his surprise that it took no more time than one or two good waterings or weedicings, and he therefore writes to thank his friend for his advice, and to praise his own good sense in having taken it.

Yet, this is no more than we, in this department and most other agricultural journals, are constantly insisting upon, namely: the necessity of personal labor if we would do anything in this way with much hope of success.

This has been exemplified in the case of the curculio on the plum. All sorts of easy scare-eweels have been thought of. Some dust the trees with lime, with sulphur, with ashes—others stick tar in rags about the tree. Numerous other nostrums have been popular, but the first great blow at the curculio was to cut off a couple of branches and place sheets under the trees, and with a mallet suddenly strike the stump and thus shake the insects off, which were then burnt. Do this every morning for a couple of weeks, and you can get plenty of plums and they will pay handsomely. Dr. Hall, of Illinois, improved this idea. He invented a sort of wheelbarrow with sheets spread on frames, which shook off and collected the insects at once. He also has plums in plenty and sells it, too. It is indeed the experience of every one that the war against insects, as against weeds, is one in which we must personally engage if we would have success. People think that the climate is a fearful one and look with envious eyes on foreign countries from which fruits flow so freely to our shores. But all who have had personal experience in these countries tell us that personal effort to keep off these animal pests is something enormous, and they laugh at us because we sit down and do nothing but cry over our hard fate.

Of course, we can get some help from outside agencies, and of these birds are the best. But even these we have to assist in order to get the best results from their work. We refer to birds generally, and we believe the question was one of the most engaging with the press generally. Asking a farmer friend what he regarded as the best remedy, and we suspect that the great world of disputants would have been surprised at his answer that he encouraged the blackbirds, as the purple grackle is called in these parts. This, the white grub, and similar root devourers, he thought he kept completely down by encouraging them. His neighbors shot at them whenever they had a chance, and they fleecked to his farm, where they were promptly shot; and they followed his plow and hoe work, to use his own words, closely checked. When he found his corn or any of his hoed crop troubled in this way he put the cultivator at once to work, and this gave the birds a chance.

These little hints may be of service at this season of the year. The war must be begun early and with personal effort. The ways and means need not be specially referred to. Only let be recognized that personal labor of some kind must be the bottom of success, and how to do it will often suggest itself. —Germanstown Telegraph.

SURE DEATH TO FLIES.

The Pyrethrum roseum, or "Persian chamomile," is the powdered leaf of a harmless flower growing in Caucasian Asia in great profusion, where for centuries it has been used to rid the natives of unwelcome guests from the insect world. It can be purchased of almost any reliable druggist at about one dollar per pound, all ready prepared for use.

Well may a finely powdered dust made from these flowers, the mosquito, the house fly, and the disgusting Cucurbitaeus or all be put to flight or murdered. It is only necessary to heap up into a little cone one teaspoonful of the drug pyrethrum, touch it with a lighted match and watch the thin blue line of smoke as it rises to the ceiling and is wafted through the air, changing the busy drone of insect life into a weak wall of insect one. Pretty soon down they come plump on to the table and over your paper, spin on their back, and then shew their lances, curl up their hairlike legs, and are no more.

Smoke from the Persian chamomile, or its dusty powder, is most efficacious, but the purity of the drug must be assured. It must have a bright buff color, be light, readily burned, and give a pleasant tea-like fragrance; one pinch should kill a dozen flies, confined in a bottle, at once; where it fails of these properties, it has been adulterated.

In common use in large or busy rooms, where from great dilution it fails to kill, it nevertheless produces on insect life, through its volatilized essential oil or resin, undoubtably nausea, vertigo, respiratory spasms, and paralysis. It acts upon them through the minute spiracles, the breathing tubes, that stud the surfaces of their little bodies, and form the delicate network of veins in their tiny wings. To human beings it is entirely innocuous and not disagreeable.

Cut this out.

MOTHS' RAVAGES.

How to Save Furs, Rugs and Robes.

In the matter of motes the traditional ounce of prevention is worth many pounds of cure, and the remedy to prevent their ravages is to lay away furs and wools as soon as the season for wearing them is over. The worst month for motes is said to be June, and before that time all articles likely to be molested by them should be securely packed away. In our furnace-heated city houses, however, where the temperature is kept at summer heat throughout the winter, whatever it may be outside, the clothes mote exists the year round, and is aggressively active as early as the first warm days of May, which in our certain climate, is early enough to become altogether with winter clothing.

Fortunately furs, which are the most difficult things to protect from the mote, are also the first which may be laid aside for the season. Before this is done have them beaten thoroughly, i. e., whipped well with a small rattan, which is what furriers use for the same purpose. Then examine the felt carefully, and where you find the hairs matted tightly together part them and wet the spot thoroughly, yet daintily, so as not to touch the adjacent hair, and dry the spot in the sun; and a very tractive garment, with layers of newspapers between each fold, and gum camphor sprinkled on the fur, and, finally, either sew the bundle in an old sheet or wrap it in newspapers, pasting the edges. If this is done carefully and speedily you may rely with comparative certainty that your goods are beyond reach of the small destroyer.

The best moth-proof chests were those made of red cedar, to the odor of which the insect had an unconquerable aversion, and the camphor-wood chests which seamen bring from the East Indies. The genuine cedar chest is a massive and costly affair, made of inch cedar plank, with walnut moldings and iron clamps. Fortunately for people of moderate means, Yankee ingenuity has contrived cedar packing-trunks, which answer all purposes of utility and which are far less expensive. These are the ordinary packing trunk, lined with a thin veneering of cedar, which, though less than the eighth of an inch thick, fits closely in every crack and corner and renders the trunk at once moth-proof and air-tight. No camphor is needed in such a chest, only be careful to see that no traces of motes are in the garments before packing, and lay it away smoothly with newspaper layers between each strata of clothes as an additional precaution. A wealthy lady, whose stock of furs in rugs and robes and wraps is something wonderful, has for their safe keeping in summer two large, old-fashioned cedar chests. The furs are well beaten and then stored in these chests, with pounds of camphor sprinkled among them. It is needless to say that they are never molested. Paper barrels with close-fitting heads form another effectively
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moth-proof cases. The paper of which these, are made is essentiallyregnated with colopar. and whatever is put into them is practically safe from the incursion of the moth-miller. The paper is sold by the sheet as a moth preventive, and any one may make for herself a moth-proof chest by lining an ordinary packing-box with this paper, putting a layer also under the lid. The odor is overpowering, and no right-minded moth will crawl over it in search of a place to deposit her eggs. No matter how many cracks and nail holes there may be in the box, if the paper lines them all its contents are safe. But inside of the lining of tar paper there should be one of newspapers of several sheets thick, since in warm weather especially the black tar paper stains badly.

Common newspaper is also a valuable moth preventive. The moth-miller is said to dislike printer’s ink, and while the paper opposes no obstruction to the ravages of moths already in the garment it will, if unbroken and pasted at the edges, effectively keep them out. Additional security is wiser to lay the parcel away in a closed trunk, but where packing-chests run short it is generally safe to put them on shelves in a mouse-proof closet, the danger being that the mice may eat the paper, and the moth-miller thus effects an entrance.

In the case of valuable furs, about which there is cause for uneasiness examine them three weeks after storing. The eggs of the moth-miller hatch out in from fifteen to twenty days, and the moth in the carpet begins its damaging work. Therefore, by thorough inspection assurance may be made doubly sure.

It is now a regular part of the tailor’s business to store valuable furs and Indian shawls, insuring them against fire, robbery and moths, and where a lady owns a five hundred dollar seal saque or a still more costly set of sables she is prudent to confine them to some reliable firm for safe-keeping. Furs sent to them are carefully examined before storing, and should the moths have attacked them they decline the care of them, fearing the danger to other furs in their custody.

Carpet’s keep the best on the floors with crash over them and bits of camphor under the edges. It is where the carpet is folded under, where the foot does not tread, and under heavy pieces of furniture that the moth usually makes its nest, and where it must be looked for. A hot flat-iron and a wet cloth is sufficient to destroy them in an ingrain or Brussels carpet, pressing the carpet with the iron through the wet cloth, but for a Wilton or Axminster the one safe and speedy method is to send it to the steam cleaner, whose process will effectually destroy the moths. Next to this is the use of the hot iron and wet cloth, which must be applied on the wrong side of the carpet, since the thick pile on the right side is not easily penetrated by the heat. If carpets are taken up during the summer it is wise not to beat them before putting them away, provided, of course, that there are no moths in the carpet, for the moth keeps them on the moths, to some extent, from cutting it. On the other hand, spots of grease, and still more, those made by sugar or syrup, attract the moth-miller. To put away a dirty garment is to offer a premium to the moths, who much prefer it to a clean one. The lint which accumulates at the edge of dresses and under the folds of pelting from admirable moth nests; therefore winter dresses should be carefully dusted before putting away. Garments which are to be made over should be rippled apart; they keep fresher, are easier to pack, may be more readily cleaned, and last, but not least, are all ready for work in the fall. So, also, if all garments are examined before packing, these which are worthless may be left out and others mended, so that when needed in the fall they may be ready to use, and not to be turned back, as was said.

The most fertile source of moths is the rubbish which incessantly accumulates in every household. Scraps of flannel, old bits of carpet, old feather pillows stored away in the garret—these are the breeding-places of the pest. It would in many cases be economy to burn them all, but, in all events, the law of self-preservation requires that they should be burned in the early spring. A small red-lined trunk is the best receptacle for women’s work which must be kept for moths, but a close packing-trunk, with camphor freely scattered among the contents, will serve the same purpose. Bits of carpet keep best if made into rugs and laid on the floor, where they may save the carpet which they match, and where the colors fail to keep pace with the original, so that when needed for mending the place is not glaringly apparent. Old flannels are always useful in a family, and your household probably will use any you allow her. A few seeds of rue kept in the house will usually drive away the moths, and though scurfy will be a welcome gift to the hospitals, where the clean old undergoing garments, whether of wool or cotton, are always useful. If your closets are infested with moths empty them, white-wash the walls, and scrub all the wood-work with yellow turpentine soap.—Pitts. Press.

WHITE GRUBS.

The white grub sometimes makes sad work with the strawberry bed. A wilted plant is an indication that its roots have been eaten off by the pest. Remove the plant and search for the grub before it gets to another plant.

SELECTIONS.

DIETETICS MORAL AND PHYSICAL REFORM CLOSELY ALLYED.

The Use of Over-fatted Animals as Food Incursing the Death Rate.

A distinguished philosopher once said: “Show me the dietetics of a nation and I will show you its character.” That is true, and is applicable to the physical, mental, moral and sanitary condition of human nature will not be denied. It is indeed self-evident, look where we will, that a gross physique, a gross mentality, gross morals and poor health are all of the one family and almost chargeable to a bad system of dietetics. It is not alone the use of intoxicating liquors, put on, saving a great deal of Borough and City, but of these unfortunate human conditions, but the very large consumption of over-fed, and, therefore, diseased animals as human food. I propose to arraign before the bar of public opinion, as a scarcely less potent factor in bringing about these injurious conditions.

The use of over-fed animals, either for grain or food, cannot fail to impart and fasten the seeds of human murder in the hearts of those who encourage or practice it.

“For just diseases to luxury succumb,
And every death its own atrocious brand:
The oppressions from that blood thick
And turned on man a never-savage man.”

If what the great poet said had been wisely spoken, all experiences prove it to be, then it must logically follow that our use of animal flesh food is a fruitful source of some of the worst diseases that afflict human nature, greatly abridging not only life, but the physical and mental health that alone makes it desirable. In a late number of Libell’s Living Age there are some remarkable statements regarding the use of flesh for two thousand years the Jews have religiously abstained from eating swine’s flesh and diseased meats. As a resulting consequence of this abstinence it is claimed that in health and longevity they are far in advance of the swine-eating Christians among whom they live. In an English example given, the Jewish death rate was only half that of the number of Christians in immediate vicinity. During the middle ages the plague that fell with such fearful mortality on the swine-eating Christians passed harmlessly over the Jews. The writer further states that the Jew owes to his dietetics that “sound mind in a sound body,” which is one of his chief characteristics.

But I write, not alone to discourage the use of swine flesh as a part of our dietetics, but more especially to show the very great danger of using over-fed animals of any kind for food purposes. It is impossible for over-fed animals, even if not closely confined, for take care of keeping them in a healthy condition. The effect matter, which in a natural state is eliminated through the skin, is in over-fed animals lodged in the cellular tissue, where it becomes an offensive and dangerous poison when used as food. Several instances have come under my own notice of swine and other animals over-fed that the flesh became so offensive, both in taste and smell, that even habitual flesh eaters rejected it with disgust. Though the evil of over-fed flesh is great, and is but a symptom of the mischief that is being done in the eating of beef, mutton and poultry, it is but far too common and attended with almost equally fatal consequences. In an instance that came under my own observation the eating of an over-fed duck brought on diphteria, resulting in the death of three members of the family. Some years ago there was slaughtered in Chester county an over-fed ox weighing about twenty-nine hundred pounds. In the village and vicinity where it was eaten the average number of a malignant and fatal cases of diphteria instantly followed. One man can fail to observe that during the butchering season and succeeding winter months scarlatina, diphteria, small-pox and many other types of inflammatory fever, become almost epidemic in town and country.
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who runs can scarcely fail to read their unmistakable cause in the excessive use of over-fatted meats, always so abundant and so freely used in our winter months. Scarcely less injurious to human health is the use of dairy products obtained from over-fed and closely confined cows. Especially, should no fermented food find favor with the dairyman. Enslaved or fermented green cornstalks just now coming into fashion, should be as unhesitatingly avoided as the refuse fermented grain of a brewing house. In proportion as it ferments it loses its nutritive power, and must have the same unhealthy stimulating influence on cows that beer and other fermented liquors have on men. More than three-fourths of the inhabitants of the earth subsist chiefly on vegetable food. Other things being equal human mortality is greatest where an animal flesh diet is most largely used. Much experience has shown that the use of a diet of animal flesh, so far from being a necessity, is a positive injury. Still, where, as in this country, the flesh-eating habit has been so long and firmly fixed as to render it a second nature not easily changed, it may be well for us to look around and see something cannot be done to modify or lessen its influence for evil. To this end our agricultural societies should cease by premium or diploma, to encourage the over-fattening of animals. The highest prizes should be awarded to farmers exhibiting well formed stock and yet not fed into unnatural and diseased conditions.

In addition to this, swine flesh could be made as contraband in our markets as horse flesh now is, our present death-rate could not fail to be reduced to one-half of what it now appears.

The death-rate in summer is always less than that of winter. But it might be still further reduced by a total abstinence from the use of fresh meat during the hot months. The fresh veal and beef supplied in the markets and by butcher waggons, are exceedingly objectionable. In the moist, warm weather of August and September they are always more or less advanced toward a state of putrefaction before they can be assimilated by the digestive process. Diarrhea, cholera and dysentery are the legitimate and almost inevitable result of such a diet. Substitute a liberal use of the ripe fruits of the season and all will be well. Or, if animal flesh must be eaten let it be only in the form of dried beef or venison.

Even the matter of cosmetics the use of a gross animal flesh diet is inadmissible. All experience shows that such a mode of subsistence utterly incompatible with a development of the higher types of beauty.

"Daniel ate pulse by choice, example rare, Heaven blest the youth and made him fresh and fair."

In conclusion let me add a word of warning against the use of poisons as remedial agents. As a rule, with scarcely a conceivable exception from the case of well person sick will make a sick person better. Therefore, if sick people could be protected by law, as they have a right to be, from those licensed physicians, ignorantly called doctors, half the chronic diseases and one-fourth of the present death-rate would immediately vanish from the land.

It is the healing power of nature that restores the sick to health. It is self-evident that this healing power can only be hindered by poisons. The most dangerous of quacks is he, who, under cover of law, pretends to assist nature by poisoning her. It is true, patients co sometimes recover after having taken poison as medicine; but it is only when nature’s healing powers are greater than man’s machineries, and there is a victory over both the disease and the poison.—J. Williams Thornc.

THE "YEAR WITHOUT A SUMMER."

We continue to receive occasional inquiries concerning the "year in which there was no summer." Some persons appear to have a wrong idea as to the time. It was the year 1816. It has been called the year "First and Second Summer," for there was a sharp frost in every month. There are old farmers still living in Connecticut who remember it well. It was known as the "year without a summer." The farmers used to refer to it as "eighteen hundred and starve to death." January was mild, as was also February, with the exception of a few days. The greater part of March was cold and hoar-frosty. April opened warm, but grew cold as it advanced, ending with snow and ice and winter cold. In May ice formed half-inch thick, buds and flowers were frozen and corn killed. Frost, ice and snow were common in June. Almost every green thing was killed and the fruit was nearly all destroyed. Snow fell to the depth of three inches in New York and Massachusetts and ten in Maine. July was accompanied with frost and ice. On the 5th ice was formed of the thickness of window glass in New York, New England and Pennsylvania and corn was nearly all destroyed in certain sections. In August ice formed half-inch thick. A cold northwest wind prevailed all summer. Corn was so frozen that a great deal was cut down and dried for fodder. Very little ripened in New England, even here in Connecticut, and scarcely any in the Middle States. Farmers were obliged to pay $4 or $5 a bushel for corn of 1815, for seed for the next Spring’s planting. The two weeks in September were mild, the rest of the month was cold, with frost, and ice formed a quarter of an inch thick. October was more than usually cold, with frost and ice. November was cold and blustering, with snow enough for sleighing. December was quite mild and comfortable.

THE FARM LABORER.

Many farmers, especially those somewhat advanced in years, contend that the time was then when there was no difficulty in getting hands to work whenever they were needed; but of latter years this has not been the case. Men, they say, needing work would sooner go round as tramps, and hang about cities with nothing to do, than to go out to the country to farms, where they are needed, and do an honest day’s work. We know things are not as bad as this. There never was any difficulty in getting permanent hands, nor is there much now. The trouble is to get men for a few weeks only, as temporary or extra help; and in this there always was trouble and there always will be.

Men are pretty much all alike. They have friends, acquaintances and associations, and the temptation to keep near them is natural and strong. They may not have work now, and there may be work fifty or one hundred miles away, but surely something will turn up near home, among so many looking out for them, and they let probable chance go by. Then it costs money to go to these distant places, and they have nothing to spare for the chance.

It is not unreasonable that men should think in this way. And then there is the natural indisposition of men to take in and board total strangers for a short time, even when work is pushing to be done; and it is no uncommon thing for persons to refuse applicants work when they really need them, because they do not like their looks. Many a man has actually started off from the towns to the country for work, which he has been told was steady work. Our farm-life is hardly deficient in this respect, and perhaps more so since the introduction of so much labor-saving machinery. If it could be so ordered that there would always be employment at every season in the year for men living about farms, so that they could always be at hand—men whom one knows and can trust—that would be very little cry for extra help. We suppose farming will never come to this, but it might be brought nearer to it in many cases than it is now. —Green town Telegraph.

WHAT A TENANT MAY REMOVE.

Tenants of an improving disposition are often deterred from making their homes as comfortable as they could desire and are able to make them for fear of benefiting their landlords or successors more than themselves. Painting, papering and repairing of the house and improvements of the grounds are obviously a personal interest only and not beneficial to any one but the occupant of the premises.

Should a tenant see fit to incur expense for these things he can claim no recompense, if, at the expiration of the lease, he is unwilling or unable to renew it. There are, however, many improvements that formerly would have been held to inure to the benefit of the landlord, but which more modern decisions permit the tenant to take up and carry away with his other household good.

The old law and judicial construction favored landlords and land owners, and everything that was directly or constructively attached to the soil was held to belong to the owner of the fee and not removable by the tenant though placed there by him solely for his own convenience. Although the law has been little changed in this respect the views of judges have been practically reversed. The tendency of all recent decisions is to allow a tenant to remove everything removable which
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he adds to the tenancy, unless he himself intended it to be permanent. Houses are usually considered as realty, and everything attached, as porches, window blinds and sashes, water spouts and lightning-rod, go with them. The gas pipes which convey the gas from the street and distribute it throughout the house are in the same category, but the gas fixtures, though screwed and cemented to the gas fittings, are held to be of the same nature as the old-fashioned candlesticks, and therefore, personal property. This has long been held to be the law as regards tenants. The party may put what gas fixtures they please in a house and take them away again with their kerosene lamps and other illuminating apparatus. Recently Judge Thayer decided that this was good law for the landlord as well as for the tenant, and that therefore the gas fixtures do not necessarily pass with the sale of the house, nor are they covered by a mortgage on the house.

As a general rule, whatever a tenant puts into a house, locks or erects on the premises, his own comfort, without the intention to permanently annex it, he may remove at any time before the expiration of his lease. This would include such things as cupboards, shelves, coalsbins, and even a stairway has been held to be within the rule. All trade fixtures and temporary structures, whether frame or brick, and without regard to their size, may be taken down and carried off by the tenant who erected them. Even a dwelling-house is not a part of the realty if the right to remove it is reserved. All the landlord can legitimately demand is to have his property restored to his possession in as good order as it was received by the tenant, ordinary wear and tear excepted. Whatever the tenant put in of a movable nature he may take away, but his carpenter work must not injure or permanently alter the property. All the decisions concur that these removals of improvements and fixtures must be made within the term of the lease. If the tenant waits till his lease has expired, the land and all that is on it, except the purely personal property of the tenant, reverts to the landlord.

The Tobacco Trade.

How it is Increasing in the West Branch Valley.

Comparatively few persons are aware of the value of the tobacco crop in the West Branch Valley for 1880, and the statistics that have been gathered regarding it will be a source of surprise even to tobacco-growers themselves. For years the growing of tobacco on the rich alluvial lands about Jersey Shore, the flats of Pine creek and the vicinity of Pine station, has been steadily increasing, until the crop has come to be regarded as one of the staple productions. It required some time for those engaged in its cultivation to learn the best methods of raising and curing the crop, and now that they have acquired that information by years of experience, they rarely fail in making a good crop and obtaining good prices. Almost any one can grow tobacco, but comparatively few know how to prepare it for market after it is grown, without being taught the process of curing. This difficulty has been largely overcome by those regularly engaged in the business, and the crop is now one of the most profitable raised in Lycoming and Clinton counties. The following figures, obtained from the shipping books of the Philadelphia & Erie Railroad Company, will show the quantity already sent to market of the crop of 1880:

<table>
<thead>
<tr>
<th>Station</th>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock Haven</td>
<td>455,773</td>
</tr>
<tr>
<td>Waynesboro</td>
<td>1,754</td>
</tr>
<tr>
<td>Pine</td>
<td>271,552</td>
</tr>
<tr>
<td>Jersey Shore</td>
<td>725,698</td>
</tr>
<tr>
<td>Williamsport</td>
<td>53,996</td>
</tr>
<tr>
<td>Montgomery</td>
<td>32,074</td>
</tr>
<tr>
<td>Dewart</td>
<td>247,96</td>
</tr>
<tr>
<td>Watertown</td>
<td>90,770</td>
</tr>
<tr>
<td>Milton</td>
<td>78,370</td>
</tr>
<tr>
<td>Montandon</td>
<td>2,374</td>
</tr>
<tr>
<td>Total</td>
<td>2,658,824</td>
</tr>
</tbody>
</table>

Here we have an aggregate of over two millions of pounds already shipped, and it is probable that this amount has been increased fully one hundred thousand pounds more, by shipments that have been made since the above statistics were gathered. It will be noticed that Jersey Shore, as a producing and shipping point, stands at the head of the list, and Lock Haven some next. Then follows Pine and Dewart, with a good showing from Watontown and Milton. As the crop was generally well cured, fair prices were obtained on an average, and in many instances the very best prices were paid by buyers. From the above figures tobacco-growers and dealers can readily see what a handsome sum of money was realized from the sale of these two millions of pounds. And as the cultivation of tobacco is increasing from year to year, it need not surprise one to see ten million pounds produced annually between Lock Haven and Northumberland before ten years. In many of the best districts in the valley scarcely a pound has been raised. Take the great Muncey valley, for instance, which is one of the richest districts in the county, as well as White Deer, and one can see that millions of pounds could be produced in these districts alone. The day is not far distant when the West Branch valley will rival next to Lancaster county in the production of tobacco.—Williamsport Gazette and Bulletin.

Waste Materials from Towns.

Nearly every farmer goes to the nearest village to trade, visit a mechanic, or obtain his letters and papers, at least once a week. He often takes a load to market, but he rarely brings one home. He can, with very little trouble, hand a load of material that may be obtained for nothing, and which will be of great benefit to his land. Most village people make no use of the ashes produced in their stoves or of the bones taken from the meat they consume. Scarcely any brewer has any use for the hops that have been boiled in his vats, and the blacksmith hardly ever sees the clippings he takes from the feet of horses. All these materials make excellent manure. A barrel of shavings cut from the hoofs of horses contains more ammonia than is contained in a load of stable manure. Applied to land without preparation they might give no immediate results, but they would become decomposed in time and crops of all kinds would derive benefit from them. They may be so treated that they would produce immediate results. By covering them with fresh horse manure they will decompose very rapidly. They may also be leached in a barrel and the water that covered them drawn off and applied to plants. Water in which pieces of bones and hoofs have been soaked is an excellent manure for plants that require forcing. It stimulates the growth of tomatoes, rose bushes, and house plants very rapidly, and emits no offensive odors. A vast amount of fertilizing material is wasted in towns that farmers could obtain the benefit of with very little trouble.

Tea Two Hundred Years Ago.

While investigating the history of tea an English writer came across a rare manuscript in the British Museum, giving as below a quaint summary of the virtues of "the herb called tea or chee." It bore the date of October 26, 1686, and purported to be a translation of the Chinese.

1. It purifies the Blood that which is grosse and heavy.
2. It vanquishes hasty dreams.
3. It caseth the brain of heavie damps.
4. Easest and cureth giddiness and paines in the head.
5. Prevents the dropsie.
6. Dryeth moist humors in the head.
7. Consumers rawness.
8. Opens obstructions.
9. Clears the sight.
10. Cleanseth and purifieth abode (sic) nouious and hot liver.
11. Purifieth defects of the bladder and livers.
12. Vanquisheth superfluous sleep.
13. Drives away dizziness, makes one nimble and valient.
14. Encourages the heart and drives away fears.
15. Drives away all paines of the collick which proceed from wind.
16. Strengthens the inward parts and prevents consumptions.
17. Strengthens the memory.
18. Sharpeneth the will and quickens the understanding.
19. Purgeth safely the gaul.
20. Strengthens the use of due benevolence.—Scientific American.

Tobacco Culture.

How to Raise the Coming Crop.

In our last article we gave minute directions about the preparation of the tobacco ground for the reception of the plants. The time is now at hand, in this latitude, when the plants are in a sufficient state of forwardness to transplant. As the seed was sown late, however, they are not so far advanced as is usual at this time. The untoward season also retarded work on the tobacco fields, and every effort should be made to get them ready at the earliest possible moment, so that when a favorable spell of weather comes along the tobacco grower will be ready to take advantage of it. All depends upon doing the right thing at the right time; in being ready to avail himself of any favorable circumstances that may turn up.

The Time to Plant.

Plants may be set out at any time from the 20th of May to the same time in June. From the 1st to the 10th of June we think a better
time than either of the first mentioned dates. The plant requires in an average season about 100 days from its removal from the seed bed to grow and mature fully. If set out too early, and the weather proves unfavorable, it is likely to become stunted, mature prematurely without attaining the fullest development of leaf, and, besides, be deprived of the August and September dews, which are well known to be very beneficial to it. If, on the other hand, it is set out too late, there is danger that the early frosts of fall may come before the crop is ripe, and the hard labor of the season rendered profitless in a single night. Early in June is, perhaps, as good a time as any, although the tendency here in Lancaster county is to plant as early as the season and the plants will admit.

The Weather an Important Factor.

Then, too, the weather must be carefully looked after at this season. Some growers pretend they are indifferent to the weather and plant without regard to what their plants are large enough. Experienced cultivators are not indifferent, however. To set out the plants on a ground that is very dry is not only to make yourself a great deal of trouble, but to bring your plants to a standstill for an uncertain length of time. It is better to wait a week or even ten days for showers that will put the ground in proper order. You gain time by this practice; the plants continue to grow in the seed bed, and if the soil is sufficiently damp afterwards they will grow right along and make better stands! that if set out a week previous to the first in the east field. We are well aware plants can be made to grow a dry season; but those who have been compelled to haul water for a large tobacco field need not be told the trouble, labor and expense of that operation. A few warm showers may save all this annoyance, and, besides, no one needs to be told that nature’s plan of irrigation is far more beneficial than that of man. We say, then, do not be too much in a hurry. Wait on the hoped-for rain at least a few days. If it does not come in time the farmer will still have an opportunity of removing the plants to a field of proper depth and hand-watering. Remember, the longer the plants remain at a standstill in their dusty beds, the longer the dreaded cut-worm will continue to work its ravages. If the soil is in good condition and the plants make an early start they are soon beyond the reach of this ever-present enemy. Replanting, of course, is unavoidable, but the less of it the planter has to do the better he is satisfied, and when plants are scarce, as they sometimes are, it is a matter of money as well as of time and trouble. To set out the plants in ground that is so wet as to be muddy is nearly as bad as to plant them in a ridge from which the sun and winds have extracted all the moisture. The other extreme is as bad as the other. The dirt clings so tightly to the tender rootlets as to impede the natural growth of the plants.

Setting Out the Plants.

The season being favorable the planter’s troubles are far fewer and his prospects much brighter. Such being the case, when his field has been properly laid off in rows 3½ feet apart and his plants in the seed bed show leaves as large or larger than a Bland dollar, (we are almost tempted to say the larger the better), he is ready for the work of transplanting. If this season has been thin and sown well and cared for, he will have ample supply of strong stocky plants. It is well to select them as nearly alike in size as possible. This insures a more even looking field, and the crop is more likely to mature evenly, which is preferable to having to cut a few scors or a few hundred stalks daily, as the case may be, during a period of several weeks.

Few of the operations in tobacco farming require greater care and nicety than setting out the plants. Caressness tells as quickly at this point as at any later stage. The seed bed ought to be moist enough to allow the plants to be pulled up without breaking the roots. It can be easily put into this condition by careful watering. Each plant should be removed by itself, and care must be exercised not to tear the roots or bruise the leaves. A small-pronged implement like a fork will facilitate the work of removal. The plants should be carried in the same direction, as this depends much of the after-value of the plant bed. Only a single plant should be drawn at a time. If the removal of more is attempted, small ones are often taken with the large ones, giving the field an unequal stand. Small plants ought not to be set out except in case of necessity. The best plants are, of course, those with a low, bulky top, as they are certain to have plenty of large, strong roots. Slander, spindling ones have far less vitality and easily succumb to the cut-worm, drouth, dry weather and other enemies of the tobacco field. Thinning will generally do away with much annoyance on these scores.

They may be carefully placed in a basket and in this way carried to the field. Here the planting should be done as rapidly as possible. A boy with the basket in hand passes between two rows and drops a plant on every spot marked, as we have already explained in a previous article. He will be able to drop the plants quite as fast as two men can plant them. A variety of methods and devices are in use for this purpose. Some use a light trovel, which is drawn to the ground, pressed to one side, and in the opening thus formed the roots of the plant are inserted. In this case, a portion of the plant is left, and the trowel is withdrawn and the earth closely pressed around them. This at least has the merit of speed, but we do not advise its practice. The more nearly the roots are placed in the position they were while in the seed bed, the more likely and more quickly the young plants are to grow. A better way is to use a planting peg, about six inches long by one and a quarter in diameter, round, the lower end tapering with a rounded point. This the planter must thrust about two inches into the ground, then withdraw it, and into the opening thus made the roots of the plant must be put and the dirt carefully pressed about the roots. If there is time and the field is not large the hands can be used with better results than either the trowel or peg. The necessity of opening in the ground can be scooped out and the roots of the plants put into their natural position and the ground drawn over them. This is a slow process, but it is the best. Few care to practice it, not being willing to encounter the labor it entails. The ground around the plant must not be left higher than the plant itself or a heavy rain may cover the latter with dirt. If possible, a slight, shallow dish may be left around the plant, the better to catch the rain. If rapid planting is desired the peg system gives the best results. Let the planter start in on his row with a plant in his hand, so held that the moment the hole is punched into the hill the plant is ready to be inserted; a moment is sufficient to give the required compression, after which, before rising, let him take up the one dropped on the hill, adjust it while moving to the next hill, and be ready to place it in the hole as soon as he gets there. If not too stiff in the backbone one man can set out from, 3,000 to 5,000 plants in a single day. Here again the skill of the grower will manifest itself. If the plants are of good size and strong, and have been carefully planted, nearly all will grow, while weak, tender ones, badly planted, will compel you to do much of your work over.

Planting in Dry Weather.

When the ground is too dry and the plants are getting too large in the seed bed, the farmer will be compelled to do the best he can under the circumstances. Watering the plants on the ground becomes a necessity. There are several ways of doing this, and each one has its advocates. Commonly, water is bailed to the field in barrels and a small quantity is applied to every plant set in the ground; this has a tendency to bring the ground closer to the roots as well as to supply the required moisture. This operation must, of course, be repeated on the succeeding days until the plant has commenced to grow, or until timely rains render it unnecessary. It has also the tendency to break or harden the soil around the plant and thus impede its rapid growth.

A few farmers, however, pour the water in a shallow hole a few minutes previous to setting out the plants, and on the ground thus moistened set the roots of the plant and draw the earth around them. A grower of much experience assures us that he has had better results from this plan of operation some years than by any other. The moisture does not dry out so rapidly, neither does the surface ground bake nor become hard. He informs us that he does not find a second watering necessary, but his plants come along without further trouble. Of course, when the ground is wet, or the necessary rains put in their appearance, all this tedious watering is not required, and the planter is spared a world of trouble.

Some Other Points.

We do not think it a good plan to plant an entire crop in a day or two, especially when it is a large one, and the labor is at hand to do it. It will, in such a case, result nearly at the same time, which is often an inconvenience, and, besides, if a spell of bad weather should intervene at cutting time, much of it might become over-ripe and the value of the crop injured. This also gives the grower a better lot of plants. A week or ten days longer in the seed bed will bring on the plants left after the first drawing wonderfully, and make the stand in the field more uniform. There is also less hurry when this course is taken, and the plants are likely to be set out
more carefully. Most planters are anxious to get out their plants at the earliest moment and all together, but there is not so much gained by this course as some think, unless the weather is very favorable, when, of course, the grower should lose no time to avail himself of it.

Should the weather be very warm and the sun pouring down its hot rays on the newly-set out plants they will wither readily unless protected in some way. Any method will do, provided it is effective. A cloud of earth and a patch of grass, a bunch of grass, the leaf of a weed like the burdock, either of these will act as a shield. A piece of old shingle stuck on the side of the plant is a favorite method with many farmers. All except the last mentioned must, of course, be removed in the evening and replaced in the morning, which entails a vast amount of labor.

The Cut Worm.

No sooner are the plants removed to the field than they are compelled to encounter another enemy in the cut worm, which seems to await their coming to make its presence known. This insidious and destructive enemy does his evil work in the darkness of the night. After three or four hours after the field is planted the worms are at work. No time must be lost in looking for them. There is no trouble in finding them. When you see a leaf eaten off, or the entire plant, and partly drawn into a small hole in the ground, search for the enemy and you will find him in the shape of a brownish black worm, near the mouth of the hole. Kill him and look whether he has any companions. The early morning is the best time for this work, as he is then nearer the surface; later in the day he goes down further, doubtless driven there by the heat of the sun. Keep going over the field every day or two until the plants have grown beyond the reach of the cut worms. Replace the plants thus destroyed, as well as those that have died from other causes. There must be no vacant hills, our land is too valuable for that. It is well to have some large plants in reserve for this purpose, so that there be no noticeable inequality in the appearance of the field. Plants with leaves five or six inches long, and a stalk proportionately stout can almost bid the cut worm defiance.

One of the finest lots of tobacco grown in this county last year—only a half acre, however—was raised in this wise: After the plants were out of the ground a few weeks they were transplanted into the small flower pots used by florists. Here they were left until the leaves were two-and-a-half and three inches wide, and of corresponding length and the stalks stout and vigorous. They were then carefully removed from the pots and set in their places in the field, with all the ground still on their roots. They never dropped, grew from the hour they were set. Evidently any were attacked by worms, and the result was the highest priced leaf we have seen. The cost of the earthen pots and the additional labor, where a large field is to be planted, will most likely prevent the adoption of this plan, but the price obtained by the above grower amply repaid him for his trouble.

THE AMERICAN MERINO.

The American Merino is one of the triumphs of American breeders. The thorough and methodical adaptation of the Spanish sheep to our peculiar circumstances and necessities is a remarkable and conspicuous instance of successful efforts to reach a desired end. Our native breed Merino now stands first in the world, and a flock of them is sought by foreign breeders as a source of improvements in their flocks. Its fleece is the heaviest, the staple is the longest and as fine as the finest, and its carcass the heaviest of any living Merinos. No other sheep is so well adapted for the purposes of a people who desire strength and durability as well as beauty in their dress staples, or as a basis upon which to build up different cross-breeds which may be profitably kept upon as well as raising rams, to supply the best mutton as well as every class of raw material for our native manufactures.

The Merino is the oldest domesticated sheep. It supplied the ancient Romans with the fine wool from which the imperial purple robes were manufactured, and with such care was the wool grown that the sheep which bore it were continually blanket ed or otherwise protected, even in the warm climate of Spain. From that time up to 1809 and 1810 the Spanish Merino stood first as a wool producer, and during years nearly 4,000 of those sheep were imported into America from the choicest flocks of that country. A few importations had been made in 1800 and the following years; and it was from the importations of 1802, by Col. Humphreys, that the best strains of Vermont Merinos have descended. The history of these Merinos and their descendants has been varied and eventful, and their "ups and downs" have been wonderful. Animals have sold for one dollar at one time, and $10,000 have been refused for one at another time. But, after all, we have now arrived at a steady, substantial condition in which this sheep, excellent in every respect, stands upon its merits as the first variety in the world as regards utility. It is the basis of our enormous wool production of 250,000,000 pounds per annum, worth to-day $100,000,000. It supplies directly the material for the fine cloths used for men's garments, the finer fabrics for ladies' woven clothing, the mixed fabrics of wool and cotton known as delaines, and by other names ranked only by ladies, and which make the staple variety of articles of lesser note. Its wool is not only carded, but is combed, and therefore supplies a wide range of uses. Indirectly as the parent of grades, it helps to produce grades fitted for nearly every use, from the carpets under our feet to the hats upon our heads, the umbrella which shelter us from the shower, and the broad flag which waves over and shelters every citizen from foes at home or abroad.

Formerly its carcass furnished but a poor quality of mutton, but this condition is referred to as to size and flavor. Crossed under the larger breeds it furnishes the best and fattest market lambs, and makes desirable mutton for home use and for export. In short, if one intends to keep sheep of whatever kind, unless it be some other pure variety for breeding, he cannot begin without the help of the American Merino. It not only exists as a splendid example of successful breeding, but it points emphatically to the hope that in time we may produce distinctive types of other breeds as greatly improved upon the imported originals as this has been.

The American Merino is a medium-sized sheep, weighing, alive, from one hundred and twenty to one hundred and fifty pounds. It is dark gray or white, and is covered with wool in every part except the tip of the nose. It carries the still favorite wrinkles in its skin, although it is far from being as wrinkled as many rams of this breed. Merino wool is peculiar for its heavy yolk and plentiful grease, but while this is a necessary and advantageous peculiarity for a fine and close wool sheep and prevents the cuttings of the fleece, it is especially valuable when the rams are used for the improvement of the common native sheep of the Western States and Territories, whose fleeces are dry, coarse, harsh and of little value; but which when improved by crossing with the Merinos are soft, fine and of a staple almost of equal value with the wool of the pure breed. So in crossing with the long-wool breeds whose fleeces are apt to be thin and open on the back, the pure Merino cross has a fleece as long and lustrous as that of the parent, but it is softer, closer, and gives better protection to the graded sheep from storm and snow.

The introduction of the pure Merino in Texas, Colorado and New Mexico has doubled the value of the flocks there, for no flock master can afford to grow native wool when one cross of Merino not only doubles the weight of the fleece, but doubles the value of the staple. Moreover, the inner use of size in the cross-bred wethers has given them a value as mutton which the native sheep never had. It is not uncommon for a native flockmaster to import as many as fifty rams in a "bunch," from Vermont or Western New York, for use in his flock in western plains. Our Merino is at home in the hills and valleys of Vermont and Northern New York in the western fields of Wisconsin and Michigan, on the rich prairies of Iowa and the bottoms of Ohio; it braves the "blizzards" of Minnesota, the hot, dry winds of Colorado and Kansas and the "northerns" or Texas and New Mexico; it thrives everywhere in sun and snow, in valley and mountain and dry plain; it is cosmopolitan; it is American in every sense of the word. It has also carried its good qualities into the far-off isles of the Southern Ocean, and is welcomed as a benefactor among the flocks of New Zealand and Australis, where it has gained the reputation of being the best sheep of its kind in the universe, a distinction which it fully deserves.

FAILURE OF SEEDS.

The failure of seeds to grow is by no means always attributable to the dealer, but often results from the manner in which they are sown. Earth, air, moisture and heat must all properly exercise their respective functions before the seed can germinate. When the soil is too dry or insufficient the germination seldom takes place, and a similar result follows when seed are too deeply buried and thus deprived of warmth and air. The high temperature and light rains of the past two or three weeks have been highly favorable for the growth of seed in the field and garden.
OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular monthly meeting of the Lancaster County Agricultural and Horticultural Society was held in their room over the City Hall, Monday afternoon, June 13.

The members and visitors were present: Joseph F. Wittmer, Paradise; M. D. Kendig, Crewe; Calvin Cooper, Bird-in-Hand; Johnson Miller, Warwick; J. C. Linville, Salisbury; J. Bollinger, Warwick; Wm. Beene, Safe Harbor; Simon F. Eby, city; F. K. Diffenderfer, city; A. Green, Eby; city; Henry Kurtz, Mount Joy; C. L. Hunsacker, Manheim; Peter Hershey, city; John G. Resh, Willow Street; Isaac Broomell, Christiansia; J. M. Johnston, city.

On motion, the reading of the minutes of the last meeting was dispensed with.

Johnson Miller reported that the wheat fields were doing well. The late rains would have the effect of filling the grain. The corn-crop was very irregular, but, judging from the ears, it should be abundant. Tobacco has started well, and there was every prospect for a good crop. The cut-worms, however, was at its work. The crop of small fruits, except peaches, would be large.

Mr. Bollinger said he had early seeding of wheat being done. Field full was an almost entire failure. He had then other fields which he sowed later, and these would do well. He reported a fair prospect for a good crop of hay. The worms are destroying a good many tobacco plants, but there would be a fair crop. Small fruits would not be very plenty in his section.

Mr. Linville said the wheat in his section was badly rusted; the one-year-old grass fields were thinned out, but the late rains had done them much good. The sweet corn was looking well. He was making a good making. Apples and pears, he thought, would not do so well. This was also the case with the cherries. Small fruits would be plenty—everything except grapes, which have been damaged considerably by the rose bugs.

Mr. Cooper said he could corroborate nearly every thing that had been previously said in regard to the crops. If the rust did not prove too severe, he thought they had every prospect for a good crop of wheat. Small fruits of all kinds are in abundance. The cherries are heavy, and the weather. Potatoes came up very irregularly, and some were only coming out of the ground now. He had not seen a bug on his ground this year.

Mr. Kurtz remarked that the wheat had come out remarkably during the past few weeks, but he was afraid it would suffer from the rust. Tobacco is pretty nearly all planted, and does pretty well, except it is suffering from the cut-worm.

Mr. Kendig said the farmers were experiencing considerable difficulty with their corn, some having been planted three times before they got their corn set.

Mr. Wittmer said the crops were about the same in his section as had been noted in other parts of the county. The tobacco plants were almost eaten up by the cut-worm. The other day he gathered 520 worms off a single acre. Some would be abundant, and other small fruits were thriving.

Dr. Greene read a brief article in reference to the buying and selling of tobacco, stating that mostly all the buyers were Skylocks and frauds, whose sole aim was to obtain tobacco, and not to buy it in connection with some of them at the Stevens House, and he knew not a few who would steal his pocket book if they got a chance. He was in favor of establishing a brokerage in this city, where samples of tobacco should be exhibited. The buyers could then purchase from these samples, and the raisers thus be prevented from coming in contact with such tobacco ‘sharps.’

M. D. Kendig read the following paper in reference to his success in growing corn:

When this society offered a premium for the largest and best yield of corn from five acres, crop of '89, I concluded to give it a trial, but getting no rain we supposed that our chances would be greatly increased if our fields were well drained. This year the first crops of which were mown and taken off each year, while the second were allowed to remain unharvested. The enirchments of barnyard manure were scattered over the poorest spots and ploughed the beginning of March to the depth of six inches; it was then tilled, easily distributed over the surface and covered with soil thoroughly brought up by the cultivator, which was passed over four times, making the ground in a most excellent condition for planting.

It was then marked off with a sooner both ways, or chequered, rows 3 feet 4 inches apart, and planed 6 inches from the side. The wharf was 15 inches deep, 9 inches to a foot high. It was thinned out to two stalks to the hill, always leaving it in a straight line, giving each stalk an equal chance. The ground having been thoroughly worked up and pulverized before planting, it was very easy to do the planting simply. An occasional bowrowing, to keep the ground loose and mellow, was all it received. No hand in the field all season except during the time the plots were planted. The plot contained 6 acres and 122 perches, and yielded 328,250 bushels of corn, valued at $2,530; and, at the rate of 95½ bushels to the acre. It is only fair to state here that two sides of it were laid off and tilled, the highest yield of corn, that reduced the entire yield at least to 35 or 50 bushels.

The following essay upon the subject of 'Forestry,' which had been prepared by Casper Miller, was, in that gentleman's absence read by Mr. Diffenderfer. Forestry is a subject which has become a very prominent one in many sections of our county, and it has even become an essential part of our industries. It is generally supposed here, however, that our land is too high and irregular for the purpose, and a large portion of the land is used to raise crops, or even to produce timber for the purpose of being cut and removed to other countries. This is a great extent, and is true. But there are not even acres in our county that could not be improved by the judicious cultivation of trees, whether for the purpose of supplying the demand for timber, or for the purpose of raising the land.

The first step in the direction of forestry is to select the proper species of timber trees to be planted. These species are usually selected by the farmers themselves, and the results are generally bad. The species of timber trees should be selected according to the climate, the soil, and the use to which the timber is to be put. If the timber is to be used for building purposes, then a species of timber tree should be selected that is durable. If the timber is to be used for the purpose of supplying the demand for fuel, then a species of timber tree should be selected that is easily obtainable.

The following is a list of the most common species of timber trees that are found in our county:

1. Populus deltoides, the willow.
2. Populus nigra, the black poplar.
3. Populus tremula, the aspen.
4. Quercus rubra, the big-leaf maple.
5. Quercus alba, the white oak.
6. Quercus prinus, the black walnut.
7. Fraxinus americana, the White ash.
8. Acer saccharum, the maple.
9. Ulmus americana, the elm.
10. Quercus velutina, the black oak.

Dr. Greene, S. P. Eby, Esq., J. C. Linville and Calvin Cooper spoke on the subject of tree planting. The subject was an important one, and it had been frequently brought before the essayist, who produced a very valuable paper.

Johnson Miller read an essay upon the subject of holding a fair by the society next fall. The paper advocated the holding of a fair, but the writer was of the opinion that it would be more beneficial to the community if it were held in the fall.

It appealed to the business men of the community for financial aid for the undertaking.

Dr. Greene said he had spoken to a number of persons and he had no doubt that if a fair was started in the right manner it would be a success.

He hoped a committee would be appointed to solicit subscriptions in the county to a guarantee fund from our business men. Then publish a premium list at once, and circulate it throughout the county.

After considerable discussion upon the subject, Dr. Greene asked Mr. Vaux to move that this question be referred to a committee for the effect that the society deem it advisable to hold a fair this year.

Owing to the fact that the regular meeting day of the society falls next month upon the 4th of July, it was decided that the meeting would accordingly be held on the second Monday.

A discussion then arose as to the best means of awakening an interest in the meetings of the society and securing a larger attendance, and it was determined to appeal to the editorial columns of the local papers to give the proceedings as full as the space would allow.

On motion of Calvin Cooper, the editors and publishers of the Examiner, New Era, Intelligencer, Inquirer and News, were selected as members of the society, as a slight appreciation of their kindness in publishing the proceedings of the society.

Isaac Broomell, of Christiansia, was elected to membership in the society.

Adjourned.
The May meeting of Fulton Farmers’ Club was held at the residence of Josiah Brown, Fulton township.

S. L. Gregg exhibited Ridge Pippin and Russet apples. Both varieties were in good condition, showing their good keeping qualities.

Josiah Brown showed several large sweet potatoes, part of a crop he raised last year, making 80 bushels off the fourth of an acre.

Wm. King, a sample of prolific bread corn from the Agricultural Department at Washington; also a sample of ground limestone from Reiffton, this county. The club did not seem inclined to take much stock in this new fertilizer.

E. Henry Halms inquired how it would do to make a cow stable in the second story of a barn, and what kind of a floor it would be best to put under them.

Montillon Brown said that he had read of it being done in some of the first-class barns, but he could not see the advantage of putting them upstairs. If it was done the floor should be of oak, and a very good one, for it would have to be tight.

Owen said not to think of coming to the belief that Galilee is the best. If Galilee is the best it is doubtful whether all believed him yet; yet General Jackson’s wife said that she thought the world was fat, and she guessed that the General thought so, too.

But the advocates of ensilage put the cost of preserving it low. In the article that appeared in The New Era it says that the whole cost, interest included, was $1,575 per ton. His experience in taking off corn led him to doubt it. He did not see how it could be cut and packed in the silo for that. But they have no interest in it. There are no patents on it.

E. H. Halms: In the American Agriculturist last fall was an account of a visit to the farm of the Buckley brothers. The visitors said that eight men and two pairs of horses to cut and packing 30 tons of ensilage, at $5 for the horses and drivers and 90 cents per day for the men, the cost of cutting and packing 20 tons would be $10.40 or 52 cents per ton, and 40 tons can be raised off an acre. Don’t think it is too much.

In order to meet at the residence of S. L. Gregg, Drumore township, the first Saturday in June.

THE LINNÉAN SOCIETY.

The society met on Saturday afternoon, May 25th, in the ante-room of the museum. Prof. Stahr in the chair and Dr. Davis repeated the election of 1880.

After organization the following donations were made to the Museum and Library:

Museum.

Three specimens of granite, from the old mill of Washington, at Mount Vernon, Virginia, donated by the Rev. Dr. Samuel Finley;

Four small specimens of granite, from the old mill of Washington, at Mount Vernon, Virginia, donated by a friend of the society.

S. L. Gregg: How does vegetable juice affect the grain?

Montillon Brown: What kind of wheat appears to have stood the winter best?

The answer given to this question showed that the past winter, though severe, was not one that was hard on wheat, for out of the several varieties sown by the members of the club, all seemed to have stood the winter well.

S. L. Gregg: How does the 1881 crop of wheat compare with the 1880 crop?

E. H. Halms: In the American Agriculturist last fall it was announced that Galilee is the best. If Galilee is the best it is doubtful whether all believed him yet; yet General Jackson’s wife said that she thought the world was fat, and she guessed that the General thought so, too.

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Science Gossip.

The meeting was somewhat larger than the usual average, but happening in the busiest season of the year there was little of special interest brought before it, still there was ample opportunity for scientific gossip, through which it became manifest that the Linnéan Society needs at least three things to facilitate its material development. It needs more—much more—space, for an expansion and proper display of its collections (it is absolutely cramped for room). It needs a larger working force of reality active members, who are blessed with an abundant leisure and a strong will to work. Above all, it needs a liberal foundation fund, in order to carry on effective practical work by the two former needs. Seeing that it is utterly impossible for men to take their wealth out of this world, and the criminal use that is often made of it, after they are removed beyond its control, it seems a wonder that more is not done in that direction.

Adjourned to Saturday, June 22nd, 1881.

Agriculture.

The Ground Limestone Question.

We notice that mills are going up to grind limestone, the same as plaster is crushed, for fertilizing purposes, and seems likely to cause many new things all the time being introduced to catch the attention of the farmer. We have all along doubted the claimed merit of this new candidate for public favor; and this doubt a short time ago was sustained in a very creditable argument on the subject by Professor Jordan, of the State Agricultural Society, which appeared in the 7th number of the Farmer and State Journal. Though brief, it seemed to cover the whole ground, and in our judgment, showed very distinctly the superiority of the burned over the unburned lime rock, as well as that it was improbable that the unburned stone should supply anything but carbon dioxide, and that therefore it should be in a more acceptable form. Professor Jordan says:

"When lime-rock is burned the carbonate of lime is driven off, leaving caustic lime behind. This lime has strong disposition to unite with any acid with which it may come in contact, and when applied to the soil in that state it is ready to enter into, or even force, new combinations of the soil ingredients. It is true that considerable of it returns to the same form in which it existed in the lime-rock, by taking up carbon dioxide from the air, but in this gas it is more or less slow, so that the caustic or basic effect of the lime has time to be felt. Again, lime is much more soluble in water than the carbonate of lime, and therefore is able to receive better distribution in the soil, thus having its effect much more or less uniformly. Some have made a mistake in supposing that when lime-rock is burned, fertilizing properties are driven out of it. Such a statement is utterly false. Carbonic acid is that which is driven off, and of that ingredient the soil and air furnish a great abundance. Supplying the carbonate of lime with steam will therefore be about as foolish as adding salt water to the ocean in order to increase the facilities for making a sea voyage to England. Therefore, farmers, it is useless for you to expect any effect from lime-rock that the lime will not give you, and there is every reason for thinking that you have not before had an equal opportunity of trying this form of lime-rock, and that it is probable you have not the opportunity of doing so in the future."
Glucose and Grape Sugar.

The Popular Science Monthly has a timely article by Professor Wiley on the manufacture of glucose and of grape sugar, the latter being simply an extension of the process for making the former. This industry sprang up about twelve years ago, and is rapidly extending. Glucose is a sweet syrup made from corn starch, resembling in appearance the molasses of cane sugar, and by reason of its greater cheapness largely affecting the consumption of the cane product. Grape sugar is made to resemble a finely powdered sugar, and is used extensively to adulterate the sugar of commerce. Glucose is used chiefly for the manufacture of table syrups, but also in candles, as food for bees, by brewers both in this country and in Europe for making artificial honey, the combs being molded out of paraffine. Grape sugar is also applied to some of the same purposes, but principally for the adulteration of other sugars. The cheapness with which glucose syrup and grape sugar can be procured has led to its extensive use. The most important factories are in the West, where corn was bought last year at a little over thirty cents per bushel. As from 26 to 32 lbs. of glucose syrup or of grape sugar are made from a bushel of corn, the average cost of either to the manufacturer is only one or two cents per pound, whereas other articles at three to four cents per pound the business is a very lucrative one and is rapidly extending. On the 1st of August there were ten factories in operation in the United States, consuming daily about twenty thousand bushels of corn. There were also in process of construction nine other factories with a total daily capacity of twenty-two thousand bushels of corn. Professor Wiley estimates that not less than eleven million bushels of corn will be converted into glucose and grape sugar during the current crop year, and he attributes this to the belief that the amount will be double in 1892.

Barbed Wire Fences.

These fences are, so far as we see and learn, gaining in popularity. The objection to them at first raised, of their being liable to injure cattle, is practically without foundation. The spikes or barbs are too short to do any real harm. At the worst they could do nothing more than scratch an animal. Those that we have seen struck as being made of rather light wire; but we suppose the manufacturers have studied out deliberately this very essential point. This fence possesses the added advantage of being but a temporary barrier. It will do the same for dogs and biped trespassers, which will prove very serviceable. The price we think is less than the common post and rail fence, and will last equally as long. About wire fences of every kind one feels a little qualms speaking, it is a black mark; but for fences of this description a good test through. A wire fence, by being stretched whenever needed—which may be once in two or three years—would last at least twice as long as they commonly do. This is a valuable hint, and we hope it will be taken.

Muck.

The American Agriculturist says an acre of swamp muck of good quality, three feet deep, is actually worth $1,000. We doubt such a statement is strictly prising. So was the statement of Dr. Lawes, of England, that a ton of bran fed to cows returned more than its cost in manure. The best muck, free from dung, from one hundred and forty pounds of nitrogen in a ton. Nitrogen is worth in the market twenty-five cents per pound, so that a ton of swamp muck is worth $30 for the nitrogen in it. All that is needed is to work up the muck, so as to make the nitrogen available. An acre of swamp muck three feet deep contains $5,000 tons, and would require eight months to draw out at ten loads a day. Few persons realize the value of the fertilizing element of common waste matters which lie under their feet, and the innumerable tons of matter that may be available for fertilizing purposes, or much of the idle and neglected materials represent a vast amount of wealth. But it must be remembered that all swamp muck cannot be classed as of good quality; some of it is next door to worthless.

Analyzing Fertilizers.

The chemist of the State Board of Agriculture has been busily at work analyzing the various kinds of fertilizers offered for sale in Pennsylvania, in accordance with the law on the subject. In addition to those already announced, the Secretary of the State Board publishes the results of fifty-eight other analyses, making the entire number thus far submitted to this test one hundred and twenty-one. Of the last batch analyzed, only seventeen out of the fifty-eight are considered as commercial, six of which are asked for them. One kind which is sold at $15 was found to be worth only $0.25; another sample sold at $14 was worth $5.71. Most of the kinds fell far below what their manufacturers claimed them to be worth. These facts explain, to some extent, the results from the use of fertilizers that have been so disappointing and unsatisfactory to our farmers. Many are good, worth all that is asked for them, but far larger number are deceptive, and the farmer who buys them is cheated. Secretary Edgerton, the present law providing for the analysis of all the artificial fertilizers offered for sale in the State passed, deserves much credit for having this shield thrown around the agricultural community. If a farmer is now deceived and cheated in the purchase of artificial manures, he has only himself to blame.

The Millet Crop.

The craze over the "Hungarian Grass," a new name given to the Millet, seems to be like many other things that are flashed upon us, to fade and have and now measurably disappeared, leaving only here and there evidences of its existence. But the German millet has higher claims to consideration than nearly or quite any one of the rest, for it possesses substantial value and fair claims upon the attention of farmers. An acre or two would always come into use and pay well, especially as it can be cut for green food the latter part of August and forepart of September, when pastures are frequently starved. The crop can be sown from the 3rd or 4th of June to the 10th of July, and it will take about five to eight bushel of seed to the acre. It also makes fair hay, cattle eating it freely; and the seed is excellent for horse feed, and in parts of Germany and Hungary, in England, the ears are especially fond of the seed and fattens upon it. Four tons of hay to the acre is not a heavy crop.

Horticulture.

Summer Salads.

People who dine at hotels, and even sometimes at gentlemen's tables, seldom find a salad that is really good. Fruits and greens are usually mixed together, the greens being bitter, and if they were not for the liberal appliance of mustard, eggs, oil and pepper, it would be quite un- fit for any human stomach. How different this is from what a cool, delicious salad ought to be. It seems to us that the reason those who grow salad, that lettuce was never intended to be eaten unless blanched. In Europe they grow a long, broad-leaved kind called the Roman or Cos lettuce, which, having after having attained considerabler development, has the leaves drawn up and tied together at the top. The Romans, in order to grow, and of course in the dark, by the tying up of the leaves, produce a hard mass like an elongated cabbage, which cuts up as white and crisp and sweet as a stick of celery. This kind has never found a place in American gardens, because our climate induces it to run to seed soon after the lettuce is put in the ground. There is no reason why these are preferred, because they close in their leaves naturally, and are supposed to bland themselves. But this is, as we have shown, a pleasant fiction, as there is very little of the white about any that we can get now, and there is great success in growing them into heads.

Of course, our country is not so well adapted to the growth of good lettuce as England is. It will not stand extreme cold, nor does it like warm days and heat as not to be worth a thought; but then as the temperature goes over 65 degrees, we can have would have much better than we do. In the spring a tolerable article is generally obtained. On our own premises we never fail. Started by a little protection from frames, it is brought to perfection before the plants are too large to be moved. It is not difficult, by employing very rich land and as cool a spot as can be secured. All vegetables that we value for their succulence require a rich soil to their best development, but it is an essential to good summer growth.

Of course, varieties will assist. Some of American origin have been found to stand our heat without running to seed much better than the English varieties, which are better suited to that cooler summer climate. Of these the Italian lettuces are examples. Some of these have been improved, and of these the Bowlanese good a bearing a pure red.

Pruning Roses.

In pruning strong-growing roses the end to be secured is a considerable number of medium-sized, well-ripened shoots, instead of a few very strong ones, as those strong, luxuriant shoots will produce few flowers. In accordance with the above statement, a contributor to a foreign journal says that the other day, when looking over an amateur rosearian's beds, a plant of Jean Rieschkants was pointed out as yielding only wood and leaves. The season's growth was at its base thicker than my thumb, and the central shoots of these produced buds the other day, when looking over an amateur rosearian's beds, a plant of Jean Rieschkants was pointed out as yielding only wood and leaves. The season's growth was at its base thicker than my thumb, and the central shoots of these produced buds. His immediate suggestion of the reason why flowers had not been produced. At the base of the shoots the buds had gradually become more prominent, till at the ends they were as prominent as those on any other roses. To obtain a supply of blooms next season the tips of the shoots would merely require cutting off; but to get a permanent improvement at least one shoot would need to be cut well in, and then, instead of allowing the young shoots to grow as they pleased, their points would require to be pinched out, when the young growths had attained a firm condition at least some inches above its base. — American Cultivator.

Be Careful of the Cherry Trees.

Every cherry grower must be fully aware of the great necessity to observe the utmost care in protecting cherry trees from injury of any kind, especially bruise. It is, therefore, not for them, but for those who do not know, that we give these hints. A blow of the hoe, the scratching or poisoning of the young trees by the hoe, or even a kick by the heel of a boot, will almost invariably cause damage that the tree will never grow out. A kind of gangrene sets in, which all the efforts of the tree, however young and vigorous it may be, will never recover from. We have seen a cherry tree, with a man's arm, which having a few ripe cherries that we wished to jar off to taste, it being the first fruiting, we struck the trunk with the heel of the boot, which broke through the bark. It seemed to be so trifling, that we supposed the tree to have recovered, but the following year the bark was dead for two coats in diameter. The following year it was three inches, and in four or five years after one-half of the wood was ex-
THE LANCASTER FARMER.

1818.

Early Turnips.
The earliest and perhaps the best variety of turnip for table use is the Early Flat Dutch. It is universally popular, and only a small plot to furnish a supply for a medium-sized family. One reason why they frequently fail in gardens, is the richness of the soil and their frequent growing in the same bed. In preparing a plot for turnips dig down full spade deep, for the purpose of getting some of their virgin earth, and especially a little clay. As a fertilizer there is none equal to bone-dust, and nothing else. The turnip should grow slowly, with as little top as possible. It will not bear pushing or forcing.

DOMESTIC ECONOMY.

Butter and Cheese.
In view of the fact that a large number of establishments for the manufacture of butter and cheese are being chartered and established in this portion of the State, the following act, which was passed finally by the House, will be of special interest.

The bill is entitled "An act to protect the manufacturers of butter and cheese." It provides, "That from and after the passage of this act, if any person or persons, firms, associations, or persons, supplying or selling, in any way, butter or cheese manufactured in the State, any milk diluted with water, or in any way adulterated, uncleanly or impure, or milk from which has been taken, or milk commonly known as skimmed milk, or if any person or persons sell or use, on their premises, the services of any person who shall keep back any part of the milk known as strippings, or shall knowingly bring or supply milk to any butter or cheese manufacturer that is tainted or partially sour, or shall knowingly bring or supply to any butter or cheese manufacturer milk drawn from cows within fifteen days before parturition, or within five days after parturition, shall for each offense forfeit and pay a sum not less than ten dollars nor more than one hundred dollars, with costs of suit, to be sued for in any court of competent jurisdiction for the benefit of the person or persons, firm or association or corporation upon whom such fraud or neglect shall be committed."

Salt for the Throat.
In these days when diseases of the throat are so universally prevalent, it is impossible for any case to exist, where we feel it our duty to say a word in behalf of a most effectual, if not positive, cure for sore throat.

For many years past, indeed we may say during the whole of a life of more than forty years, we have been suffering from sore throat, and more particularly to a dry hacking cough, which is not only distressing to ourselves, but to our friends and those with whom we are brought into business contact.

Last fall we were induced to try what virtue there was in common salt. We commenced by using it three times a day—morning, noon and night. We dissolved a large tablespoonful of pure table salt in about a half small tumbler full of water. With this we gargle the throat most thoroughly just before meal time. The result has been that during the entire winter we were not only free from coughs and colds, but the dry hacking cough which has entirely disappeared.

We attribute these satisfactory results solely to the use of salt gargle, and most cordially recommend a trial of it those who are subject to diseases of the throat.

Many persons who have never tried the salt gargle have the impression that it is unpleasant. Such is not the case. On the contrary, it is pleasant, and after a few days use no person who loves a nice clean mouth and a first-rate sharpener of the appetite will abandon it.—Ex.

Sassafras for Killing Lice.
A strong tea made from sassafras roots is recommended for killing lice on cattle or horses. In applying it take an old cloth and wash the animal as to wet the hair and hide thoroughly. Apply either warm or cold. No injury will be done to the animal, and the lice will be effectually killed.

To Remove Caps of Glass from Fruits.
A common household experience is to find the caps of glass cases of fruit, or firmly screwed so that they cannot be removed by the hand. A cloth dipped in hot water and applied to the outside of the cap will cause it to expand, when it will come off without effort.

HOUSEHOLD RECIPES.

CRÈME BRÉEDE.—A Southern recipe for plain corn bread made with white meal: Take one pint of meal seeded with a little boiling water, then mix it up with cold water, adding a pinch of salt and about a tablespoonful of lard. The dough must be soft enough to leave the points of the fingers in the pans. Bake in a quick oven.

When anything is accidentally made too salt it can be counteracted by adding a teaspoonful of vinegar and a teaspoonful of sugar.

Cookes make the mistake of boiling too much. After reaching the boiling point meats should simmer gently.

The toughest meats can be made tender by so doing.

According to Dr. Wiedehopf, fungus growths in cellars may be combated either by burning sulphur or by pouring two parts of concentrated sulphuric acid over one part of common salt, and so cleansing all openings to prevent any escape of the vapor.

To Keep Preserves.—Apply the white of an egg with a brush to a single thickness of white tissue paper; with which cover the jars, lapping over an inch or two. It will require no drying, becoming when dry incomparably tight and strong, and thus preventing the contents from spoiling.

Fronted Apple Pie.—Line a pie with a puff paste. Slice in apples, sugar them and add a little butter, no water, and a little lemon essence or juice. Bake, and when done spread a thick frosting of beaten egg and sugar over it, return to the oven till the frosting is warmed through.

To utilize the feathers of chickens, ducks and turkeys, generally thrown out as refuse, trim the plume from the stump, bachel them in a tight bag, rub the whole as if washing clothes, and you will secure a perfectly uniform and light down, excellent for quilting coverlets and for other purposes.

To Remove Glass Stoppers.—Young ladies are constantly being put to this dilemma, either over a glass stopper will stick fast in a pretty perfume bottle. Let them steam the neck of the bottle over the teakettle and knock it gently with a knife blade. If that will not serve the purpose put a few drops of sweet oil over the cork and set the bottle near the fire where it will get warm.

One who has tried everything, says that after an experience of fifteen years he has found nothing to equal the following as a cement for leather belting: Common glue and linseed, equal parts, soaked for ten hours in just enough water to cover them. Bring gradually to a boil and add more pure tallow until the whole becomesropy or appears like the white of eggs. Buff off the surface to be jointed, apply the cement, and clamp firmly.

BEER STEW.—Select from the cheapest cut of beef about three pounds of the lean, and into an iron pot, cover it with water, and one quart of sliced tomatoes, and one half-pint of sliced okra, three onions cut fine, and half a dozen ears of corn cut from the cob. Let the whole stew gently for three hours, or until the vegetables make a jelly with the meat. Serve with the okra, and the stew will equal the best from the first. If desired add two ounces of butter.

DRIED PEACH PUDDING.—Three-quarters of a pound of flour, one pint dried peaches, three gills beef suet, one teaspoonful of salt. Chop the peaches and suet, mix them with the flour and salt; add cold water enough to mix the ingredients together.
in a stiff dough as can be made with a spoon, tie it in a cloth, leaving room to swell, and steam or boil it three hours or longer. The rule for a butter pudding is half an hour to every pint of pudding.

**FINE SWEET RUSKS.**—Soften two tablespoonfuls of butter in a bowl, with two tablespoonfuls of sugar, three eggs and flavoring to your taste (generally), together with a pint of milk, to add your butter in the bowl two quarts of flour with four teaspoonfuls of baking powder sifted in it, then add milk, eggs, etc., and mix, adding a little more milk if required to make it of the desired consistency. Bake it in a hot oven on buttered pans with sides to them. Moderate oven.

**Oyster Fricassée.**—To make oyster fricassée take no less than six oysters for each person—good box oysters—strain the liquid into a porcelain-lined saucepan, throw in one tablespoonful of flour, a piece of butter, the size of an egg, rolled in flour, season with celery salt, and beat the yolks of three eggs, (for about 30 oysters); let all this boil nicely and smooth, and then add the oysters; they must not boil but get heated through well, serve as soon as prepared; while you prepare the dressing put your oysters in a colander over a pint of boiling water, to heat them gradually; they will keep their size prepared this way; if the dressing is too thick add some bouillon.

**Scrap Bag.**—It is a good plan to have a scrap bag between the newpaper and the box of ink for the ink bottles; they may be ornamental, and are certainly very useful. Since trying this I have saved paper rags enough to buy all the newlinen needed in the house, and have occasionally bought a broom also. Every box is a postal card and circular that would otherwise have been put into the stove as not being worth the trouble of a walk to the regular rag bag, finds its way into the little scrap bag.

**Pork Chop.**—The chop must be well cooked to be wholesome, but they must neither be suffered to dry up or to be leeking in greasy gravy. Cut them from a neck of pork; trim them neatly; give them a few blows with the bat, or cut them into the size you have no meat bat; braise over a clear fire if you have a bit of butter, rub into this a teaspoonful of salt, half of pepper, the same of powdered sage, and one spoonful of chopped onions; beat this up with some liquid and serve it on the board before serving. Cover closely with another plate, and keep hot in the oven for a few minutes before serving.

*Eat with apple sauce or roasted apples.

**LITERARY AND PERSONAL.**

**The Trumpet.**—The organ of the "Constitutional Amendment Association" an eight paging quarto, published at Pittsburg, Pa., and specially devoted to the enactment of the following amendment to the State Constitution of Pennsylvania:

**Article XIX. Section 1.** The manufacture and sale of all intoxicating liquor is forever prohibited within the Commonwealth, except for medicinal, mechanical and scientific purposes, and the legislature shall enforce this provision by sufficient penalties.

**Section 2.** "The manufacture and sale of intoxicating liquors for the purposes excepted in the preceding section is hereby prohibited.

Semi Monthly at $125 per annum, by D. H. Martin, No. 6, Sixth street. Its platform is **Prohibition of the Liquor Business; God in the Constitution; Sacratification of the Sabbath Bible in the Public Schools.**

The paper is interesting, neatly gotten up, and advocates its specialties with singular ability. It has the sympathy and support of a long list of D.'s., M.'s., Esquires and G. W. C. F.'s., besides, no doubt, many thousands of the untitled in our State and nation. But, it antagonizes a fearful odds, and that odds is in power, whilst it is still on the outside "ragged edges" of power. A great convention of the friends of Prohibition is to be held in the Union Hall, at Johnstown, Pa., on Wednesday, June 28 and 29, 1881, and a pressing invitation is extended to all the friends of the cause.

If only mankind could be induced to "First seek the kingdom of God and his righteousness," how easily all the moral and civil problems could be solved.

If the subject of temperance involved but a single civil question it perhaps would not be so difficult to reach the case by legal enactment. But it is more, much more than this, and in this complexity lies the all-important element of the question. Temperance has always been a social, a domestic and a political question, and until all these influences can be brought into harmony with its civil bearings, nothing can be expected but conflict to the bitter end.

**ILLUSTRATIONS.**—Of nests and eggs of "birds of the Union," and "Baking the Sugar Beet," published by J. A. Waggoner, No. 29 North Sixth street, Philadelphia, Pa. Price, $1.80 per part, each part containing from two to three full-page plates in illustration of this interesting and beautiful subject. This work will be issued in quarto, bound in full leather, and sold out by subscription. It is printed on heavy super-calendered paper, and the plates are magnifico chromo lithographs. Part 1 of this rare work is on our table, and it more than realizes our most sanguine expectations when we first purchased a subscription. Perhaps no man in our entire country is better qualified to write or edit such a work as Mr. Gentry, as is abundantly shown in his "Life-History of Birds of Eastern Pennsylvania," in two volumes. This work, we are admonished, will not exceed 25 parts, will be executed in quarto, and will contain in volume of about 200 pages, and about 60 plates.

**The Sugar Beet.**—Devoted to the cultivation and utilization of the sugar beet—for the second quarter of 1881, is a most capital number, and appears in a fine tinted cover with other improvements, and the illustrations are executed in the highest attainable art. This number contains an able and elaborately illustrated paper on "Foreign Seed drills." On page 33 we are informed that "an American beet-sugar factory pays a dividend to the stockholders." This is regarded as encouraging, and the first earnest capital is sold out by subscription in the United States. But this has been accomplished west of the Rocky Mountains, in the "Golden State," and by the "Standard Sugar Manufacturing Co.," at Alvarado, Cal. From every quarter, home and foreign, the beet-sugar enterprises seem to be progressing, especially in foreign lands. The sugar beet question will ultimately work a domestic revolution in our country. All that is wanting is to get things so arranged and economized that the enterprise will pay. That is the lever that will swing the ship. This is that on which depends the future welfare of this country. In this selfish age it is folly to expect that any considerable number of persons will engage in any enterprise from motives of patriotism or philanthropy alone.

**Premium List of the twenty-ninth Indiana State Fair, 1881, to be held at Indianapolis from September 26th to October last.** The premiums increased twenty per cent. above the list of location for competition. Twelve railroads centering in Indianapolis, with their connecting lines in the State, will carry passen-

**gengers at exhibition rates, and return freight free that has been on exhibition. This is an octavo page, well printed with cover, sundry illus-

trations, a map of the State with contiguous ter-

ritory, and a plan of the fair grounds and location of buildings. Every industrial interest—agricultural, mechanical, domestic, scientific and professional—as well as all general literature, and liberal premiums offered to bring them out. Of course there will be "trials of speed," but it is called racing in Indiana, and they offer a premium of $100 for the fastest horse. The premiums range mainly from $1 to $100, from $40 to $1000. Also, a large number of silver and copper medals, diplomas, &c., &c. It also included lists of 16 district fairs and 40 county fairs which are to be held in Indiana between now and the 12th of October, 1891."

**The Mount Joy Herald.**—The issue of this journal for June 11, 1881, comes to us in great "enlarged and improved," and it now—in size, mechanical execution, and literary contents—takes its position in the very front rank of the weekly journals of the State, in regard to the "dramatic departure" by the Herald, and think we can bespeak for the enterprising editor and publisher the appreciative co-operation of the public, and we believe we can assure that public that nothing of an immoral or disgraceful character will ever intentionally find a place in its columns.

The Herald is now a large (20x28) eight columned foil, with a new heading and new type; published by J. R. Hoff, Esq., at Mount Joy borough, Lancaster county, Pa., for the low price of (we presume) $25.00 per year. We wish abundant success to this movement of the Herald, and hope it may be duly compensated.

And just here, we beg permission to indulge in a few general reflections, in reference to the prices of publications. We believe that every newspaper—whether published weekly, quarterly, or octavo, with masthead and magazine, pamphlet or other periodical, should have its price conspicuously printed on its first (or title) page, and not in small type in some obscure corner of the paper, or buried in a long paragraph elsewhere. And if such offers of special notices, or reviews, as well as to every book in a catalogue. There is no doubt that loss is sustained by publishers every year, by the absence of the prices of their publications, and we know that patrons are often disappointed on reading the book notices, or the publications themselves, in which the prices are omitted. The title, the publication, or the notice impresses them favorably, and under the impulse of the moment they would patronize them, but the absence of the price causes a diversion and the one leaves the impression of an inferior work. Depend upon it, this is a matter of paramount importance to all patrons of literature, of any kind.

**The Illustrated Scientific News.**—A record of the Sciences and their application to the Arts and Industries. Published by Munn & Co., No. 37 Park Row, New York, at a few papers with each number, at 15 cents, postage paid. A handsome demi quarto of 52 pages, beautifully illustrated and printed in clear type and double-calendered paper. The illustrations in natural history, natural philosophy and machinery are particularly fine—indeed, there is no other work of its kind. The contents are of such a nature that will at all compare with this journal, either in mechanical execution or scientific literature.

**The American Monthly Microscopical Journal, edited and published by Romyn Hitchcock, F. R. M. S., and printed by Thompson & Moreau, Nos. 51 and 53 Maiden Lane, New York.** A 30 page octavo, of great merit, and particularly acceptable to young microscopists throughout the country. The subject of microscopy is becoming very popular, and it appears to have "come to stay." Nothing seems to speak more emphatically on this point than the spirit and industry manifested by its members in procuring and investigating the objects which is not usually the case in a temporary or transient embrace. As an exponent of the subject in its fundamental and collateral details, we can safely recommend this Journal.

**Prospects of the Bullion King Silver Mining Co. of Gunnison county, Colorado.** Captain N. D. Hollick, of Gunnison, Colo., has sent us a copy of the Bulletin, vol. 1, No. 28, 1881, Dr. Joseph Ledy, President; C. B. Bonner, Vice-President; William Hackett, Jr., Treasurer; Winfield S. Hulick, Secretary; Easton, Pa.: Office: room 12, Drake & Hulick's building. Among the directors named, is Henry P. Junius, of Lafayette College, Easton, Pa., and the whole board is composed of staunch citizens of Easton and Philadelphia, with a single exception. The history, act of incorporation and by-laws, are contained in a beautiful octavo pamphlet of 12 pages. Send and get a copy.

*The Lancaster Farmer.* [June, 1881]
MISCELLANEOUS.

Pennsylvania Millers' State Association.
The next annual meeting of the Pennsylvania Millers' State Association will be held in Pittsburgh during the time of the State Fair in September. The State Agricultural Society will allot a space of 50 feet by 176 feet with line shafting and motive power rate for the display of machinery and mill supplies. This is the first time in this State that an opportunity has been afforded to millers to witness such a display of milling machinery in motion, and it is expected that there will be a large number of millers present from this and other States.

The Lancaster Examiner.

We desire to call the attention of the readers of the Examiner to the Daily and Weekly Examiners. The Daily was enlarged over six columns on January 1st, and is now the largest daily published in the county. The weekly supplement was also enlarged over three columns, and the weekly is now one of the largest weeklies in the State. Subscribe for the Examiners. They are both, daily and weekly, good family newspapers.

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Nov-17
Tobacco Culture.

The series of excellent articles on the details of tobacco culture, and which we have republished from the columns of the Daily New Era, of Lancaster, city, were written by Mr. F. R. Diffenderffer, a prominent member of the editorial staff of that paper; and having copied them on account of their rare merit, we feel in duty bound to make an acknowledgment, that of right should have been made earlier. Our main object in copying them into The Farmer is because of their local origin and value, and because we wished to see a more permanent and accessible record of them than they find in the voluminous mass of a daily or weekly folio, that is very seldom bound and scarcely ever accompanied with an index. These articles are not merely ephemeral in character, but may be read a year or ten years hence by the novice, with as much profit as they can now. If time should develop errors they can be easily eliminated, and any new facts can be added as a sequel at any time. When we deem a thing worthy we care very little whether it emanates from a mountain or a mole-hill—an enemy or a friend—and we endeavor to view it through the medium of that freedom which the truth makes free.

Assassination.

It is not the province of this journal to notice passing events, either ordinary or extraordinary, that are beyond the scope of its chosen specialty, but on this occasion it cannot refrain from recording its deep and unalterable condemnation of the attempt to assassinate the President of the United States, on Saturday morning, the 2d of July, at Washington city. So far as it concerns the motive or intents of the assassin, and the moral significance of the act, the deed has been done, whether the President survives or perishes, and the perpetrator should be held accordingly responsible. We do not believe that the recording angel will make any distinction between the acts of Charles Guiteau and John Wilkes Booth. Both acts were premeditated and diabolical and were characterized, not in essence, but only in degree, by that species of insanity under which all heinous crimes are perpetrated. If the sanity of the fiend Guiteau is of such an order as to lead to his acquittal of the crime of murder in the first degree—should President Garfield die—then there is no safety for any official functionary under the government—a sat and disgraceful commentary on republican institutions, and the moral integrity of the nineteenth century.

We sincerely believe that all such offenses should be tried under the forms of law, and according to the testimony, disbarring only the plea of insanity. If acquitted by a competent jury of his countrymen, then endow him with the legal benefits of such acquittal. But if convicted, let him be sentenced according to the degree of his crime, and let the disbarred plea of insanity be tried by a commission of competent physicians. If after a thorough investigation it transpires that he really was insane, let his punishment be commuted to imprisonment in an insane asylum for life, or for a term corresponding to the degree of his offence, provided a similar commission shall award that he is sane enough to be set at liberty at the expiration of his term.

If Guiteau really was insane, a deep condemnation belongs somewhere, for permitting him to roam at large, placing the lives of those in jeopardy from whom he might take the notion to exert favors. The true use of liberty is a beautiful idea, but its morbid manifestation is injurious to the individual claiming it, and the community or country tolerating it. It is like charity worthily bestowed, but there are those who are so exceedingly perverse that the greatest act of charity would be to knock them down and put them in manacles.

It is a gross perversion in a government of the people, by the people and for the people, that its officers cannot be permitted to administer it in equity, without placing their lives in jeopardy. May the nation and the state open their eyes to the enormities that characterize the present period—high and low.

Wire-Worms.

Although these very many years complaints have been lodged against wire-worms for their injurious attacks upon young wheat and young corn, and, more recently, the young tobacco plants, both in the seed-beds and after it is transplanted in the fields, yet, from specimen of so-called wire-worms sent to me from different localities in the county of Lancaster and elsewhere, it is very evident to my mind that there is a misapprehension abroad as to what a wire-worm really is. People may claim that they have a right to call an animal any name they please so that it expresses what they mean, never once considering that it is of equal importance to the elucidation of a subject that the name should be such as other people understand. Taking our European ancestors as a guide in vulgar nomenclature, a wire-worm is the larve of a certain species of coleopterous insects, known by the English name of "Click-beetles," the German name of "Schnellkäferen," and the American name of "Hammer-bugs," (Eletreidae). But even confining the name to holocerous larvae, there is a likelihood of confounding these wire-worms with the larvae of another coleopterous family (Tenebrionidae) usually called "meal-worms," which they very nearly resemble, and which are perhaps fully as sedgy as the wire-worm itself. The larvae of the Tenebrions, however, are usually found in dry dead wood, and in meal bins. Old mills sometimes fairly swarm with them, and families that keep their own meal-barrels or meal-bins, are often annoyed by them. Many of the larvae of the click-beetles also burrow in dead or living wood. These and their cognizans we may term the true wire-worms. The Tenebrions pseudo-wire-worms and the wire-like centipedes, bugs wire-worms, or "gally-worms." The true wire-worm is perhaps the most difficult enemy to contend against that infests vegetation. Most other insects that infest vegetation only remain in the larva state a comparatively short period, undergoing their transformations within a single year or half year; but wire-worms require from three to five years to complete their larval development, remaining the while in the soil and feeding upon the roots of tender vegetation. So that a field planted in tobacco may have had the young and invisible wire-worms in the soil before the young tobacco plants were transferred to it—their first stages of growth escaping the observation of the planter. Of the true wire-worms there are very many species—perhaps fifteen hundred or two thousand; but they are not all of the same form by any means. Some are cylindrical and others are more or less flattened. Some are different shades of white in color, some yellowish, some different shades of brown, and others pink colored, becoming darker as they advance in life. The head and mandibles are usually a dark brown or nearly a black. The feelers, or antennae, are very short—many of them scarcely perceptible. They never have more than six feet, and these are attached to the first three segments or joints of the body, unless a protuberance on the under side of the last joint but one may be regarded as a foot. At all events, in locomotion they seem to make use of it as a proleg or propug. Their bodies are generally, or in many instances, firm and very smooth or polished, enabling them to slip through between the fingers very readily when taken into the hand, or to burrow with great facility when they are laid upon friable or soft ground. It is difficult to determine the species from the larve alone, and still more difficult to continue observations for three, four, five or six years in succession, for the purpose of identification. Although it may not be unimportant to know the specific name of the wire-worm that now infests the tobacco fields of Lancaster county, still, that is not the chief knowledge the tobacco grower desires. The mere desire to destroy it without injuring the plants is the chief matter of interest; nevertheless some knowledge of the history and habits of the worm may be essential to the intelligent application of the remedy or remedies, when they are known. I have now before me some forty or fifty of these wire-worms that were brought to me by Mr. Hippey, of Donegal township, gathered from comparatively a few plants. He also brought me one of the infested plants.

The worm appears to enter the plant from about or below the surface of the ground, tunneling the midriffs of the large leaves, or the main stem. It was only a few days after the tobacco was transplanted, and the worms were too large to have been developed from eggs deposited at the base of the plant since its transfer from the seed-bed. It must have
been in the soil before and is no doubt a worm of last year, and had been feeding on the roots of any vegetation that may have been growing on the premises before the tobacco was planted there. Now, this being the case, an application of an insecticide to the soil before the tobacco is planted, would seem the proper thing to be done. I have seen it stated with confidence that salt applied to the soil—eight bushe of a acre—has proven an effectual remedy. But doubtless there are other remedies that are equally good, if so applied.

The "bogus wire-worm"—which is the array of distinction people should accentuate themselves—may be called a "gally-worm," or anything else but a wire-worm—is quite a different animal, and properly speaking is not an insect at all; and yet it is indisputable that it is more thoroughly insected, or divided into simple and distinct segments or sections than any individual belonging to the restricted class Insecta. But no matter about that, its present status as the subject of a distinct class has a numerous following among systematists. These animals are, and have been for a long time, known under the name of "gally-worm," and "centipedes," "thousand-foot" and "hundred-foot," and it is a great pity these names could not have been retained or used in speaking of those that are injurious to vegetation, and not have confounded them with the real, or true wire-worms. We often hear complaints about the wire-worms destroying strawberries, young radishes, turnips, cabbages, peas, beans, lettuce, &c., and when we have instituted an investigation, we have found these depredators to be small species of gally-worms, otherwise millipedes. Nothing could be farther removed from true wire-worms than these animals are. Instead of having but six or seven feet, they have four feet attached to the underside of each segment or section of their bodies—except one or two—multiplying them (although perhaps never to a thousand) in some instances to hundreds. This alone, is sufficient to distinguish them from wire-worms, but this is not all. They have more or less conspicuous antennae or feelers, which are very inconspicuous in wire-worms, and as soon as they are disturbed they coil themselves up spirally, fall over on their sides, and "play possum," making no attempt to escape at all. It is true that the sub-class usually denominated centipedes, or hundred feet, are very swift runners, and do not indolently coil themselves up and play possum, but on the contrary "scupper" off as fast as their legs will carry them, and hide themselves in any cover that is large enough to conceal them; but then this sub-class does not feed on vegetation—they are carnivorous, and I have seen them seize and carry off young wire-worms and making a meal of them; Now these diverse habits of the two sub-divisions of the class Myriapoda (which means many feet) is something worthy of the attention of the farmer and tobacco grower, in order that they may be able to distinguish between an enemy and an auxiliary in the destruction of his enemy. The help he receives from these friends may be small; still, it is some help at least.

The specimens of wire-worms brought to me by Mr. Hippie are from eight to twelve

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**SILK CULTURE IN THE UNITED STATES.**

There seems to be a growing interest manifested here and there within the borders of the United States, in the cultivation of silk, but so far, the interest has not been general, nor perhaps entirely void of that speculative spirit with which people are often carried away in such a disastrous failure. Although we did not engage in the enterprise, yet that sentimental period looms up very vividly before us, and we confess we about half envied some of those apparently lucky ones, who we were persuaded were on the high road to wealth, or at least to financial comfort. But the bubble finally bursted, and the whole enterprise was abandoned as effectually as if its longer continuance would have engendered small-pox, or the seven-years fever.

The farmers who embarked in it never for a moment thought of developing an industrial pursuit that would be advantageous to their country at large, and for all time to come; but only for the immediate advancement of their own personal pecuniary gain; and when it was found that this could not be realized, *Mallicoccus* trees were rooted out by the tens of thousands and thrown "over the fence." A few fed worms, and fewer reeled silk, but all or nearly all who engaged in the business were amateurs, and of course experienced all the drawbacks, losses, and disappointments, usually attendant to a want of experimental knowledge, and these met with disappointment—the novice's reward. Self was the predominant feeling of the period, and few engaged in it were able to grasp the whole subject.

It seems to us that if our silk culture and the manufacture of best sugar are successful in this country, they must be conducted on principles analogous to that of tobacco culture. Every class of farmers should afford to build large tobacco warehouses, store up his "weed" and then wait for a market, and yet these vast depots are essential in the business as a market for a vast number of small operators. These small operators diffuse labor and furnish occupation for many, in this progressing or changing age, who might otherwise be left...
in idleness. Even a "town lot" of good tobacco can always find a purchaser at one of these depots.

Ward never any man can afford to build a sugar mill and enter into the manufacture of beet or sorghum sugar, with any prospect of profitable remuneration. But when capital has erected such a mill and factory, every man who owns an acre or even a half acre of ground can devote it or a portion of it to the cultivation of sugar-bearing plants, and find a ready market for the product of his labor at the factory. These factories cannot be run to advantage unless backed by a large amount of capital, and the cost of producing a very large amount of sugar-bearing plants, therefore, thousands might engage in the culture of those vegetables with little or no risk, after the market is established. The interests of the factory and the cultivator are perfectly mutual; one cannot exist without the other, but both may exist when in harmony.

Even so the cultivation of silk in this country may become profitable in time, to a multitude of small cultivators, without troubling themselves about the details of reeling and the manufacturing of the article. Silk factories can only be established successfully on ample pecuniary means, and a large amount of intelligent experience in regard to their details.

The raising of a grove of mulberry trees, however, comes within the scope of the ordinary farmer or fruit grower. He may, if he chooses, also add a coconery to his grove and rear the worms. None, however, but a land owner or a town man can be expected to establish a grove, but hundreds in proximity to may engage in the production of cocoons, if large depots are established for the purchase of their products, and thus find employment for hundreds who usually spend their time in idleness. What an ample field of light labor it would afford for women, especially poor women, for half-grown boys and girls. The crop of cocoons could be sent to the market immediately after they are spun, without even going to the trouble of "chooking" them, as this operation can be more easily and more effectively performed by those who largely purchase them in mass. It seems to us that depots for the purchase of cocoons, as an intermediate between the producers and manufacturers, would do more to stimulate the cultiva-
tion of silk in this country than any other feature involved in the silk growing business.

As our population increases, our numbers of idlers and tramps increase. At the end of the first century after the achievement of our National independence, the count of souls, but it will not require another hundred years to increase the number to 100,000,000. According to the ratio of past increase the latter number may be attained in 1900. Now, the wisdom of the present period should be so exercised as to culminate in a sustaining provision for the increasing population, by the opening up of new industries. We have only to look at the immense quantity of silk used in our country, and to consider whether it cannot be ultimately supplied by the initiation of industries to that end among our people. Laws should be enacted for the encouragement, protection and regulation of silk culture, market and manufacture. It is true, efforts are being made in some parts of the country, to grow the food plant and rear the worms, and collect the cocoons, and one or two depots for their purchase have been established, but no extensive movement has yet been made in that direction. There must be a mutual interest between those who grow the silkworm pasture, those who produce the cocoons, those who purchase them, and those who manufacture them into the various tissues and fabrics that are now found in the mercantile establishments of the country. Perhaps, under a deeper stress of circumstances than now prevails, those who live long enough and probably within the lifetime of many of the present generation—may see wagon loads of cocoons coming into Lancaster, and discharging their cargoes into wholesale erected for that purpose, just as tobacco is now brought in. It must ultimately come to that. Silk is consumed in immense quantities, and its consumption is increasing. After the industry is properly introduced, systematized and economized, people can't think of their time being wasted when they can on motherless stones, stone coal, strawberries, tomatoes and railroads, or many other things which have become incorporated with the social and domestic economy of the country. But everything must have a beginning and a subsequent progress, and many people are beginning to think that the time has arrived when that beginning should be more enthusiastically made.

ARKANSAS ET AL.

Some days ago I noticed a selected article in the columns of the Intelligencer in relation to the action of the Legislature of Arkansas in determining the proper pronunciation of the name of that State, in which the writer seemed to think the enactment something unusual, and now we should be under the necessity of adopting an arbitrary pronunciation at the beck of legislative authority. Namely, that the State government had decreed that the proper pronunciation of the name is Arkansae with the accent on the first and last syllables, instead of accenting the second syllable, as so many are in the habit of doing; although writing it Arkansas, as it always had been written, ever since the territory and State has had an existence. This name is after the great river of the State, and that river derived its name from *Kansas—which probably was an aboriginal name—with the French prefix of Aut, a bow. The early settlers being French, they "frenchified" the Indian name; not only attaching the prefix but also making the last silent, and sounding the a in the last syllable as is sounded in ball; hence Arkansa. But of late years, and especially since the organization of the Territory and State of Arkansas, the pronunciation was shifting towards the pronunciation of that name the prefix added, and this was most especially the case with the younger generations that have grown up since the State was formed.

Five and forty years ago I followed my secular occupation in the cities of Louisville, St. Louis and other points along the Ohio and Mississippi rivers, and had intercourse with persons from all along the "coasts" of these two rivers, and I never heard a single individual pronounce the name otherwise than Arkansze or Arkansas, and to have pronounced it otherwise would have been voted "preposterous, absurd, ridiculous."

And then there was that "quick and devilish" old tune, yeclle the "Arkansan Traveler," known, whistled or played by every man and boy from Pittsburg to New Orleans; had any man essayed the pedantic or affected pronunciation of Arkansas Traveler, he would have been laughed to scorn if he would not have been compelled to dodge the upheaval of a score or two of "brick." I would not have risked the supreme decision of the "showboard" by such a pronunciation for a "mint of money." It is true, that the literary status of the "showboard" may not have been the proper standard of criticism in the matter, but Arkansae was the universal pronunciation all along the rivers named, and there is reason to believe that such was the pronunciation by the people of the State themselves.

But, not only was the a silent in Arkansas, it was also their practice to pronounce the e in Lewville and St. Louis, which were pronounced Lewsville and St. Lewy. However, long before I visited these regions of our country—and while I was yet an apprentice—returning "trampers" familiarized me with the name of "Arkansaw," and also with "New Orleans" instead of New Orleans, the accent being on Or. In those days the French were the dominant population, and of course, gave character to the geographical nomenclature of that part of the country. Illinois belongs to the same school as these states, and was pronounced as if spelled Illinois, the e being added sometimes in order to convert the last syllable into noise. According to Webster's "Etymological vocabulary of modern geographical names," Illinois is derived from illini, an Indian name for men, with the French suffix ois, a "tribe of men." Whether the proper pronunciation of the names of States is a matter of sufficient gravity to justify their Legislatures in solemn council assembled, in passing legislation in relation to the introduction of other "interloper" names, I do not know. But, on the whole, I am "right glad" that the Legislature of Arkansas has done so; for I have more than once been stared at for using the "vulgarism" of Arkansa. But now we can speak with authority, "and not as the serbics." Our great local philologist, the late Prof. Haldeman, was emphatic in his opinion that the name of a place or thing should always be that which was given to it by its original discoverer and describer and by which it became commonly known in the locality where it originated and existed; and, so long as there is no violence done to common sense and common decency this rule should be pre-eminent.

LUSUS NATURE.

In plain English, this term means "a play, or freak of nature," and is applied to any anomalous or deformed production, whether animal or vegetable; and when applied to the human species, it is usually denominated a monstrosity. Philosophically—perhaps rather physiologically—speaking, it is caused by some violation of the organic laws, and the

*Kansas meant "smoky water."*
greater the violation, and the more intelligent the subjects of it, the greater the monstrosity; and also the greater the responsibility. No cultivated mind can contemplate or view these phenomena with pleasure; especially in the forms which occur in the animal world, and most especially those which occur in the genus Homo. They are all more or less revolting to mental refinement, and we shudder almost invariably at these malformations, without exactly knowing the reason why. And yet, some interest attaches to them, as object lessons in physiology under its perverted forms. But there are thousands of malformations which we encounter every day of which very little or no note at all is taken, mainly through our mental or moral obtuseness—or perhaps more properly, through our charity for the deformed, who may be altogether irresponsible, and the victims of self-willed or disobedient progenitors. Under any circumstance we may rationally conclude that one progressive law prevades the entire realm of animal nature, and that these phenomena are the effects of a violation of that law, whether intentional or otherwise. But a truce to further philosophizing.

Mr. J. B. Eechterman, of Paradise township, exhibited to us one of the most perversely impacted and anomalous malformations we have ever seen, in the form of a very lively little chick, over three weeks old. It is of the ordinary size of a bird of that age, of a brown color, the pen-feathers of the wings beginning to show themselves, and has four well-developed feet. Most of these malformed subjects are still-born, many die in the egg, and others a few days after they are brought forth. But this little creature used two of its feet as deftly as any other chick of that age, and was equally as animated, and seemed to manifest the usual distress in being separated from its companions; and from all appearance, is likely in time to develop a fully-grown fowl.

It would be difficult to maintain the theory, that these phenomena are always the effects of a violation of the organic laws by an intelligent and responsible progenitor, because they are constantly occurring where no intelligence and responsibility could possibly exist. That they are the result of the violation or diversion of physical law is indisputable, but that this may occur through ignorance or inadvertence, so far as the animal world is concerned, we have only to mention that some years ago, it was found that a large number of salmon in one of our far western streams were malformed, and this has been of frequent occurrence among the bipolar and quadripeds. But these malformations also occur in the vegetable kingdom, and at this moment we have in our garden a “Canterbury-bell” that exhibits a striking case. The flowers on this well-known garden plant are five-lobed; forming a cup-shaped or tubular corolla in the form of a bell, and from this, the common name of “Bell-flower” is applied to the whole family (Campanulaceae). The “Hare-bell,” the “Marsh Bell-flower,” the “Tall Bell-flower,” the “Canterbury Bell,” and several other species, belong to the typical genus Campanula. Although, usually, there is great uniformity in the flowers of this plant, yet we have one growing on our premises, in which the corolla are six-lobed, seven-lobed, and one twelve-lobed, and the same variations, respectively, characterizes the calyxes. The flower that is twelve-lobed is not in the form of a bell, but rather that of a fruit dish or card basket. Of course, there are abnormal forms, or “freaks of nature,” and are the effects of the violation or diversion of some organic law. Among vegetable substances these abnormal forms are not at all repugnant to refined feeling, or only slightly so; for the “crossing” or amalgamation of fruits and flowers, for the purpose of doubling and improving them, is effected by a similar diversion from the order of nature.

A contemporary in commenting on Mr. Eechterman’s (facetiously) hopes he may produce a new brood, as it would furnish just so much more “dark meat” for the table. Would he or any other man—intelligent or ignorant—care about partaking of such a dish, no matter how well it was “served up”? I trow not; and if not, then there must be a repugnance to such phenomena, that is founded upon a sense of the fundamental disorder of the thing.

TWO OF A KIND.

A Shower of Toads.

After a heavy shower of rain last week the railroad track of the Lehigh and Susquehanna division, from the depot to the Bethlehem junction, was literally covered with little “hop toads,” about the size of a common bean. Andrew Boylan, flagman at the railroad crossing opposite the canal bridge, first noticed the phenomenon after the shower of rain, and the attention of many persons while passing there during the day was directed to the strange sight. A number of the little toads could still be seen out on their morning hopping around the railroad track. The question now is, where did the toads come from? Did they come from down up, or from up down?—Bethlehem Times.

A Shower of Lizards.

During the late storm a strange thing happened out in the Willows. The bees on the lands of Norris Plummer and Mr. Arthur were covered with lizards, and some were also found lodged in the branches and stuck on the ends of the lately cut limbs of the trees. The lizards varied from two to four inches in length, and one case in point was evidently tell, but it is the opinion of those who saw them, that they must have rained down. This looks a little like a canard, but Mr. Plummer and H. L. Dart are ready to vouch for the truthfulness of the statement. We have heard of angle worms and toads falling during a thunder storm, but this is the first instance of a shower of lizards.—San Jose (Cal.) Herald.

The “toad shower” seems to be a common occurrence, at least the phenomenon is familiar to many persons living in proximity to shallow ponds or streams of water. When the people say toad, they also mean toad. This is one of the animals so well known, that it is seldom if ever confounded with the frog. We have seen the ground covered with small hop toads during a thunder storm, and the same has been noticed after a heavy shower, while we resided in proximity to the shallows of the Susquehanna—on “Bar and Beach and Bank,” and also a quarter or a half mile from the bank, and under such circumstances too, as to lead us to the supposition that they had been first taken up in a “water-spout,” before they had come down in a shower. There is nothing either impossible or improbable in this, and yet we are compelled to conclude that many of the young toads seen after a shower, were concealed in the neighborhood of the place where seen. It is well known that toads are somewhat nocturnal in their habits, that they are partial to shade and moisture, thus during their migrations from the pools in which they are born, they occur during the evening, morning or night.

Just emerging from the element in which they had passed their tadpole state, they would naturally be somewhat tender, and hence would avoid the rays of the hot sun during the middle part of the day. But should a shower supervise, it would afford the conditions they require for their migrations as amply as the night or morning; and would bring them out from their diurnal concealment. Although showers of small toads may not be impossible, and from the fact that they have been noticed on roofs of buildings, in water spoutting and in rain stands immediately after a shower, would seem to imply that the phenomenon is very probable. But, at least one coincidence is wanting to establish this theory without a peradventure. We have never seen, nor have we ever read of any tadpoles accompanying these showers of toads. While they are in their native ponds and streams their transformations from tadpoles to toads do not take place suddenly nor simultaneously. We will find tadpoles, tadpoles with the two hind feet developed, tadpoles with both front and hind feet developed, and also those that have been nearly or quite destitute of their caudal appendages; and, one would suppose very naturally that some of these forms would be drawn up in a “water-spout” also, and come down in a shower; but it seems that heretofore nothing but small toads have been noticed. As to “flood-worms,” every angler who goes in search for them knows that they come from the earth’s surface when it becomes dry, and hence they search for them in moist places. These animals are also somewhat nocturnal in their habits—at least they shun the sunlight and dry atmosphere. A penetrating shower of rain often brings them out of their subterranean galleries by thousands. They are also known to somehow get into heavily moss-covered roofs, especially such parts of it as are least exposed to the sun. These also come forth after a shower, are carried into the gutters, down the spout ing, into the water tank, and then they are supposed to have come from the earth’s surface when it becomes dry.

As to the shower of “lizards” the phenomenon is not easily explained, from the fact that these animals are so frequently and so largely confounded with salamanders, newts, sirens, &c., in short, any snake-like animal, with four feet, is called a lizard, by those who consider that there is “nothing in a name.” If lizards—that is, real salamanders—are meant, it involves the question in difficulties. The normal locale of lizards are trees, bushes, and low places where they are often times bask in the sun, or in the shade, according to the temperature of the weather. They could therefore not be taken up in a “water-spout,” nor yet in a “whirwind.”

Their organs of prehension are too perfect to allow them to be detached and carried away by the wind; nor are they sufficiently gregarious, to permit any considerable number to be so taken up, at any one time or place. The
showers, then, could not have been tardos. That they were Newsrs, Tritons, Syrens or Salamanders is more likely, because the native element of most of these is water. California, which is so prolific in everything, may furnish with these animals the means to make a respectable shower of them; but we have never seen them but once in a single locality so numerous that such a contingency would be at all probable, if possible. Nearly forty years ago we saw, in "Hunter's Lake," in the northern part of Lycoming county, the water-news so numerous, that if a wormspout had occurred just then and there, a very large number might have been taken up and dropped down again. The lake contained pine and large pines, and doubtless these fishes devoured multitudes of them, and as they were mainly seen in the shallows along the margin of the lake, they might have been exposed to such a contingency. We also noticed multitudes of small blackish tadpoles, which must have been the young of the news, for we must remember that newts, tritons and salamanders are also Batrachians, as well as toads and frogs, and are developed from tadpoles, besides, it was in the month of August, too late for them to have been toads. Thus, it is possible that there may have been a shower of these Batrachians.

**Queries and Answers.**

**About bats.**

**Lancaster, Pa., June 27, 1851.**

**Dr. S. S. Rathvon.**

**Dear Sir:** I address you for information upon a subject which this season of the year is no doubt one of general interest. A few evenings since a company of bats were thrown into a state of great consternation by the sudden appearance of a bat. Their first impulse, after the manner of their sex, and indeed of many people of both sexes, was to cover their heads with the most convenient articles at hand, and the second to get out of the room, as quickly as possible. As the only adult male member of the party I was at once deeply impressed with the grave responsibility of my position, and securing a broom, after a few passes dispatched the unwelcome intruder by a vigorous blow. Between my brushes I may observe that this performance was regarded by my fair companions as one of exalted heroism; but grateful as the reputation thereby acquired has proved, I feel that its complete enjoyment would be enhanced were I to be assured that it is entirely deserved. What I write to ask, therefore, is: Was there any cephalic degree of bravery in my volunteering to meet the winged monster alone, with uncovered head, and without other weapon of offense or defense than the disengaged hand? Is the bat the first of its kind to have attempted anything of the kind? Why do nine people out of ten cover their heads a minute they see a bat, and finally, what is the easiest and most sensible way of getting rid of these uncomfortable intruders? As these queries and their answers have perhaps a more personal interest, I take the liberty of imposing upon your attention and requesting a reply through the columns of The Farmer.—Very truly yours.

On the whole, if we all had an intelligent apprehension of the functions of the bat in the economy of nature, we, perhaps, would not desire to get rid of them so long as a necessity for their continuance exists—indeed I feel persuaded that if there were no bats in the world, it might become a very comfortless place to live in. Taking the whole bat-family together, (Chiroptera or wing-bandied) with a few exceptions, it is insecutorious, and when an individual happens to fly into an open window of a dwelling, ten to one it has been heedlessly in pursuit of a night-flying insect, which it has not acquired by the use of its wings. Through our ignorance of their life, characters, habits and economies, and can only be dispelled by scientific education. A few species in the East Indies are frugivorous, and in Central and South America there are sanguis-suusious species (the "vampires" for instance), but the characters of even these are greatly exaggerated. But those of North America, and especially those of the United States, are insecutorious; and the whole end and aim of their lives is the procreation of the species and the capture of insect food as the sustaining element of themselves and their offspring. When the season for insects is over, and the chill winds of autumn supervene, the benevolent functions of the bat are ended for the season, and he suspends himself in any cover that will shield him from the wintry blast, out of the way, and harmless nobody or thing. But as soon as genial spring returns, and the insect world revives, the bat will also be there on his beneficent mission to the human family. It is the only beneficial element in the vegetable and spiritual mazes, there are many indigent specimes of humanity in the world, who might well envy the physical endowments of the bat. It would be a cheap and easy way to pass a hard winter—to be suspended in a comatose state, without eating anything or needing to eat anything, until the return of vivifying spring.

What the swallowes and other purely insectivorous birds do by day, the bat does by night, and when one enters a house in pursuit of his prey, he is frightened fully as much as any of its inmates possibly can be, and his efforts to escape are interpreted, through our prejudices or aversions, as so many sinister designs upon us. Of course if we seized a bat with our hands, he would bite us in self-defence, but so would a hundred other small and otherwise inoffensive animals. With all our repugnance to the bat, he is not very far removed from us in systematic classification. At the head of the column are the two-handed animals (man), then the four-handed (monkey), and then the wing-handled (bats). All the other subjects of the animal kingdom are below these.

It is true, that a large Bat-terry in or near our dwelling is not a contiguity that is at all agreeable, for the fragrance of it is not as pleasant as peaches, or "Araby the bluest," but all we have to do is to expose it to the light of day, and it will soon be vacated by its occupants. On one occasion I expelled a colony of five hundred that had located itself behind a sign-board, by merely removing the board about six inches from the wall, and letting it remain so two or three days. They "vanished" and never returned.

In an abstract sense the absolute necessity of the bat as an equipoise in nature's economy, may not be very complimentary to the moral condition of the human family—no more are prisons and gibbets to its civil condition. It is the representative of an evil that is permitted to counteract or circumvent some greater evil, and when that greater evil is entirely subdued we may feel reasonably assured that the bat's occupation will be gone, and that it will then become extinct as many animals before it have: but until then we must tolerate it and allow it to perform its allotted function. If every man on earth was a perfect "law unto himself," and drank no intoxicating liquor, there would be an end to its manufacture and sale. But this would impose a mountain of self-denial on man, and through that self-denial alone can the evil be radically extinguished, or held in abeyance. Moles and bats, and noxious insects, and hideous reptiles, are but the representative outbursts of corresponding principles which baffle and their existence in the moral realm, and if we learn to shudder at the principles as we do at their representatives, it would indicate the "beginning of the end."
THE FREE PIPE LINE.

No industry of the State can be crippled without all portions of the State being unfavorably affected. It is to the interest of every part of the State that every other part should be thriving and prosperous.

Oil is the principal product of Northwestern Pennsylvania, and there is not a substantial reason to be given why its production should not be encouraged and properly protected. The business has become very much oppressed by that powerful corporation known as the Standard Oil Company, monopolizing the entire business and using its power to crush out individuals who possess enough thrift and enterprise to embark in the oil business. Legislation has been asked for by those people again and again; but has as often been withheld through the influence of the Standard Oil Company, and its first cousins—the railroad corporations. One of these measures for their relief before the Legislature at its last session was a bill giving others the right to organize companies, and granting them the right of way to lay pipe lines and vest them with the right of "eminent domain" so far as to enable them to cross the Standard lines, which they cannot now do on account of the fact that the Standard Oil Company have a day exclusive right of way, and no other lines can have any considerable distance without at some point crossing its lines. This is the measure known as House bill No. 77, more popularly known as the Free Pipe Line bill.

In the northwestern part of the State, principally in the counties of Erie, Crawford, Warren, McKean, Elk, Forest, Clarion, Venango, Butler and Armstrong, there are thousands of miles of pipe lines in daily use. Some of these pipe lines run through agricultural districts. It is from their effect upon the farms through which they pass that the best judge as to the damage which would likely be done to land and property in Lancaster county in case a free pipe-line were to be run through it. In our part of the State but few people have ever seen an oil pipe-line and consequently but a small proportion of our people thoroughly understand its workings. The best place to become acquainted with the workings of these pipe-lines is in the localities through which they pass. I have been to the oil regions for the express purpose of obtaining information on this subject, and from what I could learn the reports circulated about the damage they do is entirely false and without foundation.

A pipe-line may burst and in that way may do damage to property, but an occurrence of this kind is very rare even in the oil regions. It has interested Col. W. H. Vanderbilt, who has engaged in the oil business for the last thirteen years, says: "I have known cases where pipe-lines have burst, yet I say that it is very rare indeed, and I never knew a case where a farmer's crops, houses or outbuildings were in anywise injured whatever." What has caused pipe-lines to burst was their exposure to the heat and cold, which has a tendency to expand and contract the iron and thus to loosen the pipe at the joints. These pipes mostly on the surface of the ground and are uncovered. Had the bill of last session been passed this danger would have been sufficiently well guarded against by one of its provisions, which required the pipe to be covered at least twenty-four inches, so as to prevent action of the frost. Under the free pipe-line bill this objection on the part of the farmer would have been removed. Without such a bill being enacted into a law the Standard Oil Company may run its pipe from one end of our county to the other, and there is no law which compels the construction of their pipe twenty-four inches. A pipe-line buried too deep would be no obstruction for plowing and tilling the soil. The pipe-lines running from the oil fields to Cleveland and to Buffalo are also covered and they do not give the least trouble to the farmers through whose farms they pass. The line running from the oil fields to Cleveland, Ohio, runs through two farms owned by Representative Braham, of Butler county, an old farmer, who is a member of the present Legislature; a man of sterling integrity and whose representations are thoroughly reliable and who knows what he is talking about when he tells how pipe-lines affect the farming interests. Mr. Braham told me that he had neither seen it put there nor had no one told him that it was there, he so would be unacquainted with the fact that a pipe-line now runs through his farm. He furthermore says that corn grown fully as well on the ground with which these pipes are covered as anywhere else upon his farm, and that in his opinion pipe-lines laid through farming lands, if the pipe are buried, do not do the slightest damage to the land. Other farmers tell me substantially the same.

Among the representatives in the Legislature from the oil regions there are about half a dozen practical farmers, every one of whom was strongly in favor of the passage of the Free Pipe Line bill.

The mere fact that a few accidents have occurred is a flimsy excuse for the defeat of a measure involving an all-important principle and relieving an oppressed people from burdens almost too grievous to be borne. An act that would not be an adequate reason why railroads should not be built. Accidents occasionally happen to sewers or water pipes, yet how lame a reason that would be to advance for not laying any more sewers or water pipe. Gas pipes, too, have been known to do damage, but that would be an insufficient reason to induce our cities to dispense with their gas light.

An additional fact may be stated, and that is that two pipe-lines have for a quite a long while been laid through New York city. This pipe-line passes through the finest portion of that great metropolis. It even runs through Central Park, New York city. Think of it—this very day somewhere between 25,000 and 30,000 barrels of oil are passing through the very heart of New York city, through the beautiful Central Park in that city, through these pipe-lines, across the East river to Hunter's Point. Have you ever heard of a cent's worth of damage done there?

We have also been told that the streams will be polluted and the fish will be killed. This is another story manufactured for the purpose of creating a false impression upon the minds of the people and to secure timid, weak-kneed Representatives into voting against the "Pipe Line Bill." In the streams of the northwestern counties there are some of the finest trout to be found anywhere, yet those streams flow through numerous localities which are fairly covered with oil derricks. The oil that does get on to the stream remains on the top and does not mix with the water and does not affect the fish or the purity of the water underneath. The Allegheny river is an example. I have repeatedly seen the Allegheny literally covered with oil and was told it had been so for years, yet there were plenty of fish that were female and not even reduced to a size. From the refuse from the large oil refineries above Pittsburg has found its way into the river the acid and refuse matter has a fatal effect upon the fish. These pipe-lines are built especially strong across streams so as to prevent logs, cakes of ice, &c., in cases of a fresher, from affecting the joints by striking against the pipe. There is not the slightest likelihood of its affecting the funny tribe in our streams were a free pipe cross to them. These stories about pipe-lines have been set float by paid agents of the "Standard Oil Company," which mainly the monopoly would strain every nerve and use every power to retain its hold upon the State. This monster has this Commonwealth by the throat to-day to strangle its efforts to collect revenues amounting to millions which this corporation refuses to pay into the people's treasury.

A number of reports, too, were studiously circulated during the last session of the Legislature, relative to damage alleged to have been done to property and lands along the Hopkinson pipe-line running from the region through Southern New York to Hunter's Point, N. Y. It was merely the off-spring of the "Standard Oil Company," got up purposely to blind and mislead the public into an unjust opposition to a measure that is right and proper; a measure giving to the individual oil producer the same privileges and the same rights to-day exercised and enjoyed exclusively by the Standard Oil Company; a measure that must be enacted upon our statute book, which puts these powerful corporations under the limit of their corporate rights and subject the people against the threatening danger of these corporate powers. It is very strange that it is necessary to go to New York city for information on the workings of free pipe lines when we have thousands of miles of them in our own State. It is strikingly strange that the people of the western part of our own Pennsylvania, who are as anxious to
place their property beyond the reach of danger; who are as anxious to have their lands free from any danger that might be accidentally inflicted; who are as anxious to preserve the purity of the pure waters of their mountain streams; who are anxious to protect the finny inhabitants of their rivers and creeks; who are as anxious for their well-being and for the welfare of the community as men generally are, when in their own localities for miles about them the country is overgrown by a complete net-work of pipe lines, should be totally ignorant of all the evils and mishaps from pipe lines which have befallen the people of Southern New York and the dangers and inconveniences from which we are told people suffer from this one pipe line alone.

The Standard Oil Company has combined with the railroad corporations and has complete control of the oil business. It has amassed an enormous amount of wealth and to-day owns the pipe lines running from the oil regions to Pittsburgh, to Cleveland, to Buffalo, and all points between. It has closed the main avenues through which this staple product of a full dozen counties of our State finds its way to the markets. This powerful corporation has to-day a complete monopoly of the buying, shipping, refining and selling of million of dollars' worth of oil. Is there any wonder that it has its paid lobbyists on the floor of the Pennsylvania Legislature, where it had already done so much in the past to debauch and disgrace the representatives of the people? Is there any wonder that this tyrannical and grinding monopoly has its salaried agents in the eastern counties of Pennsylvania, there to manufacture a false sentiment by misleading the people and to scare timid legislators from what they all should have seen to be, and what I know nearly all felt to be, their plain and imperative duty.

The Standard, too, owns rights of way to lay pipe-lines from the oil regions to Baltimore and Philadelphia. These rights of way were bought from the land owners, and the lines can be built wherever they please. Why should not other citizens of our State enjoy the same privileges? Why should not private individuals, who have their capital invested in this important interest in our State, have the same right as the Standard Oil Company has? It might also be inquired why cannot others too buy rights of way to build pipe-lines to the seaboard? To this I reply that the Standard Oil Company has bought strips of land across the State of which it has the exclusive right. They are built, unless by legislation you allow others to build their pipe lines, vesting them with the right of eminent domain so that they can do and build in a strip of land owned by the Standard they can cross that line upon payment of damages, which they now cannot do, all individual producers are, at the mercy of the Standard monopoly. Why should this region of wealth not have a free and unobstructed outlet? Why should its richness to which Pennsylvania can lay a just claim be locked up? Why not express wealth in a beneficial and fattening a foreign corporation which refuses to pay its share of revenue into the State Treasury? Why should there be no encouragement given to the investment of Pennsylvania capital in one of its most important industries? Why, we may further ask, should there be no protection given to Pennsylvania capital already invested? The individual oil producers, most of whom are permanent residents of our own State, cannot successfully compete with this gigantic corporation, composed almost entirely of outsiders and foreigners.

Let a free pipe-line be enacted into a law, so that this gigantic monopoly will be defeated, so that Pennsylvania and oil producers will be protected; so that Pennsylvania oil consumers (and this includes the agricultural districts) will be shielded from the imposition of paying two prices for their oil instead of one; so that the investment of Pennsylvania capital will be encouraged, so that Pennsylvania refineries may be erected and Pennsylvania workingmen given employment, instead of robbing Pennsylvania labor of employment to which it can justly lay the strongest claim. I fear the near future will force issues upon us alongside of which will dwindie into insignificance the flimsy considerations of a little trench being dug through a farm, a spot where the air may be slightly odorized with oil or the particles of oil flowing upon the waters of a few streams. This, I venture the prediction, is merely the beginning of the great issue of the future between the people on the one hand and the grinding monopolies and oppressive corporations on the other. Not an unjust or unreasonable warfare against our corporations, which have done so much to develop our resources and build up our industries, but an honest determination to teach those soulless powers that they are the mere creatures of the Commonwealth instead of master, and that, while the Commonwealth will protect them in the full enjoyment of their corporate rights, the Commonwealth, too, has rights which they are bound to respect and laws enacted which they must obey.

SELECTIONS.

TOBACCO CULTURE.

How to Grow the Coming Crop.

Cultivation of the tobacco field should begin as soon as the young plants have taken root and begun to grow. This is from eight to fourteen days after setting out, depending much upon the weather, and may easily be told from the changed appearance put on by the plant. The care or carelessness with which they are set out also has much to do with their early start. When planted without due attention being given to placing the roots in their natural position, the plant is apt to suffer, and is not likely to come up to the surprise of the farmer, who can't understand why some plants are so thrifty and others so backward. Most frequently careless planting is the cause why some plants remain small and sickly-looking the entire season through.

Early Culture Necessary.

But in return, early cultivation is important. No matter whether the field is grasy or not, nothing brings the plants along faster than early and thorough cultivation. The ground has become more or less hardened and must be loosened up. It is not necessary to go deep, however, only the surface soil should be stirred; the sub-soil must be left intact. Almost any implement that does the work effectually may be used. A cultivator is most commonly employed for this purpose. The preference in the South is often given to the turning plow, especially when the fields are grassy. The fact is, it matters little what the name of the implement is, so that it stirs the soil thoroughly and effectually destroys or keeps down the grass and weeds. Old land generally requires more labor in this way, but careful farming practiced in Lancaster county, as a rule, renders the grass and weeds easy of extirpation.

Use of the Hoe.

The hoe is a most important implement in the tobacco field. The cultivator does effectual work between the rows, but cannot be allowed to approach the plants too nearly, lest the tender rootlets should be torn or disturbed. The earth around the plant cakes, and must be loosened to permit both sun-light and moisture to produce their best effects. To do this the hoe is called into requisition. All grass that grows close to the plant must be removed. The hoe can be thrust through a leafless clump of tobacco without the slightest hindrance. In loosening up the earth around the plants care must be taken to carefully replace as much as have been drawn away during the operation. All dirt that may have been thrown upon any of the leaves must be carefully removed. The ridges must also be hoed down and the surface made level. Level cultivation looks much more workmanlike and pleasant to the eye. When the hoe is employed for the first time it is not necessary to stir the soil around the plants, but this must be more freely done during the subsequent hoeing. About two weeks after the first cultivation, when the leaves are ten to twelve inches long, the cultivator and hoe must again be sent into the fields and the operations already described be repeated. Sometimes no other cultivation is necessary, but we advise no one to rest here, even though his field looks clean. The more foul the field the oftener it must be gone over. In fact, it may be laid down as a rule that you cannot cultivate too often or too much. It is better for the ground and better for the tobacco. Well pulverized soil is one of the most important items that enter into a profitable tobacco crop. As the plants grow larger, it is well to employ a shorter singletine in order that they may sustain no harm from that cause, and in this way the process of cultivation may go on until it becomes impossible longer to pass through the rows with a horse. This careful cultivation also brings into notice any diseased or imperfect plants. Early ought to be noted, and their places supplied with large, vigorous plants held in reserve for this purpose. Such as have the centre bud destroyed, either by insects or accidents, will be likely to throw out a number of suckers instead; all such must be at once replaced. In short, there must be no vacant hills, and none with imperfect plants on them. A few hundred missing plants in a small field, or more in a large one, make a large hole in the farmer's profits at the end of the season. Should any vegetation spring up after the tobacco has reached full growth, it is not necessary to remove it, as it is no longer able to harm the crop, and may even be beneficial in keeping the lower leaves.
from becoming sanded or splashed with dirt. Still, such a field is unsightly in the eyes of the careful farmer, and he is willing to dispense with any supposed benefits from this cause rather than have the weeds where he would prefer to see clean cultivation. Let it be continually borne in mind that early cultivation is indispensable. If the use of the cultivator and hoe is delayed too long the weeds get the start, which no amount of after cultivation is able to overcome. Not only is the growth of the plant retarded, but the grass draws from the soil the very food put there to nourish the tobacco plant. When grass grows freely about the plants it is apt to become so firmly rooted as to resist the hoe, or else to result in damage to the plant in the attempt to remove it. Then, too, as early ripening has latterly been regarded as highly desirable, it must not be overlooked that by careful early cultivation the period of ripening may be advanced from one to two weeks. This, if the season has been late, is a great advantage, and enables the wide-awake grower to make up by well considered farming for some of the inevitable drawbacks that may have attended the earlier operations of the season.

The Hawk Moth.

While the tobacco planter is carefully attending to the grass and weeds, in order that his tobacco plants shall have every advantage thorough culture can give them, another enemy comes to the front, and perhaps the most dangerous of all. This is variously called the "tobacco worm," and "horn worm." The moth from which this worm originates is the woolly-worm, more properly known to entomologists as the Sphinx quinquevittata or Five-spotted Sphinx. This moth is of a greyish color, having five orange-colored spots on each side of its body, from which it takes its name. It may be seen in the summer twilight in our gardens, flitting from flower to flower, from which they extract the sweet juice by means of a remarkable tongue, sometimes five or six inches long. This tongue or proboscis when not in use is coiled up and stowed away between the two feelers. The hawk moth is a very strong flier and hard, which at first sight it much resembles, although its flight is much slower and it is more easily approached. The first of this army of moths comes along in June, but not numerously, as a rule. It is the opinion of some that dry weather early in the season is unfavorable to its production, while an early wet season makes them more plentiful. However this may be, the hawk moth comes along in June, and deposits its eggs on the under side of the leaves, when the plants are about a foot high. At first these eggs are greenish in color, but, gradually growing yellowish or a cream color, and in about twenty-four hours the hatching process is completed, when the miniature tobacco worm, hardly thicker than a hair, and only an eighth of an inch long, issues forth on its mission of destruction. Should the eggs have been deposited on the upper side of the leaf, the minute worm at once eats a small hole through the leaf, and passes to the under side to continue its depredations. From the first its appetite is most ravenous, although the damage during the first four or five days of its existence is small, because of its diminutive size. At the end of about five days it sheds its old skin and makes its appearance in a new dress. This is a signal for a renewal of its career of destruction. If not arrested in its course it will soon ruin the most promising crop. Not content with ruining a single leaf, it will, if left alone, destroy an entire plant, and sometimes more. It continues to grow for twenty-five or thirty days, when, having attained its full size, it continues to wriggle itself on the juice of the plant a few days longer, after which it crawls to the ground, where it remains in the pupa state about twenty-five days; when it once more sends forth a hawk moth, to repeat the work of destruction.

Necessity for Its Destruction.

As each moth lays about two hundred eggs, it at once becomes apparent that the second crop of tobacco worms, which comes along in August, is much more numerous than the first one. What is more, it comes about the time when the plants are sending out suckers, among which may take refuge when quite small, and thus escape detection. The necessity of a resort to every possible means of destruction at once becomes apparent. Every moth killed before it lays its numerous brood of eggs is so much towards killing off the hosts that come later in the season. Every moth destroyed in June means at least one hundred worms less in August. Hence the importance of a vigorous warfare against the earliest horde that makes its appearance. Unless this is done the latter army is sometimes so great as to literally defend the most determined efforts of the tobacco farmer.

How to Kill the Hawk Moth.

Numerous methods have been suggested and are employed to destroy this magnificent moth. It seems to have a strong inclination for the sweet juices found in the "Jimson" or Jamestown weed (Stramoniium,) and wherever this plant grows the hawk moth will be found in great numbers, and more especially in the summer months. We have also noticed, incidentally, that affects the flowers of the yellow primrose—these plants are regularly resorted to by them for food. These, then, are the places to kill them. While engaging in extracting the nectar from the flowers they may be approached and killed. A light paddle will be found a very effective implement for this purpose. The Jamestown weed, planted here and there through the tobacco field, will be sure to draw them. While this method of destroying them is resorted to by some, others inject portion into the flowers of the above plant, and thus kill the moth. An ounce of cohosh dissolved in a pint of water is mixed with mosses and a drop or two put into every flower will do the work effectually. Sundown is the best time to do this, and the flowers so treated should be pulled off on the following day, or the entire plant may be destroyed. If left, bees will also find the poison, and if not killed themselves, will most surely present their owner with poisoned honey.

Hawk Moth Traps.

During the past few years wire traps have been introduced which are hung through the field, with flowers of the Jamestown weed inserted as a bait. They are reported as being effectual, considerable numbers of moths being sometimes captured in a single night.

An ingenious Tennessean has also conceived the idea of making imitation Jamestown weed flowers out of porcelain. These are charged with poison every evening and hung through the field. Being cheap, large numbers can be employed and they are said to do their work very effectually. So far as we know, they have not been tried in Pennsylvania, but they seem to us to merit favorable consideration. In the use of the above remedies or preventives there should be co-operation among the tobacco growers of a district. If such is not the case, no matter how hard one farmer kills off the moths, plenty more will come from abroad to take their place.

No matter however concerted or determined a war on the hawk may be waged, plenty will escape every method employed for their destruction and lay their eggs undetected and unharmed, and the regular succession of tobacco worms will make it appearance. The last and surest remedy is hand picking; and this must be now resorted to. We lay little stress on the use of traps, as these are keys so much spoken of. Turkeys will do far more harm than good in a tobacco field when the plants are full grown, and would have a very trying time of it in their search for magnificent leaves of "Giessner" or "Pennsylvania Seed-leaves." This is, therefore, no remedy for it. The farmer, or his boys and girls, must go to work with their fingers, and though the worm is repulsive in appearance he is harmless and may be pulled off with impunity and killed. From the hour the hawk moth lays her eggs until the crop is laid down the battle of wits and warring they must be, must be regular and unremitting. Every three days is not too often to go over the field and three times a week would be better still. Especially is this the case with the grower of seed-leaf tobacco. The value of his product depends almost exclusively upon its fitness for cigar wrappers. When full of holes it is useless for this purpose. The freer of holes his crop is the higher the price it will command. It is doubly important to him, therefore, to get it marketable in the best possible condition. He must take off a few eggs and destroy them, but this is only a trilling aid. Late and early, in sunshine and rain, he must be in search of the destroyer. No after process is so important as this, because if his crop is badly worm-eaten, no after care can make good the damage. When hunted for a short intervals the worms are more easily found, as they do not leave the place where they begin operations for several days, and may therefore be looked for more when they have a place to work through the leaf. Later they change their position frequently and must be searched for over the plant. Its habits are also of importance. In hot weather it feeds chiefly in the morning while it is cool, whereas in cool or cloudy weather it feeds during the warmest part of the day, and is therefore more readily discovered in the afternoon. Worming should be done with much care. A worm or two overlooked on a plant may effect its destruction before you come around again. Be sure that your work is thorough. This is the only real safe-guard. Some seasons they are far more numerous than others, owing do doubt to more favorable conditions encoun-
HATCHING.

Destruction by Poison.

We have not alluded to a custom which has prevailed to a very moderate extent among some growers of using Paris green as an agent to destroy tobacco worms. The tobacco leaf is porous and gummy and capable of absorbing the poisons thrown upon it. Those would undoubtedly be retained in the leaf to some extent, enough, perhaps, to render the tobacco harmful to those who used it. For this reason we condemn the use of Paris green for this purpose in the strongest terms, and hope the custom of using it will be entirely discontinued. South Carolina planters have been in the habit, we understand, of applying a weak solution of blue vitriol to the plants, which is said to be very efficacious in the destruction of the worm.

In addition to the tobacco worms, the grasshoppers do a good deal of injury during some seasons. Luckily for the tobacco farmers, this is not often, because for this plague there is absolutely no remedy. Their numbers are so great and their work so expeditious that when they come along they do their evil work before a remedy could be applied. For some years the damage done by these pests in Pennsylvania has been comparatively small, and they are not much dreaded by our tobacco growers.

SILK CULTURE.

As an appropriate sequel to our remarks in another column on this subject, and an acknowledgment of our thanks to Messrs. Strawbridge & Clothier, the great mercantile firm of Philadelphia, for the loan of the cuts illustrating it, obtained through the courteous intervention of the editor of the Daily City Item, Allentown, Pa., we insert in THE FARMER the following chart and illustrations for silk growers, by W. C. Kerr, State Geologist, with directions for the management of a cocoonery, republished from bulletin No. 5, of North Carolina Department of Agriculture:

1. HATCHING.

The eggs are usually kept at the temperature of ice until hatching time. When removed from the ice, put in a cool place two or three days, so that they may be brought gradually to the temperature of the air. As soon as the mulberry leaves have begun to open, spread the eggs on clean white paper; an ounce will require a square foot of surface. The temperature should be about 70°, and may be gradually increased 1° or 2° a day, to 75° or 80°. They will hatch usually in five days, but the higher the temperature the sooner the hatching. The worms will commonly hatch out in the morning, for three or four successive days. When the hatching begins, spread over them mosquito netting or perforated paper, and when the morning's hatch has crawled through, remove to the (frame, or) platform, making and keeping each day's hatch separate. Better use the net for the first age, and the paper afterwards.

2. FEEDING.

The worms should be fed as soon as hatched and removed by sprinkling young and tender leaves over the net or paper; repeat the feeding every two hours during the first age, and afterwards every three or four hours. In general, give the first feed at 5 o'clock in the morning, and the last at 10 or 11 at night. Before each feeding spread a net or paper over the worms and place the leaves on it. About
every two days, lift the net with the worms to a new frame and remove the litter. The space must be increased as the worms grow, so as to avoid crowding. They will need more space the second day. To accomplish this, in feeding, when about half the worms have come through the net or paper, remove, and place a second paper with leaves for the remainder; in the same way the space may be troubled by removing one-third at a time. The leaves should be spread evenly, so that the worms may get the same amount of food and keep together in their growth, as it is important to have them molt together.

The leaves must be fed fresh and dry, never wet or wilted; leaves wet with dew are especially injurious. Gather the leaves in the evening, for the next morning’s meal, and when rain threatens, gather a day ahead and keep in an airy, cool place, stirring occasionally to prevent heating and fermentation, which will ruin them. If only wet leaves can be had, dry them by shaking up before a fire, or in a breezy place. When food is scarce, lower the temperature of the room, and the worms will eat less.

For young worms, gather only the small leaves. After the second age, small twigs, or branches, may be cut with the leaves. For this purpose use a knife, or better, clip with pruning shears. Gather in a basket, or better, in a bag tied about the waist.

The quantity of food consumed increases very rapidly. The worms are said to consume their own weight of leaves daily. The worms from an ounce of eggs will require about one pound of leaves the first day, two pounds the second, three or four the third; after that the quantity diminishes as the time of molting approaches.

After the second or third age, the net (or paper) and frame may be discarded, and the heavy twigs or branches with the worms, may be placed on the platforms directly. The successive feedings of twigs are spread evenly on the old ones until the mass is piled up four or five inches to the next tier of pins or nails, then lay a new set of five bars or sticks, with the food on these, and when the worms have ascended, drop out the lower tier with its litter and remove.

In using a second or third tier over the first, as C, C, C, C, Fig. 1, it is necessary to place beneath, on a couple of bars, B, B, B, cloth, or boards, to catch the leaves and litter from above.

The utmost cleanliness being necessary, the litter should be removed often, especially during the last three ages, as well as all dead and sick worms. The consumption of food is enormous during this age, the hatch from an ounce of eggs requiring about fifty pounds the first day, and by the fourth one hundred and fifty, and double that amount the fifth, sixth and seventh, after which the quantity falls to about one hundred pounds for the eighth day, but the quality depends on the vigor of the worms, and also the temperature.

During this last age the closest attention is necessary, and the amount of labor is greatly
increased. During the earlier ages, a woman or half-grown child can attend to the worms, and a man or boy in one or two hours, two or three times a day, can supply the leaves required for the worms from an ounce of eggs; and after the last molt, one person is sufficient in the cocoonery, and one to gather the leaves for the hatch of half a dozen ounces of eggs or more, with the apparatus above described.

3. MOLTING.

When the time for their sleep approaches, the worms lose appetite and raise their heads with a waving motion. When any of the worms of this state, give a light, fresh feed to hurry the tardy ones. During the torpor they eat nothing. As soon as their skin is shed their activity and appetite returns. This process is usually over in about thirty hours. No food should be given until about all of the batch are through the molt and ready to make an even start; or if the last are much delayed, give a light feed to the first, and feed the last more copiously, and keep them warmer for a day or so, that they may overtake the first. This rule need not be observed after the fourth molt.

After molting, the space will generally need to be doubled, if the worms come out of their torpor in a feebler state, with little appetite, especially in younger ages, cut the leaves for the first feed or two with a sharp clean knife, like shredded tobacco.

4. SPINNING.

When ready to spin, which is eight or ten days after the fourth molt, the worms cease to eat, become restless and empty themselves, diminish in size, becoming transparent, beginning at the head. When any of them are observed in this state, give a light fresh feed to bring forward the laggards. And as soon as they begin to emit silky fibre, take the frames, (Fig. 2, that were used to hold the young worms), tie together two and two, bottom to top, set upright on their edges, a, a, or b, b, with the slats of one opposite the intervals of the other, upon the platforms, among the worms. They will use these as ladders and crawl up between the slats to spin. Or instead of these, dry branchy twigs, two or three feet long, or broom corn or weeds may be used, setting them upright among the worms, and interlocking them in arches above. If any of the worms fail to mount, remove them on the leaves or twigs to which they are attached, lest they be soiled by droppings from above them.

The spinning is finished in three days. As the worms begin to spin, see that no two of them spin too near each other and make double cocoons, which cannot be reeled.

To sum up, the points requiring special attention are:

1. Keeping the worms of a batch in a uniform state of progress, so that they will all molt together.
2. Abundance of fresh, dry food, except during the molt. 3. Plenty of room, so that the worms shall not crowd each other. 4. Plenty of fresh air. 5. Uniform temperature, as nearly as practicable, and avoidance of sudden changes. 6. The utmost cleanliness.

5. GATHERING AND SORTING THE COCONOS.

In eight or ten days after the commencement of spinning the cocoons are ready to gather. Separate the frames or arches of brush carefully. Remove first all discolored and soft cocoons, keeping these separate from the firm, sound ones; if kept together the latter would be discolored and depreciated much in value. Tear off the loose (false) silk which envelopes the cocoon.

6. CHOIRING, OR STYLING THE CRYSTALS.

In 12 or 15 days from the time the worm began to spin, the moth will issue from the cocoon, and in the process the strands of silk will be cut and spoiled. To prevent this, the chrysalis must be killed—stiffed. This is commonly and best accomplished by steaming; but as that is troublesome, and difficult without proper appliances, in our climate the stiffing may usually be effected by exposing the cocoons to the hot sunshine from 9 o'clock till 4, for two or three days. A longer time is needed if there is much air stirring, or the sunshine is not strong. And the process is surer if conducted in a shallow box under glass, with a crevice for the escape of moisture. In either case, guard against ants. The stiffing should be attended to as soon as the cocoons are gathered, lest cloudy weather should intervene. In this case (and perhaps better in any case), the result may be reached by wrapping the cocoons carefully in slat-lined paper, so as to be nearly air-tight, with alternate sprinklings of camphor, roughly granulated in the hand, beginning with camphor on the bottom, then 3 or 4 inches of cocoons, again camphor, and so on, finally closing the barrel for 2 or 3 days; using about a pound of camphor to the barrel.

After 3 or 4 days, spread the cocoons on boards or shelves to dry in an airy room or attic, stirring frequently the first 2 or 3 days, and afterwards occasionally, for about two months, when they will be thoroughly dry and may be packed for market. Guard must still be kept against mice, ants and smaller insects, which will penetrate the chrysalids and injure the silk. The latter may be expelled by a sprinkling of camphor or other insectifuge drugs, or by the bark of saffron root, or chips of red cedar, tobacco stems, &c., &c.

7. REELING.

This process cannot be readily understood without instruction with a reel or stylet. The price of the silk is doubled by reeling, and as these are whole months of idle time of women and children or an ordinary farm in a year, which might be turned to good account in this way, it is very desirable that the machinery and the process should be generally understood.

8. EGG RAISING.

There is at present more profit in raising eggs for the markets of France, Italy and this country, than in making cocoons of reeled silk. The female worm lays 300 to 400 eggs, and an ounce of eggs will be produced by every 200 to 250 moths. The worms from an ounce of eggs, which, as has been stated, will yield 100 to 125 pounds of cocoons, at $1.25 to $2.00 a pound, will produce 100 to 120 ounces of eggs at $3.00 to $5.00. But this requires much care in raising and preserving, and more detailed instruction than can here be given; and moreover it requires a special selection of eggs to begin with.

9. MARKETS AND PRICES.

There is a good market in this country for reeled silk, at Patterson, New York, and elsewhere, and of cocoons and eggs the Women's Silk Culture Association will take all that are sent them, and pay regular market rates for them. The best price is $1.25 to $1.50 a pound for dry cocoons; it ranges from this up to $1.75 to $2.00.

A gentleman in New York, however, has recently invented a new process of reeling, of which there are great hopes, and which, if successful, will revolutionize the silk industry of the world, and establish this as one of the leading occupations of our people. This gentleman promises to erect a machine as soon as enough cocoons are produced to supply it. Information will be given from time to time of the progress and success of this invention.

General Information.

1. THE SILK WORM.

1. This EGG—An ounce of eggs contains 40,000, and this number of worms will produce 100 to 120 pounds of fresh cocoons (or one-third of that weight of dry). An ounce (or even a quarter of an ounce) is sufficient for a beginner, for an experiment. They are readily sent by mail. The cost is about 85 cents an ounce.

2. AGES.—The silk caterpillar eats its skin four times, at intervals of 5, 4, 6, 6, and 8 days, after a short sleep or rest; this change of skin is called moltting, and the interval between two molts, an egg; the life of a worm, from hatching to spinning is about thirty days, a few days more or less, according to the decrease or increase of temperature and supply of food.

On the approach of the sleep or torpor, the worm ceases to eat and becomes motionless, with raised head.

2. FOOD.

The silk worm eats and thrives on a great variety of food; the leaves of the lettuce, common (or black) mulberry, the osage orange, &c., but the white (often miscalled "English") mulberry furnishes the best silk.

3. ROOM.

Any sort of house or room may be used as a cocoonery, for hatchling and raising silk worms, provided it is well lighted, well aired, and can be kept tolerably uniform in temperature by a stove; fire will be needed on cool nights and rainy days. Direct sunshine should be excluded, which may be done by tacking white paper or cloth over the sash on the sunny sides of the room. For a small crop, a room on the north side of the house is better, for avoiding excessive heat. Ventilation should be secured from the upper part of the room, to avoid direct drafts upon the cocoons. Too much air is injurious, and any sudden or great change of temperature. Cleanliness is very important. Rats and ants must be excluded, as they are very fond of the silk worm larva. The odor of smoke and tobacco are fatal.

4. APPARATUS.

Both room and apparatus should be arranged to secure, as nearly as may be, the same conditions which the worm finds in the tree. Any frame, or platform, or structure, therefore, which will allow the freest circulation of air, from below, as well as on all sides, and the ready removal of litter and stale leaves, will answer. The uprights are about one foot apart in the sets, and the sets running the
length of the room, about 5 feet apart, and the whole should be not less than two feet from the wall. The flats have sloping pins or nails driven into them 4½ or 5 inches apart. On these are laid a series of five bars or sticks, and across these, little rods or straight twigs, the first of these platforms may be 5 or 6 inches from the floor, and the next say 2 or 3 feet above that, and so on as high as one chooses to go; but two are as many as can be easily managed without steps. On these platforms are placed the papers or frames containing the young worms, up to the third (or fourth) age, and then that, the twigs or platforms of mulberry leaves with the worms. Note that all the timber of both room and apparatus must be seasoned.

The papers containing the young worms may b be laid on these platforms directly, but it is perhaps better to use frames like that represented in Fig. 2. The bars A and B are three-quarters of an inch thick, at the cross-outs or bolts, a half-inch thick, an inch (or less) wide, and an inch apart. It is better to make b these frames two and a-half feet by five, so that two of A b b Fig. 2. them will occupy, cross-wise one platform of Figure 1.

The only additional apparatus needed is perforated paper, as seen in Fig. 3, and netting (mosquito or other) about the size of the frames, for the younger stages of the worms. The paper should have some strength and stiffness, so that it can be lifted with the worms on it without hindering them. A good quality of merchants’ wrapping paper will do. The perforations of the size and distance apart, shown in Fig. 3, may be made rapidly by a common belt punch, by folding the paper ten or a dozen thickesses.

5. THE MULBERRY.

The white mulberry is easily propagated. It flourishes best in light sandy or gravelly soils. One full grown tree will yield 200 to 300 pounds of leaves. Two hundred trees may be planted on an acre of land. In three years they will yield, under fair conditions of soil and cultivation ten to twelve pounds of leaves each, or more than two thousand pounds of leaves to the acre. Eighteen hundred pounds suffice for an ounce of eggs; that is, will produce 190 to 205 pounds of cocoons.

At seven or eight years the yield will be ten fold. Plants can be had at many of the nurseries, and cuttings almost anywhere.

Joseph Harris says that an excellent material for the gardener and fruit grower is made by mixing two or three bushels of bone dust through a load of stable manure and letting the whole form together. The bone dust increases the fermentation and heating manure softens the bone. The whole becomes a strong fertilizer if the heap is properly attended to.

Our Local Organizations.

Lancaster County Agricultural and Horticultural Society.

The regular monthly meeting of the Agricultural Society of this county was held on Monday afternoon, July 11th. The following were present:


The President being absent, the society was called to order by Vice President Engle.

On motion, the reading of the minutes was dispensed with.

Crop Reports.

Johnson Miller said wheat, now nearly all harvested, is a tolerably good crop, but short of last year, and not more than three-fourths of two years ago. For the first time the Foltz wheat has come short of other varieties; it is not well filled, and does not make near as much to the acre as the old Mediterranean, White Amber and Rocky Mountain. It also has too many heads sticking up straight to make it desirable in the future. Dr. Johnson of the Agricultural Department, being the first year’s experiment, both prove half failures, the former not ripening at this time. Corn is growing finely, but we have also some fields that look hopeful; this applies to apples and pears also. The apples are inestimable, and the pears are not so much advanced as the apples were last year, as the trees are so full of fruit. Apple cuttings are a very good material for small fruits. The hay crop is about half a crop. Corn is irregular. The fruit crop is tolerable; some apples and pears, but no peaches. The tobacco is very uneven—some good and some very small.

Henry Engle of the town of Donegal the wheat was an average. He does not think the flour will be inferior. The copious rain have brought out the spring grass. The hay crop is better than was expected, and perhaps there will be enough to go around. The oats is much better than usual; it is the best in years. The corn crop is uneven, but fair. The potato is above the average. As regards fruit, the apple crop will not be more than half a one. A full crop one year will result in a short crop the following one on the same trees. No peaches except on the York side of the town. The pear crop is a full one this year.

The season was very favorable to grapes. Grapes will be fairly abundant. Insects have been numerous as usual. The rain fall for May was 3.216 inches; for June, 6.616; being the heaviest so far during the year.

On Thursday there was a rain fall of one inch in Conestoga, as reported by Mr. Hiller. For the month of June the rainfall in Conestoga township was five inches.

Reading Essays.

William Ellmaker, of Earl, related his experience in destroying Canada Thistles. He had a fifteen acre field to experiment on. The thistles were so thick that the field was useless. The feet could not be put down without striking thistles. He started out with the theory that by depriving thistles of the air they could be killed. Leaves are the lungs of the plants, and if these are removed they must die. It was his design, therefore, to keep these lungs from appearing above ground to draw in air to sustain the thistles.

He began by plowing it for corn. The corn came up and when the corn was three inches the thistles were six inches. He went to work with the shovel, and then with the hoe to cut them off just below the ground. He went over the field six times and felt like giving it up, but he remembered the "try again" rule. The last time they came up very thin and spindly. The ants also began to work on them, and gave valuable assistance. Next spring they did not come up. The field was planted in corn again and no thistles came up, but the ground was full of their dead roots. They have never made their appearance since. A few out of a thousand thousands were, naturally enough, overlooked, but these were killed afterwards without much trouble.

J. Frank Landis said his practice was different. He practiced deep plowing; plowed last fall and again this spring. The plants of thistles, he thought, were killed. He offered a resolution making the editors of all the county papers honorary members of this society, and asking their interest in it. The resolution was adopted.

The Free Pipe a Hon. John H. Landis had the following essay on the above subject. See page 102.

Peter S. Reist thought the essayist did not quite apply his remarks to the requirements of the question, which called for the effects of the pipe lines upon the farms through the different parts of the run.

Fruits on Exhibition.

The President appointed John H. Landis and Levi S. Reist a committee to report upon the fruits presented for inspection. The following is their report:
THE LANCASTER FARMER. 1093

1813.

"Henry M. Engle exhibited the following named varieties of raspberries? - Delaware, Henrietta, Brandwine, Turner, Gregg, Pigeon of the Hinde and the Philadelphia, all of which were red berries except the Gregg, which was a black berry. The Grolf is a splendid berry for market, it being solid and can be carried a considerable distance without injury. By the way, Henrietta and Brandwine are also especially worthy of favorable mention. The Brandwine seems to continue to hold its own long since established reputation among the raspberries. Casper Hilper exhibited a raspberry scrobing from the Allen and Philadelphia, which was large in size, and very fine.

Johnson Miller exhibited four kinds of wheat - Red Mediterranean, Rickenbrake, Black Centennial and the Amber, all of which were very handsome and showed to fine advantage.

Henry Montillion, of the society the reports of the Michigan Pomological Society for 1878 and 1879, for which the thanks of the society were tendered him.

Question for Discussion.

The following question was adopted for discussion at the meeting:

What varieties of wheat should farmers sow this fall?

Referred Questions.

How should land be prepared, and when should wheat be sown to insure a good crop? Referred to William Lincoln.

What is the best heat of cattle for the farmer? Referred to Johnson Miller.

The society then, on motion, adjourned.

FULTON FARMERS’ CLUB. The June meeting of the club was held at the residence of S. L. Gregg, Drumore township, and the following visitors were present by invitation: Elwood M. Stubbs, Samuel Dorsev and Lewis Gregg.

Montillion “Brown exhibited Adams” extra early sweet corn; S. L. Gregg, Rhode Island greening and Ridge Pippin apple; E. H. Haines, Early Rose potatoes of this spring’s growth.

Montillion Brown inquired of the host how he had kept his peach trees alive and in such a thriving condition, when they had generally stood the late cold winds in the neighborhood. S. L. Gregg replied that they had had no special care, except that some of them had ashes put around them. They had been planted in new ground, which, perhaps, had made some difference.

S. L. Gregg inquired if any one present could tell whether the gleaner and binder did its work in a satisfactory manner.

Some of the members had been present at a trial of one last harvest, but then it proved to be a failure. The agent claimed that the machine was not in working order, some of its parts being left out.

S. L. Gregg: At what age should clover be plowed down for a fertilizer?

J. R. Blackburn thought that just now would be a very good time.

Brandywine would let it get middling ripe and then now plow over it. He had seen good wheat raised in that way, cut grass will not take very well after it.

Lewis Gregg said that his uncle, the late John Gregg, used to plow it and then just before harvest. He had great faith in it and raised good crops in that way.

S. Dorsev raised good wheat by plowing down clover in full bloom that had been sowed among corn.

An Interesting Report.

E. Henry Haines then read a report of his experiments in setting milk:

April 5th, 1851, chimney the cream of 1.927 pounds of milk, which had been set in cane eighteen inches deep and eight inches in diameter in ice water. It stood 12 hours in the ice water, and was then taken out and let stand 12 hours longer in a room having a temperature of about 60 degrees before skimming. It produced 45 pounds of butter, or one pound to a

fflre lees than 24 pounds of milk. During this trial the cows were fed principally hay and roses, meal and bran, but had a chance to get a little grass each day.

April 121 churned the cream of 1,569 pounds of milk, which had been treated exactly as above only the cows had to milk twice instead of once, and this milk produced 22% pounds of butter, or one pound to 34 1/2 pounds of milk.

April 161 churned the cream of 296 pounds of milk, which had been set in shallow pans in the usual way and stood from 36 to 48 hours, according to temperature, before skimming. It produced 35 1/2 pounds of butter, or one pound to 20 1/2 pounds of milk.

April 19, churned the cream of 404 pounds of milk set in shallow pans, which produced 34 pounds of butter, or one pound to 19 1/2 pounds of milk.

April 22, churned the cream of 262 pounds of milk set in shallow pans, and it produced 50% pounds of butter, or one pound to 19 pounds of milk.

During the last week the cows were depending entirely upon pasture.

Viewing the Host’s Farm.

After dinner the host conducted the members and visitors over a portion of his farm, in order to show the results of the application of South Carolina rock to his crops, which made a favorable showing. After again convoking in the house a few criticisms upon the complimentary character were made on the appearance of the farm and buildings. The literary exercises being next in order, Allie Gregg read an article entitled, "What does the average farmer live for?" and the above tests are not fair on account of the proper apparatus not being used, and are willing to furnish the means, they can have an impartial experiment made by Mr. Haines with their favorite method, and the result given to the public through the news paper.

The last of these was discussed at considerable length by the club, after which it adjourned to meet at the residence of Wm. King, Little Britain township, on the first Saturday in August.

LINNEAN SOCIETY.

A stated meeting of the society was held in the ante-room of the Museum, on Saturday afternoon, April 25th, 1851, at 2 o’clock, P. M. The official chairs were occupied by Vice President T. R. Baker and Secretary H. B. Older. At this meeting, the following donations were made to the Museum and Library.

Museum.

Mr. C. Bitter, grocer, of North Queen st., donated 14 specimens of foreign and domestic woods, in finished blocks, some of which are rare, and all are interesting. They are as follows: Madagascar Box Wood, Peruvian Bark Wood, Norway Pine, Belgian Ash, East Indian Palm, Brazilian Sour Gums, Florida Dog Wood, South Carolina Palmetto, White Cedar from St. Louisiana, Palestine, Japan Oak, Florida Diva, and many other varieties, a list of two specimens unnamed, which appear to be Euryoh, and Lignum Vite.

Mr. J. K. Nisley, through Mr. J. R. Hoffer, of Mount Joy, donated several lave, and one of the ancient vessels of the Linnean History of which are explained in the following communications in the Mount Joy Herald, of this date.

EAST DONEGAL, June 21, 1851.

Editor Mount Joy Herald:—Having noticed by your paper, the week’s issue, the statement of a citizen, who is about to procure specimens of Locusts for scientific purposes, I have thought it fit to call your attention to a small cellar for a tobacco building on my farm at East Donegal, I., Lancaster county, Pa., three miles west of Mount Joy near the Donegal Springs), an old apple tree had to be removed, where we found quite a number of them about the roots, from one-inch and a-half to two inches diameter, and 36 inches long, in this cellar, and four and a-half feet below the surface, twenty feet distant from any tree. They seemed to be lively in appearance, as they were bound about with fir needle twigs, when collected the first of May and the seventh of this month. Whether they were our identical seventeen-year locust I am unable to decide, but I doubt it, as they show no similarity to those of their ancestral "Pharaohs." I also heard a number of them in the upper end of this cellar, quite a综合体 of them, twenty five miles northwest of Harrisburg, near the North Central railroad, on the first of June, but had not the curiosity to hunt them down for more information. I have secured a few for the Professor, and will hand them over to you by first opportunity, which you may charge to me.

John K. Nisley.

Nothwithstanding "The voice of the lioness was heard in the land,” the specimens alluded to in the above communication, I instantly belong to that which is the sort to be feared. They are smaller than the usual fully developed insect, and are all still in the larva state. Mrs. Zell and others, exhibited some very fine and singular flowers and plants, but as no record accompanied them, it is impossible to mention them in detail.

And just here, the reporter of the proceedings would beg leave to say, that if those who have any donations or exhibitions to make, would make a short descriptive record of them, as well as giving their author and date, and send them to the grammar, it is making an intelligent and satisfactory report of them. Otherwise it must impose additional critical labor on those who may have the least time and ability to do it justice.

The Rev. E. S. Florist, of East Gorgeous Street, donated a number of specimens of the Lurane, the Papu, the Imaioy and the Cocoons of the Chinese and Japanese common silk worm, (Bombyx mori). Mr. H., during the present season, has successfully reared a brood of these interesting cocoons, and has sent a short account, with a small collection of cocoons of his residence. Out of 11,000 eggs he raised 10,000 worms, which spun the same number of cocoons. With the exception of about twenty individuals of the Japanese variety, all had spun cocoons prior to the 25th of June. The cocoons among the Chinese variety, are variously colored, from a pure white, through sulphur, to pale orange, and differ in form and size. The greatest uniformity in color, size and shape, is among the Japanese variety. Among the mass are quite a number of extraordinary forms, with unattached wings. Some theorists had alleged that the male cocoon is more oblong than that of the female, that it is depressed in the centre, (like a double kernelled peanut) but Mr. H., has practically demonstrated that this theory is very erroneous, by showing that a number of cocoons, and they developed eighteen females and two males. Mr. H., fed his worms on the Italian mulberry, and for several days during the last "age," they devoured fifty pounds of leaves a day.

Mr. H. also donated a specimen of the "seventeen year cock," which evolved on his premises.
the first week in June. He heard them frequently during the month, but only succeeded in taking one specimen. He thinks he must have destroyed the larger portion of the brood, in digging the foundation of his green-house last autumn.

For a bantam, this personal brood in this locality, the reader is referred to a paper read before the "Lancaster Microscopical Society" in April last, and published in the April number of the Lancaster Farmer, pp. 31—33, by S. S. K.

Additions to Library.

Proceeding of the American Philosophical Association, from January to June, 1881, edutating a Memoir of the late Prof. Haldeman.

Nos. 21, 22, 23, Vol. 9, of the Official Patent Office Gazette.

An octavo pamphlet containing the inaugural address of Hon. W. G. Rich, President of the Historical Society of New Mexico; also containing the Charter, Constitution and By-Laws, with the compliments of the society, through David J. Miller, Corresponding Secretary.

Fifty Years Freedom to Belgians, &c., from the Bureau of Education, Department of the Interior.

The Lancaster Farmer for June, 1881.

Two large catalogues of Foreign and American Scientific and Historical publications.

Sunday Circulars and book notices.

Historical.

Three envelopes containing forty Historical and Biographical selections, S. S. K.

New Business.

Bills amounting to $8.50 were received by Treasurer and Librarian, which, on motion, were ordered to be paid.

Wm. L. Gill, a farmer withdrawn member, was proposed for membership under the new rule adopted at the last April meeting, and will be balloted for at the July meeting.

Dr. M. L. Davis submitted the following:

Resolved, That a Standing Committee be appointed, consisting of three members, whose duty it shall be to device means to raise funds to place the Society upon an independent basis.

Resolved, That this committee shall report from time to time to the members and shall present suggestions that may be entertained or adopted for the approval of the members of the Society.

Laid over to the July meeting for further action.

The meeting was small but interesting, and after the usual "Science Gossip," adjourned to Saturday, the 30th of June.

AGRICULTURE.

Soils

Are improved by mixing. The physical properties of the soil have an important influence upon its average fertility. The admixture of pure sand with clay soil produces an alteration which is often beneficial, and which is almost wholly physical. The sand opens the pores of the clay and makes it more permeable to the air.

The Agricultural Circle.

The average farmer toils hard, early and late, often depriving himself of rest and sleep for what? To raise corn. For what? To feed hogs. For what? To get money to buy more land. For what? To raise more corn. For what? To feed more hogs. For what? To buy more land. And what? To raise more corn. Why? He wishes to raise more corn—to feed more hogs—to buy more land—to raise more corn—to feed more hogs—to buy more land—and in this circle he moves until the Almighty stops his hoggish proceedings.

Fertilizers in Pennsylvania.

The chemist of the state board of agriculture has been busy at work analyzing the various kinds of fertilizers offered for sale in Pennsylvania, in accordance with the law on the subject. In addition to those already announced, the secretary of the state board publishes the result of fifty-eight other analyses, making the entire number thus far submitted to this test one hundred and twenty-one. Out of the last batch analyzed, only seventeen out of the fifty-eight were found to be worth the money asked for them. One kind which is sold at $15, was found to be worth only $2.65; and another sample sold at $14 for a ton of manure was found to be worth only nine dollars. The farmers are asked to examine very carefully the manures which their manufacturers claim them to be worth. These facts explain why the results from the use of fertilizers have been disappointing and unsatisfactory to farmers. Many are good, worth all that is asked for them; but the largest number are deceptive, and the farmer who is not forewarned, soon becomes the dupe of the man who is skilled in the art of cheating. If a farmer is now deceived and cheated in the purchase of artificial manure, he has only himself to blame.

A Word for the Potato Crop.

F. T. Burnham, of Manchester, Mass., makes the following statement of his potato crop, entered for premium with the Essex Agricultural Society last year: The land used for this crop previous to 1850 was in grass, and had not been plowed for sixteen years. In June, 1850, a little manure was used at the rate of about seven cords to the acre, and was thoroughly harrowed in. The last week in April the land was furrowed out in drills, three and a half feet apart, about three inches deep. The seed was used the last few years, five to six bushels per acre, dropped in each piece, and dropped about sixteen inches apart. The land is rather low and flat; soil, a dark loam; area planted, one-half acre and eight square rods; dished digging and housing potatoes September 1, and harvested September 21, 1850. The cost of the crop was as follows: Seed, nine bushels large potatoes, $5.40; plowing, harrowing and furrowing one day, $4.00; planting and hoeing eight days, $10; manure, $14; cord, $30; teaming and spreading manure, $4.00; harvesting six days, $7.50; total cost, $69.00. Value of the crop as follows: 189 bushels merchantable potatoes at 75 cents, $141.75; also 57 bushels small potatoes at 30 cents, $.18; total receipts, $141.93. Deducting cost, shows a net profit of $89.95.—Germantown Telegram.

What About Liquid Manure?

It has not been many years since that there was simply a furore about the use of liquid manures as a fertilizers; and this was quite sensibly added by the statements made of it by the celebrated "Lown farmer," Abberman Neshi, who even went so far as to found a great number to build it in and sprinkle it over his land. We all remember—or should remember—how he "went on" about it. It was the best way to apply manure. There were the crops; here were the figures. There could be no doubt about it. It was the best way to apply manure. There were the best of its matter washed out of it, if only the liquid waste could be collected in tanks, and pumped into liquid manure-carts and hauled over the ground; or even pumped back again to the manure-heaps from which it had been washed—and so on and so on.

The subject was for a time considered the highest authority. But it turned out to be all fallacious; in the first place, because no good farmer, in places where manure is valuable, cares to have his manure washed in this way, but builds a large house for his manure and has it washed out. It does not pay to build cisterns, invest in pumps, and build broad-wheel carts for the sake of distributing a few gallons of liquid-manure. Water is heavy to carry; and the hauling of a gallon for the sake of a teaspoonful of nourishments matters, is an absurdity few farmers have fallen in with. The fact is, as it was said there were the figures. So there were as to actual products; but this is not the way to calculate farm products. That a piece of land watered with liquid manure will yield more than a piece manured in the regular way, may be true enough; but if it cost treble for double the profit, it had better be let alone. Indeed, to the liquid manure idea as an element in profitable farming, as I have understood it, is quite the question. What they are sold for, and what we must pay for them is cheated in the purchase of artificial manure, he has only himself to blame.

Horticulture.

The Exportation of Dried Apples.

Within a few years the exportation of dried apples from this country to France has enormously increased. It is now said that a considerable part of this business will be worked here. We seldom see the old-time articles here. Even in England it seems to be on its last legs. The whole paraphernalia of tanks, water-carts, and so-forth, says the London Agricultural Gazette, are the mere toys of farming; and so we say, long, long ago.

Germantown Telegraph.

Food for Roses.

Get some root from a chimney or stove where wood is used for fuel, put it in an old pitcher and add rain water. When cool use it. Water your plants every few days. When it is all used fill up the pitcher again with hot water. The effect upon roses that have almost hopelessly deteriorated is wonderful in producing a rapid growth of thrifty shoots, with large thick leaves and a great number of richly colored roses. Never despair of a decayed rosebush until this has been tried.

Summer Pruning.

It may be said briefly that all summer pruning, cutting back, root pruning, or any other practice that strikes at the life of the tree, or retards its growth in summer, tends to the formation of fruit buds. Among these are bending down or gently breaking the branches, hanging weights on them, tying them down to stakes, slightly burning the tree or branches in June, etc. But it must be borne in mind that all such checking or pruning should be done carefully and judiciously, to balance or check the force of the tree, and make some growth, if the tree is large enough to bear and fruit is desired.

Rhubarb.

This is the earliest garden product for the table, coming even before asparagus generally, and before the peas and beans, when the growth is youngest. As it is easy to raise as anything can be, so garden, however limited should be without it. Fresh beds may be set out, and in doing so the root must be used with a small bit of the crown. This will afford a crop the ensuing year. In planting the seed it will require a year longer. A well-prepared bed will last for many years, by being covered with manure late in the autumn and female in the spring. The stalks are tenderer by removing the seed-sprouts as fast as they make their appearance, and the roots are stronger.

Planting Large Pear Trees.

At the last meeting of the New Jersey Horticultur-
Early Turnips.

The earliest and perhaps the best variety of turnip for table use is the Early Flat Dutch. It is universally popular, and it takes only a small plot to furnish a supply for a medium sized family. One reason why so frequently fall in gardens is the richness of the soil and the frequent and sodden rains. In preparing a plot for turnips dig down full spade deep, for the purpose of getting some of the virgin earth, and especially a little clay. As a fertilizer there is none equal to bone-dust, and nothing else. The turnips should grow slowly, with as little top as possible, and not be bearing or forcing—Germaintown Telegraph.

Transplanting.

There is scarcely any operation in gardening where there is so much opportunity for the exercise of skill and good judgment as in transplanting. The skillful gardener will remove his plants so that they will hardly receive any check in their growth, while the careless planter will either be unable to bear the risk, or the plants will be so watered as to wall out such plants as have suffered from crowding or too rapid forcing under glass; they should be grown in sandy loam, which favors fibrous growth of roots, and should be well watered a few hours before moving, as the roots are so fragile. The bare root should be given to have the loam in which the plants are planted moist enough to favor rapid growth; and if possible, they should be shaded from sun and wind for a few days after transplanting, if the sun is hot—Germaintown Telegraph.

Strawberry Culture.

Strawberries may be grown on any soil that will produce corn or potatoes. A light clay loam, well enriched with rotten barnyard manure, is the most favorable soil for most varieties. Spring is the best season for planting. As soon as the plants are received from the nursery open the package or box once and, if possible, plant the same day. If the ground is not ready or for other causes the planting has been delayed until each bundle and each plant in the plants at a shaky place or cover with damp moss and keep in a cool cellar until ready for planting. In the garden every row or bed should be about three feet wide. The rows; after every third row leave a space of two feet, instead of eighteen inches, for a path. In the field for cultivation by horses the rows should be three feet apart. After the beds are marked out make a bed by a trench a hole for each plant large enough to admit the roots of the plants without crowding or bending them over. Spread the roots in the hole and carefully sprinkle pulverized soil about them until the hole is one-half filled, and press the soil firmly around the roots, then fill up the hole to the crown of the plant, but no more, without pressing the soil again. If the ground is very dry it is best to plant toward evening and to water the plants well. To secure healthy plants and a bountiful crop of fruit the year after planting the plants should be thinned out; the first set is thinned a month after planting, the runners must be cut off before the tips take root, and the ground kept loose and free from weeds. When last cold weather sets in—this latitude about the last week in November—the plants should be covered with straw or leaves or salt hay, or any other material, to check off any of the cold which may come. This mulch is not removed until after the bearing of the plant. In the spring when the strawberry leaves start open with a pointed stick or the hand the mulch over the crown of each plant. No other care is needed. When the bunches of strawberries are about the size of an egg the mulch is to be taken away altogether, and the beds cultivated as during the previous season. Strawberries managed in this way will last three or four years, so that in order to secure a full supply of berries every season a new bed should be laid out every second year.

Household Recipes.

EUCHARIS JAM.—One and a half pounds of rub- bar stalks is one pound of preserving sugar; the peel of one large lemon. Roll all well together, stirring constantly, and add a teaspoonful of powdered ginger. Turn into pots and cover over. This is excellent jam for children.

GRHAM MEAL CRUMBLE CAKES.—Three table- spoons yeast, two cups clean flour, one cup white sugar; mix at bedtime with warm water or milk—they should be quite thin—set where it will keep warm; bake on a griddle for breakfast. They must be well cooked.

CHEESE OSELFLETTTE.—Grate cheese in proportion of a pound of cheese to one of egg, and set for omelette; add the cheese, pour into a buttered or oiled frying-pan, about half inch thick, fry quickly, do not turn; serve on buttered toast, very hot.

PORE CHOP.—Pork chop must be well cooked to be wholesome, but they must neither be suffered to dry up or to be soaking in greasy gravy. Cut them from a neck of pork; trim them neatly; give them a few blows with the bat, or the potato masher, if you have no meathat; brol over a clear fire; have ready a bit of butter-trub into this a teaspoonful of salt, half of pepper, the same of powdered sage, and one of saltpetre; peel them with a dash of vinegar, and turn each chop over in it before serving. Cover closely with another plate, and keep hot in the oven for a few minutes before serving. Eat with apple sauce or roasted apples.

OTTER FRICASSEE.—To make oyster fricassee take some six oysters for every four,—gou- box oysters—strain the liquid into a porcelain-lined saucepan; add a large cup of strong bouillon, a piece of butter, the slice of an egg, rolled in flour; season with celery salt, and beat the yolks of three eggs, (for the white, when the dish is nicely set and smooth, and then add the oysters; they must not boil but get heated through well; serve as soon as prepared; while you prepare the dressing have your oysters in a colander over a pot of boiling water, to heat them gradually; they will keep their size prepared this way; if the dressing is too thick add some bouillon.

Fıldt SEW RISKS.—Soften two table spoonsful of butter in a bowl, whish two table-spoonful of sugar, three eggs and flavoring to your taste (lemon generally), together with a pint of milk, add to your butter the eggs, and half this milk with the sugar spoonfuls of baking powder sifted into it, then add milk, eggs, etc., mix, and adding a little more milk if required to make it of the desired consistency. Bake in balls size of large walnuts placed together on buttered pans with sides to them. Moderate oven.

DRIED PEACH PUDDING.—Three-quarters of a pound of sugar, two-thirds of a pound of butter, one teaspoonful of salt. Chop the peaches and suet, mix them with the flour and salt; add cold water enough to mix the ingredients together in a stiff dough as can be made with a spoon, tie it in a cloth, hold over a gentle heat about three hours or longer. The rule for a pudding pudd is half an hour to ten pint of pudding.

BEEF STEW.—Select from the cheapest cut of beef about three pounds of the lean, and into an iron pot, cover it with water, and one quart of sliced tomatoes, and one quart of sliced onions, and half a dozen care of corn cut fine. Let the whole stew gently for three hours, or until the vegetables make a jelly with the meat. Season with salt and pepper before removing from the fire. If desired add two ounces of butter.

FAVORED RHUBARB PUDDING.—Put one bowl with pull paste. Sprinkle sugar in, sugar them and add a little butter, no water, and a little lemon essence or juice. Bake, and when done spread a thick frosting of beaten egg and sugar over it, return to the oven till the frosting is warmed through.

To KEEP PRESERVES.—Apply the white of an egg with a brush to a single thickness of white tissue paper; with which cover the jars, lapping over an inch or two. It will require no tying, becoming dry insensitive, tight and strong, and imperious to the air.

Live Stock.

Dairy Products.

At the recent annual meeting of the International Dairy Fair Association, an expert has claimed that the dairy interest of the country exceeds the wheat interest in money value. The corn production of 1857 was worth $500,000,000, but the exhaustion of the soil necessary to its production represented not less than $100,000,000, which represents the selling value. Wheat and corn depleted the soil of its natu- ral wealth, and, notwithstanding the vastly in- creased acreage devoted to these crops, last year there was a decrease of $25,000,000 in the total market value. On the other hand, dairy products not only made up for the impoverishment of the soil by corn in 1857, but added $100,000,000 to its value.

To Determine the Weight of Live Cattle.

Measure in inches the girth round the breast, just behind the shoulder blade, and the length of the back from the tail to the forefront of the shoulder blade. Multiply the girth by the length, and divide by 144. If the girth is less than three feet, multiply the product by five; if between five and seven feet, multiply by 23; if between seven and nine feet, multiply by 31. If the animal is lean, deduct 13.24% from the result. Take the girth and length in feet, and so multiply the product by 256. The result will be the answer in pounds. The live weight multiplied by 0.65 gives a near approximation to the net weight.

Raising Jersey Cattle.

There are upon the island of Jersey 12,000 head of cattle, which is about 2,400 head to every square mile. This is after deducting the land occupied by buildings, gardens, etc., which it is not possible to use in the field for cultivation by horses the rows should be three feet apart. After the beds are marked out make a bed by a trench a hole for each plant large enough to admit the roots of the plants without crowding or bending them over. Spread the roots in the hole and carefully sprinkle pulverized soil upon them until the hole is one-half filled, and press the soil firmly around the roots, then fill up the hole to the crown of the plant, but no more, without pressing the soil again. If the ground is very dry it is best to plant toward evening and to water the plants well. To secure healthy plants and a bountiful crop of fruit the year after planting the plants should be thinned out; the first set is thinned a month after planting, the runners must be cut off before the tips take root, and the ground kept loose and free from weeds. When last cold weather sets in—in this latitude about the last week in November—the plants should be covered with straw or leaves or salt hay, or any other material, to check off any of the cold which may come. This mulch is not removed until after the bearing of the plant. In the spring when the strawberry leaves start open with a pointed stick or the hand the mulch over the crown of each plant. No other care is needed. When the bunches of strawberries are about the size of an egg the mulch is to be taken away altogether, and the beds cultivated as during the previous season. Strawberries managed in this way will last three or four years, so that in order to secure a full supply of berries every season a new bed should be laid out every second year.

Hurdling Sheep.

The American Ornithologist describes a system of hurdles for use in preventing waste of pastured crops, which seems to be excellent. Each hurdle is twelve feet long and is made with a stout pole banded with two series of holes twelve inches apart. Stakes six feet long are put into these holes so that they can be free to pass through the middle of the hurdle. One series of holes is bored in a direction at right angles with that of the other, and when the stakes are properly placed they form a hurdle, the end of which looks like the letter X. The field in which they are used consists, of six acres. A strip of ten feet in width is thus set off, upon which four hun- dred sheep feed. They eat up all the grass upon this strip. The hurdles are then turned over, ex- posing another strip of rather more than four feet in width, and another strip of grass between them is left. These hurdles are then again turned over. The Chemtou-les-frie pre- sented by the hurdles prevents any trespassing upon the other side of them, and by using two rows of hurdles the sheep are kept in a narrow strip between them, so that they cannot even spread over the field, by which it is richly fertilized. At night the sheep are taken off and the grass is watered. The growth is one inch per day under this treatment, and when the field has been fed over the sheep are brought back again to the starting point, and commence once more eating their way along.
Horses—Trotters and Walkers.

Every now and then there is a mania for trotting horses. Even the practical farmer gets the bit in his mouth occasionally, and likes to take a spurt in a light vehicle with a two-footed steper, or as near to that as good luck may throw such an animal. A man who is purchasing from a dairy, has as frequently been the case. In the midst of this the question is asked, "Is the trotting horse of any value to the community?" and it has been literally discussed the last few years in our agricultural clubs. The prevailing sentiment has been adverse, but it is by no means certain that there is any just judgment of the value of the trotting horse, and that even this sentiment is not justifiable. We are not sure it may be that the mania for trotting in a mania, and that the subject was inaugurated by us. Certainly we see that no paper has done more for correcting public sentiment than we. Yet there is no more reason why there should not be fast horses than that there should be slow ones, and a fast runner should be encouraged as much as a slow walker. We therefore agree, therefore, with the proposition that any agricultural society, which makes the interest of the trotting horse paramount to all other interests, will sooner or later be ruined, we are by no means willing to leave a trotting horse alone. One of the greatest sources of human admiration for the horse is that he is fiercer and stronger than we. We care little for the walking horse, except as a mere walker, in which he is certainly valuable, because he would be good for anything, and that enthusiasm in a walking horse. We never even heard of a bet made on a walking horse, though one might say it would be as easy to get up bets on walkers as on trotters. But it is not done. There is no admiration there; no enthusiasm because there is nothing remarkable. But we measure the horse's value by the work he can do and his freedom of foot. These are the legitimate subjects for admiration and encouragement. Our only objection is that these points which ought to be of very limited encouragement, when so many other departments of agriculture are for care for, are so made at the beginning and end of an exhibition. That's all. Yet all must admit that there is no greater sight than a race between two or more remarkably fast horses, and if it be true that there is no greater sight than the mere event of sight-seeing at a stipulated price, without betting or any of the evil effects usually connected with these occasions, thousands of people would attend them where hundreds now do, and willingly pay their dollar or five dollars to enjoy the thingable ingredients of such an event.—Germantown Telegraph.

Sheep Husbandry in Virginia.

Mr. Richard McCoy, one of the most successful farmers and stock-raisers of Warren county, Va., in a letter to the editor of the Warren Sentinel, writes: Having promised to give you the result of this year's operations, it affords me pleasure to communicate the following: One hundred and twenty-five flocks of all kinds averaged 2 pounds to the fleece. We had some native sheep that shorn less than 3 and several did not reach 4 pounds, which reduced the average of one-half and three-fourths of pounds to the fleece. The Select Americana, Native and grade Leicesters average 4 pounds 10 ounces; high grade and full Leicesters averaged 8 pounds, while the popular Southdown only reached 5 pounds to the fleece.

I am somewhat disappointed at the general outcome, as I had heavier flocks in other years. When the very severe winter is remembered, with time of ramming a number of lambs, it is not to be wondered that flocks are not heavy. Food was utilized in sustaining them at a very high rate; the cost of an adult growing wool to an extent that a milder winter would not have called for.

We averaged two lambs each day from January 1 to March 1—I am glad to say that they were living lambs. We have raised 126 lambs from 104 ewes. One Leicester ewe, from which we have living triplets, clipped 8 pounds and 11 ounces of luscious coming wool.

"We lost only three sheep during the winter, which proves that Leicester sheep, if sheltered as all sheep ought to be, are among the most hardy and prolific. Why should they not do well? We have the same climate and the same soil as those sheep which they have advantage of fluer limbs and smaller heads—In short, (like the short horn among cattle), the least amount of offal to a given weight of meat. They are models of gentleness for all kinds of sheep; they bear close keeping as well as any, and they are always proper for market with me at least, in every respect except as mutton.

"As shown by the above figures, the Leicester clippers over 50 per cent. more than the Southdown. I keep the Southdown for early lambs, as butchers like the tenderness of the flesh. The financial factor is the only reason to take into general use a sheep that produces so little wool. I will retain the Leicester until I find a more profitable she.

"Of late years the Cotswold has superseded the Leicester in improving native sheep to a large extent. Where a farmer has a large range to enable him to mature wethers, the Cotswold is doubtless a useful animal, but for early maturing lambs Leices- ter and Southdown, will be found preferable.

"As accessible as the people of Warren and the Shenandoah Valley generally are to Eastern markets, wealthy farmers, of course, will transport them to this market. We will find the merino a profitable business. But winters such as we have just passed through will prevent the merinos from selling as well as the others except from its casualties. If the number of lambs were raised, with the temperature at times 22 degrees below zero, will stimulate flock owners to erect sheds for winter protection, I will be more than repaid for writing you this letter."

LITERARY AND PERSONAL.

Dairy Farming—Part 24 of this superb quarter reached our table two days after our June number went to press. The number before us contains a beautiful plate of a Farm from the Illustrated Farm: Dairy Farming. CHEESE FACTORY, the first built in England, (opened 24th of May, 1870), besides 16 fine wood-cuts Illustrating Austrian, Swiss, Dutch, and British Dairy Implements, creameries, cheese-presses, churns and butter of Yorks- hire, Berkshire, Essex and Poland China Pigs and Pig trotting, including iron and covered-yard pigget- ties. The letter press is very interesting and relates in detail to the butter and cheese-making of Mecklenberg-Schwerin, Hesse, Austria, Switzerland, Alps, Italy, Belgium, Netherlands, Holland, etc. Also an able article on pigs, goats, and poultry, together with their origin and management. The following list of Italian dairy products, includes only all the more important and famous ones.

Cheese--

Butter—Fresh-butter, Burri vestiti, Maccaroni.

Chese.—Parmesan, Chavari, Saccoceavallo, Strace- nino di Goronginoa, Pecorino-Dolce, Provae, Re- dolce, Pecorino-Fresco, Pecorino-Marzolino, Pecora e capra, Guelpeta, Gruy ee, giving also the material and the modus operandi for the manipulation and manufacture of all these products. The more we see of this journal, the more we are pleased with it, and the more we want to have the thoughtful and progressive-dairyman can well afford to be without it. The ability, and the interest of its reading matter has not flagged from the very beginning of the journal. J. T. Shel- don, editor; Cassel, Pelter, Galpin & Co, publishers, London, Paris and New York. Price, 40 cents per part.

THE NATIONAL AGENT.—A journal devoted to the interests of Agents and Canvassers. Published monthly by Larbee & Co., 717 Sason street, Phila- delphia, at 50 cents a year. An eight page quarto. Fair appearance and good literary selections, and written for the class of people to whose interests it is devoted.

WARD'S NATURAL SCIENCE BULLETIN.—Published at Ward's Natural Science Establishment, Rochester, New York. A 16 pp quarto, at present selling for 25 cents. The paper is illustrated by good engravings, and shows distinctly the structures of the things it describes. Every number is regularly at a nominal subscription, next year No. 1, Vol. 1, is now before us, and we deem it an excellent medium between amateur collectors and those desirous of obtaining good museum specimens, both animal and vegetable. Occasionally shows them as being representative of the increasing market in objects of vert, including Mineralogy, Geology, Paleontol, Mammology, Ornithology, Osteology, Taxidermy, Archaeology, Ethnology, Scientific Literature, Maps, Charts, etc. To give an idea of the magnitude of scientific establishment, it is only necessary to mention that it has furnished collections of museum specimens to forty-six of the leading institutions of learning in the United States, amounting in cost from $1,000 to $15,000, the average cost of each collection being $4,000.

From the U. S. Department of Agriculture, we have received the following valuable documents:

Reports on the Culture of Sauces in Italy: on Insects injurious to Sugar Cane. Condition and prospect of the Canadian Agriculture for 1877, and the Daily Farm. Tea-culture, by William Saunders. TheSilkWorm, being a manual of instruction, for the production of silk. Third report on Contagious puerco-pneumonia. Contagious diseases of swine and domestic animals, nearly all illustrated, and a great deal of information in the shape of engravings. The last named work contains a map, showing the states and counties in which puerco-pneumonia exists, from which we find it prevails in the counties of Queens, Westchester, Putnam and Fairfield in New York state; and Cameron, Burlington, Ocean, Mercer, Monmouth, Middlesex, Somerset, Hunterdon, Morris, Union, Essex and Bergen, New Jersey; in Delaware, Montgomery, Bucks, Lehigh, Berks, Chester, Lancaster, York, Adams and Cumberland, Pennsylvania; and in New York and_damage areas.

THE HOUR-GLASS.—A Journal of "nothing but news," in general science. "A popular weekly illustrated Journal, at 50 cents a year." No. 1, Vol. 1, is now before us, and is as superior as it is appropriate. Doubtless a place will be found for it in the weekly wants of a scientific people. Published at the office of the Illustrated Cosmos, by Everett W. Fish & Co., 179 LaSalle street, Chicago, Illinois. It is an eight page super-spiral bound in paper, and we confess our order promptly pleased with its literary contents; exhibiting also as much mechanical skill as could well be expected for so small a subscription.

The first page is embellished with a portrait of the late Charles Darwin, the founder of the great Darwin Development System. We write this with the greatest respect for the zeal, the real interest that the whole of the present work has been written in the same, and thought so much of the organism of all the life higher, and especially the orgin of the human species, that we find it difficult to separate a small description from that of a highly colored en-}
**Miscellaneous.**

Pennsylvania Millers’ State Association.

The next annual meeting of the Pennsylvania Millers’ State Association will be held in Pittsburgh during the time of the State Fair in September. The State Agricultural Society will allot a space of 50 feet by 170 feet with line shafting and motive power free for the display of machinery and mill supplies.

This is the first time in this State that an opportunity has been afforded to millers to witness such a display of milling machinery in motion, and it is expected that there will be a large number of millers present from this and other States.

*The Lancaster Examiner.*

We desire to call the attention of the readers of the Farmer to the Daily and Weekly Examiner. The Daily was enlarged over six columns on January 1st, and is now the largest daily published in the county. The weekly supplement was also enlarged over three columns, and the weekly is now one of the largest weeklies in the State. Subscribe for the Examiner. They are both, daily and weekly, good family newspapers.

**Send for Special Prices.**

On Corduroy Grasses, Transplanted Evergreens, Tulip, Poplar, Linden, Maple, etc., Tree Seedlings and Trees for timber plantations by Unit.

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BOOKS AND STATIONERY.

JOHN BAER'S SONS', Nos. 15 and 17 North Queen Street, have the largest and best assorted Book and Paper Store in the City.

FURNITURE.

H. EINHORN, No. 595 East King St., over China Hall, is the cheapest place in Lancaster to buy Furniture. Picture Frames a specialty.

CHINA AND GLASSWARE.

HIGH & MARTIN, No. 15 East King St., dealers in China, Glass and Queenstreet Fancy Goods, Lamps, Burners, Chimneys, etc.

CLOTHING.

MYERS & RATHVON, Centre Hall, No. 12 East King St., Wholesale Clothing Manufacturers. Goods of the first quality, Prices as low as the lowest.

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G. W. HULL, Dealer in Pure Drugs and Medicines, Chemicals, Patent Medicines, Trusses, Shoulder Braces, Supporters, etc., 15 West King St., Lancaster, Pa.

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THE LANCASTER FARMER
July, 1881

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EDITED BY DR. S. S. RATHVON.

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50-20
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LANCASTER, PA. AUGUST, 1881.

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LANCASTER, PA. AUGUST, 1881.
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<table>
<thead>
<tr>
<th>Leave</th>
<th>Arrive</th>
<th>Lancaster, S.</th>
<th>Harrisburg, G.</th>
<th>York, N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE TWICE</td>
<td></td>
<td>10:30 a.m.</td>
<td>1:00 a.m.</td>
<td>1:00 p.m.</td>
</tr>
<tr>
<td>Pacific Express*</td>
<td></td>
<td>10:40 a.m.</td>
<td>1:10 a.m.</td>
<td>1:10 p.m.</td>
</tr>
<tr>
<td>Way Passenger</td>
<td></td>
<td>10:50 a.m.</td>
<td>1:20 a.m.</td>
<td>1:20 p.m.</td>
</tr>
<tr>
<td>Niagara Express*</td>
<td></td>
<td>11:00 a.m.</td>
<td>1:30 a.m.</td>
<td>1:30 p.m.</td>
</tr>
<tr>
<td>Hannover Accomodation</td>
<td></td>
<td>11:10 a.m.</td>
<td>1:40 a.m.</td>
<td>1:40 p.m.</td>
</tr>
<tr>
<td>Mail train via Mt. Joy</td>
<td></td>
<td>11:20 a.m.</td>
<td>1:50 a.m.</td>
<td>1:50 p.m.</td>
</tr>
<tr>
<td>No. 5 via Columbia</td>
<td></td>
<td>11:30 a.m.</td>
<td>2:00 a.m.</td>
<td>2:00 p.m.</td>
</tr>
<tr>
<td>Sunday Mail</td>
<td></td>
<td>11:40 a.m.</td>
<td>2:10 a.m.</td>
<td>2:10 p.m.</td>
</tr>
<tr>
<td>Fast Line*</td>
<td></td>
<td>1:30 p.m.</td>
<td>4:20 p.m.</td>
<td>4:20 p.m.</td>
</tr>
<tr>
<td>Frederick Accomodation</td>
<td></td>
<td>2:30 p.m.</td>
<td>5:20 p.m.</td>
<td>5:20 p.m.</td>
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<tr>
<td>Harrisburg Accomodation</td>
<td></td>
<td>3:30 p.m.</td>
<td>6:20 p.m.</td>
<td>6:20 p.m.</td>
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<tr>
<td>Columbus Accomodation</td>
<td></td>
<td>4:30 p.m.</td>
<td>7:20 p.m.</td>
<td>7:20 p.m.</td>
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<tr>
<td>Harrisburg Express</td>
<td></td>
<td>5:30 p.m.</td>
<td>8:20 p.m.</td>
<td>8:20 p.m.</td>
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<tr>
<td>Pittsburg Express</td>
<td></td>
<td>6:30 p.m.</td>
<td>9:20 p.m.</td>
<td>9:20 p.m.</td>
</tr>
<tr>
<td>Cincinnati Express</td>
<td></td>
<td>7:30 p.m.</td>
<td>10:20 p.m.</td>
<td>10:20 p.m.</td>
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<tr>
<td>EASTWARD</td>
<td>Lancaster, PA</td>
<td>8:30 p.m.</td>
<td>11:20 p.m.</td>
<td>11:20 p.m.</td>
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<tr>
<td>Cincinnati Express*</td>
<td></td>
<td>9:30 p.m.</td>
<td>12:20 p.m.</td>
<td>12:20 p.m.</td>
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<td>Fast Line*</td>
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<td>1:20 a.m., Fri.</td>
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<td>2:20 p.m., Fri.</td>
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<td>3:20 a.m., Fri.</td>
<td>3:20 p.m., Fri.</td>
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<td>4:20 a.m., Fri.</td>
<td>4:20 p.m., Fri.</td>
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LANCASTER, PA.

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**PHILIP SCHUM, SON & CO.**

LANCASTER, PA.
Mr. Reist's "inclinations" still run in the direction of agricultural affairs, and he has long been in rapport with its institutions in Lancaster county. The other document alluded to is an octavo pamphlet of sixteen pages, containing the "Premiums and Regulations of the First Annual Exhibition of the Lancaster County Agricultural Society, held at Lancaster, September 12th, 14th and 15th, 1854." Printed at the office of the Columbia Spy, and has a scrap of history formerly alluded to in these columns by Mr. Reist.

The following is a list of its "officers' names" at this period, and on this occasion: President.—Benjamin Herr. Vice Presidents.—Jacob B. Garber, John Miller. Recording Secretary.—David G. Eschleman. Corresponding Secretary.—Alexander L. Hess. Treasurer.—Christian H. Leforee. Librarian.—Jacob Myers. Managers.—Jacob Frantz, Benjamin Eschleman, Jacob H. Hershey, J. Hartman Hershey, Levi S. Reist, Abraham Peters, John Strohm.

Of these two Vice Presidents, the Recording Secretary, the Treasurer, and five of the Board of Managers still survive, but some of them cannot be very far from four-score and ten.

Was this the same society that granted the certificate of membership to Mr. Reist? for this is the list of the first exhibition held by this society, and we were under the impression that an exhibition was held in or near the city of Lancaster prior to 1854 under the auspices of a county society; still we may be mistaken.

It is a little singular how uncertain we are about these matters in the absence of written records made at the date of their transpiration hereaway, and few of those who were active in our county agricultural organizations can furnish an accurate and unbroken history of them from memory alone.

In order to fix authentically the first State agricultural fair in Lancaster county, we here insert another document relating to us personally, and we confess that in the absence of this paper we should have been "at sea" in reference to its individuality and its date.

The Pennsylvania State Agricultural Society presents this certificate of merit to S. S. Rathvon, as a testimonial of their approbation of a cabinet of preserved insects, by him exhibited at their annual meeting in Lancaster, A. D. 1852.

In testimony whereof the officers have hereunto affixed their signatures, and the seal of the Society, the 22nd day of October, A. D., 1852.)

FRED'K WATTS, President.
ROBT. C. WALKER, Secretary.

We also have before us a certificate of membership to the State Society, issued on the 12th of October, 1852, and signed by Geo. H. Barker, Treasurer.

According to this document, however, the holder of it only retains his membership so long as he contributes one dollar a year to the funds of the society; but had not this paper "turned up," we should never have known that we ever had sustained such a relation to the State Society.

Are there any of the members of any of those other organizations who can put their "finger down" upon an agricultural exhibition held in Lancaster county prior to the one held in Columbia in September, 1854, giving the date thereof, and the officers' names? Of course, those who are in possession of the records of those old societies, ought to be able to give a consecutive history of them, and such a history would be interesting to file among the archives of the present society. We certainly have no occasion to be discouraged about the apparent instability of the present society, for it has lived longer, and more effectively than any of its predecessors by a hundred times. All it needs is to feel that it is a permanent organization, has a mission to perform, and is determined to perform it.

Since writing the foregoing we have had an "interview" with Mr. Reist, who has had his memory brightened by contemplating the above "old does," and he puts the matter in this wise:

The first agricultural exhibition ever held in the county of Lancaster, was held by the State Agricultural Society, in the eastern suburbs of Lancaster city, in the month of October, 1852. The Lancaster County Society, which issued the above certificate of membership to Mr. Reist, was then in the full tide of operation, but on this occasion cooperated with the State Society, and had a stipulated pecuniary interest in its exhibition. This exhibition was a complete success, and after all its expenses were paid, and its premiums distributed, the share of the plus proceeds that fell to the Lancaster County Society amounted to the next sum of $800.

The first agricultural exhibition held in Lancaster county by a local society, was the one advertised in the premium list cited above, in 1854. But owing to a malignant type of dysentery which made its appearance in Columbia, in an epidemic form, (perhaps the cholera) in the month of August, it was deemed advisable to postpone the exhibition to some time in the month of October, and when at length it did come off, it proved a failure, and the society sunk every cent of its $800, if nothing more.

In view of the epidemic which prevailed in Columbia that summer, it was most unfortunate that that place was selected to hold the fair. Had it been held at Lancaster, it might have been otherwise, and again it might not. The reader may ask, why was Columbia selected, "anyhow," and not Lancaster? We were not a member of the society, and were too much occupied otherwise to participate in its
proposals, however, it was owing to the fact that the merchants, the manufacturers, the artisans and the hosties of Lancaster city took no interest in it, refused to contribute towards a guarantee or sustaining fund, and manifested no desire to participate in it. Columbia was more liberal, and made certain proposals which were accepted, and under ordinary circumstances it might have succeeded.

"But ah, the cruel spoiler came." It may seem a little singular that a city which is so wholly dependent upon the patronage of the rural population, and whose people would, in a measure, be "hungry and naked" but for the agricultural productions of the county, should take so little interest in its agricultural enterprises. Things are very different ever in "Old Berks." Was this failure the "death blow" of the old society?

THE KIEFFER PEAR.

This pear has been extensively advertised, proclaimed and believed in, as a fruit tree entirely exempt from blight—significantly called "blight-proof." We will not gainsay that to some extent, or in some localities, it may have been thus far entitled to that claim, but there is very good reason to believe that this quality does not appertain to it universally or unlimitedly. Within the past few days we have had exhibited to us a branch of the Kieffer pear, two feet in length, that was nearly black with a disease, which if not blight, was surely an infection which blight will.

Mr. Daniel Smythe, a fruit grower of intelligence and experience, residing in the west end of Lancaster city, reports a case within his own personal experience the present season. Early last spring he grafted a pear tree on his premises with the Kieffer, Henderson, and other varieties of pears, all of which during the intervening season, made a vigorous growth; but notwithstanding their healthy appearance, in the forepart of June, already the Kieffer began to show a disposition to blight, which increased until the 29th of July when he cut off the blighted portions, one of which was nearly two feet in length. But the most singular and damaging coincidence is, that the very branches that were professedly "blight-proof" were the only ones infected with blight, all the others remaining intact.

This record is not made with a view to disparage the Kieffer pear—for it is a most excellent fruit—but yet to deter any one from its general cultivation; it is simply the result of a stubborn fact, as it occurred in the experience of a practical and intelligent fruit grower; and may be a healthy bar to that overweening confidence which takes everything on implicit trust, and then manifests unreasonable criticism and universal distrust because it has been inadvertently disappoint ed. It is true that up to the first of July, the season was more than ordinarily moist, which may have been favorable to the generation of blight, fungi, and other "pathogenic" diseases which the pear tree is heir to, but that the disease should strike, as the Kieffer alone, is a serious complication of its claim. The only apparent road out of the difficulty is to question the integrity of the testimony, which, we think, is not admissible, although, perhaps, not infallible. As we intimated before, the Kieffer pear is a very desirable fruit; and all who know Mr. Smyeth, and his success in the production of fine varieties, and also the premiums he almost invariably carries away from fruit exhibitions, would naturally infer that he would not be likely to make a mistake in his selection of recognized varieties, especially one with such a notable reputation as the "Kieffer."

All we have to say in the matter is, "There is the world Mulaoney, and there is her pig"—we remit them to the Tribunal Pomological for a solution of the enigma. Mr. S. feels greatly disappointed; we feel disappointed, and doubtless many others may feel disappointed or distrustful, when they reflect, that "after all," their anticipations of blight-proof pear trees may not be realized without some peradventures. Under any circumstances, however, the Kieffer is worth the risk; if it blights, so do all others; so that "honors are even."

LANCASTER COUNTY PEAT.

Perhaps few of our readers are aware that we have an extensive Peat Bed in Lancaster county, and in near proximity to Lancaster city—in what is usually called the "Dillerville Swamp." Some days ago Mr. A. C. Stauffer, of the vicinity, exhibited to us a small box of peat from that locality, which, according to his representations, will burn to ashes, when it is properly dried, and that it is also an excellent fertilizer, either alone, or mixed with other ingredients. This substance lies from three to six feet, or more, deep, on a compact bed of clay and gravel. It is not likely that this peat, as a fuel, will be in demand, in our day; but none can tell how it may be in a thousand, or even a hundred years from hence. Calculations, and even some apprehensions have been indulged in regarding the final exhaustion of stone coal; and, should such a contingency ever occur, and no effort be made to replenish our wasted and still wasting forests, peat would be the only thing to fall back on; for we may naturally suppose that oil is likely to become exhausted before coal.

But, as a fertilizer, this substance may be in immediate demand. Mr. Stauffer, however, should send samples of it to the chemist of the State Board of Agriculture and have it analyzed, especially now, while his "hand is in" that occupation. It is a matter of as much importance as the analysis of any of the manufactured fertilizers.

The substance looks as dark and rich as the strongest and best barn-yard manure, and is composed of the accumulation of grass-root and stalk fibres of ages, and it extends for some miles eastward, along a run of water, crossing the Manheim road north of Lancaster.

STATE BOARD OF AGRICULTURE.

Official announcement has been made by Secretary Edge, that a meeting of the Pennsylvania State Board of Agriculture will be held in the borough of York, York county, commencing on Tuesday, October 14th, at 1 o'clock, P. M. The proceedings of this comparatively young organization are usually of an interesting and useful character to the agricultural industries of the State; coming more frequently, in a tangible form, before the people of the State than those of the older society.

On this occasion a number of original and valuable papers will be read by the most intelligent and practical members of the agricultural profession, as well as much other business pertaining to that distinguished organization. We understand, through a reliable authority, that views are entertained by the leading members, looking toward a more equitable and efficient representation, than that which had been adopted in the infancy of the Board. This is a rational contingency. If the organization is at all a progressive one it will doubtless find many occasions for a reconstruction of its powers, its privileges and its effective operations. The people expect it to go forward.

PUBLIC DOCUMENTS.

In another column of this number of The Farmer our readers will find a communication from our esteemed correspondent A. B. K., in relation to the distribution of the public documents issued by the State and National Governments, with the sentiments of which we confess we have been more or less in harmony, and have heretofore animadverted upon them. It is unquestionable that these documents do not always get into the hands of those who most need them, and who would make the best use of them. We hardly know where the blame belongs. It is hardly to be supposed that the State or National Governments should know best into whose hands they should be placed, hence they largely entrust their distribution to delegated authorities, and these may not always have the time, the opportunity, the knowledge, or the will to make a judicious distribution.

Of course, the intention of the government is that the public documents shall be distributed gratuitously, and yet there is a regular charge in this instance by special book dealers throughout the country, and these dealers can procure for you almost anything you want, if you are willing to pay the price. We have on several occasions been compelled to pay as high as five and six dollars for desirable volumes, which we have seen in the hands of those to whom they were of no more use than a fifth wheel to a wagon, and who could have no more appreciation of them than a cat has of a holiday.

Of course, it cannot be expected that in a land of freedom like ours, men should be compelled to read books, who have no interest in the subjects they treat of; but then it may be reasonably expected that they should not sell them, but that they should place them where they can "do the most good." "Freely they have received them, freely they should give them," and that is about what the government means, or ought to mean, in their publication. On several occasions we have seen whole sets of publications at the hands of second-hand book dealers, and on one special occasion the price for the set was $125.00. We are not to infer in every case, however, that these books have been wantonly sold to book dealers by those who have gratuitously received them from the government. These book dealers are always on the "lookout" for the main chance. In the
MARL, AS A TOBACCO FERTILIZER.

This substance being a natural production, does not come under the law of the State, as do those compounds artifically manufactured and sold as fertilizers. "Marl is composed of compacted lime and clay in various proportions, and in different degrees of compactness and friability. In some soils the proportion of clay is small, in which case the marl as a manure acts on soils much in the same manner as lime; but where clay is the predominant ingredient of marl, it acts on the soil partly as lime, but principally by altering the texture of the soil. Hence all sandy soils are improved by marl, in consequence of its increasing their compactness and capacity for retaining moisture, while argillaceous marls appear to be most suitable for the purpose. Marl is found in some form in almost every country; not like limestone in protruding rocks, but, from its friable nature, which mounds down into a comparatively earthy mass, under or near the surface. Hence while limestone is quarried, marls are dug out of pits. Marl has been in use in Europe since the time of the Romans; it is very generally employed as a manure in France, Germany and England," and when the population of the United States becomes as dense as those of the countries named above, it or its equivalent, will be more extensively used here than it is now. Of course, like any fertilizer of whatsoever kind, it should be intelligently used. The operator should have some knowledge of what his land requires, the composition of the marl, and the quantity that should be used per acre. Marl abounds in the United States, and especially in New Jersey, and from the fact that much of it contains organic remains, more or less decomposed, the inference seems natural that the phosphate, alkalies and acidulous matter enter more or less into its composition.

We witnessed a phenomenon a few days ago which implies very forcibly that marl, intelligently applied, acts as a good fertilizer of tobacco.

Out in the western suburbs of Lancaster city, nearly opposite the residences of Messrs. Fostetter and Abn. Bitter, is a "tobacco patch," which, dry as the weather has been, seems destined to be a "hanner patch," and we suggest to lovers of the growing weed to ride or walk out and view it. There may be "spots" of larger tobacco, among much that is inferior, but taking in the whole field, for color, for evenness of their quantity of size, and for general healthiness, it will be "hard to beat." On inquiry we found it to belong to David Bitter, and the secret of its history is just this, and nothing more: Mr. Bitter has been for some time extensively engaged in the Jersey marl trade, and unlike those doctors who will not take their own pills, he makes use of it on his own land. Now, he has not been recommending marl specially for tobacco, but as a general fertilizer. Last autumn he plowed down and harrowed the field referred to, the gave it a top dressing of marl. He then sowed wheat on it, broadcast and harrowed it in with the marl. In due time the wheat came up and grew finely, but during the intense cold which succeeded, much of it was winter killed. Last spring he plowed the wheat down, and put the field in tobacco, adding a moderate quantity of stable manure, and this crop is the result. Any one comparing this field with other fields, treated in all other respects the same, but on which no marl was used, will be able to see the difference. No matter how the rain may fall henceforward, we opine this field will make its crop, from two considerations: 1st, the leaves now entirely shade the ground—it can't be seen to be in rows, and 2d, the quality of marl—its salts and alkalies—to retain moisture.

THE GAME LAWS.

As there seems to be some apprehension among persons interested in regard to the time game might be killed or taken in Pennsylvania, we publish the following brief resume thereof, which sportsmen can paste in their hats—if they wish to:

Squirrels—from September 1st to January 1st. Rabbits—from November 1st to January 1st. Partridges—from October 15th to January 1st. Woodcock—from July 4th to January 1st. Plover—from July 15th to January 1st. Rail bird—from September 1st to December 1st. Wild Turkeys—from October 15th to January 1st. Wild Fox—from September 1st to May 15th. Deer—from October 1st to December 31st.

THE TERRIBLE HEAT.

The thermometer on August 8th at Sandwich, Ill., registered 103 degrees; at Fairbury, Il., 102: at McPhergor, Ia., 101: Michigan City, Ind., 100; Pontiac, II., 101; Bloomington, Ill., 102; Lasalle, Ill., 106; St. Joseph, Mo., 100; South Haven, Mich., 98; Chatsworth, Ill., 106; Racine, Wis., 102. Many town reports that it was the hottest day ever known. Sunstroke was frequent and out-of-door work was largely suspended. All this while the heat in Lancaster county was "rolling back" among the nineties and in some places "grazed" 100.

The export of seed leaf tobacco and cuttings since Jan. 1, 1881, was 16,493 cases; same time, 1880, 12,200 cases; same time, 1879, 6,330 cases.
places it, and finds no insects there. During warm summer evenings insects are attracted by lights burning in the rooms, and an occasional bat will follow an insect there, but they have no sinister designs upon the human occupants of the room. Therefore, like "Uncle Toby," I would open the window and say as he did to the fly: "Go in, my dear, the world is wide enough for thee and me."

In reply to "ignorance" I would say that I do not think the belief is "general," that bats alight upon people's heads, although some may entertain such a notion; and I doubt whether any one can tell why they believe it; nevertheless such a thing might accidentally occur. Bats are known to have a remarkably strong affection for their young. Titian Peale records that a young bat, half grown, fell from a tree in a public square in Philadelphia, which was given to him, and as he was taking it to the museum in the evening the mother bat hovered around him for two squares, and before he entered the building she alighted on his breast, from pure affection for her offspring, and allowed herself to be captured without resistance, rather than be separated from it. It seems to me that if ever a mother animal would manifest a disposition to attack any person or thing, it would be in defense of her offspring. The female bat has but two mammae, and these are located on the body just as they are in the genus Hespermys. Very frequently she has twins, and when she flies abroad in quest of food she carries her young with her, they adhering to her body by the teats, and by affixing the hooked thumbs on the wing hands and the claws on the hinder feet to the fur that covers her body. If one of these young should happen to fall on a human head, it would be likely to cling as closely as it had clung to its mother. The necessity of shaking the head to loosen it is doubtless an exaggeration.

The notion that bats disseminate "bed bugs" has no foundation. Bats, like nearly all the families of the animal kingdom, especially the hairy and feathered ones, are not infested by parasites, but they are not bed-bugs. They are a sort of "tick," and only resemble the bed-bug in color. They are a branch of the Arachnid or spider class. But of all the bats I have ever seen or handled I have only been able to capture three specimens. They usually adhere very closely, hide themselves among the hair and are not likely to drop off. Finally, nearly all these prevalent notions and impressions in regard to the bat, are mainly based upon those indefinite authorities so loosely known under the cognomen of "They say."

It is perhaps many of the prejudices against the bat have come down to us from an ancient period; their singular structure has afforded poets an emblem of darkness and terror, and hence they have consecrated them to Proserpine, the Queen of Hades. Æsop records the fabled war between the birds and beasts, in which he represents the bat as unwilling to declare for either host, but hovering between both during the fight; hence it was no longer considered a beast or a bird, and was obliged to avoid appearing abroad by day or until other animals had gone to repose. But the light of science is rapidly dissipating these fabled notions.

For further details of the common bat and its cognizers I refer the above-named correspondents to vol. 10, page 3 of The Lancaster Farmer (January,' 1878), and to an essay on the same subject, read before the Linnean Society (June 26, 1880), and published in The Lancaster Farmer of that month (vol. 12, pp. 100 and 101).

That bats, when captured, open their mouths, show their teeth, and "shut down" on any object inserted between their jaws, is not a normal test of character. They must be judged by what they do from habit, and not by the pressure of extraordinary circumstances.

CONTRIBUTIONS.

APPLES.

We all have seen lists—and what were professedly revised lists—of apples and pears, and, as far as they related to our own individual localities, we have felt that said lists needed a further revision. I have at least fifty varieties of apples and pears growing on my premises, and yet I would not be able to make out a list for others to plant, but I can give, approximately, the results of my own experience.

Twenty years ago I obtained fifty young apple trees from Casper Hiller, of Conestoga township. I did not just then propose to start an orchard. As the trees were small and thifty I planted them in rows in a rich garden used as a truck garden, with a view of letting a few stand, and transplanting the balance as they were needed to fill up old orchards, as soon as they were strong enough to withstand the attacks of cattle. I planted some of them in limestone, in strong, sandy gravel with a southern slope; in brick loam, rather wet, with a northern slope; red shale, southern slope; "King of Tompkins," I planted in rich gravel, southern slope; and "Red Streaks" in northern slope, which have not brought me two bushels a season. The Pittsburg Pippin, and Hamaker or cut-pippin, about the same. The All-Summer and Maidenshush did reasonably well at different places. Hubbardson Nonsuch came to perfection on red shale—almost overbore; on rich gravel they did not do at all. The Northern Spy commenced to bear somewhat in fifteen years after they were planted.

Fifteen years ago I planted seventy-five trees, and the following year the same number, on a rich gravel, with a southern slope; on some on tough clay, rather wet, northern slope. Of the first, Baldwin, Watermelon, Jefreys, York Imperial, Russet, Razor, and Redstreak, bear alternate years. The Pound-Apples also did well last year, and are reasonably full the present year. The "Sheep Nose" bears every year.

In the second orchard, planted fourteen years ago, the Black Gilly-flower, Pearmain, King of Tompkins, Northern Spy, Mounmouth, Pippin and Grindstone are doing reasonably well, but so far, the Smokehouse has had very few.

The Cambridge, Munson Sweet, and the Wagner have borne creditably. The Early Strawberry, Redstreak and Smith's Cider are heavy bearers, in alternate years, and have been for a long time. The strongest bearers this year, are the Penn Redstreak and Smith's Cider: the limbs are fairly drooping with their heavy weight of fruit.

Two years ago the Redstreaks, on the northern west slope, were perfect in shape, full in size, and free from insects of any kind, whilst on the southern slope, on rich gravel they were knotty and only fit for cider. There is a difference again this year, but not so great as it was formerly. I have not mentioned all the varieties that have no apples this year, because some of the trees are yet too young to bear a crop. The Downing is coming into bearing, and I think will do well with me. The Knusser and the Jewess Good are not as successful with me as they are in Berks county. I have the Philbasket from Captain Hamaker, the Hans of Russia, and the Potsky Shaeffer of Allenton, &c., &c. With me the Red-streak, Rambou and Pound-apple are still regarded as worthy of retaining.

Of the new varieties I would place Smith's Cider at the head of the list; York Imperial and Domini; for summer, Red Astrachan and Allsummer, and also Benoni. From some unknown cause some of these varieties I have named will come to perfection on a certain soil and in certain localities, whilst within a quarter of a mile they will not bear, or if they do the fruit will be knotty and worthless. The same thing will occur in pears. The Vicar of Wakefield wills in sheltered places. In towns it becomes so perfect as to bring ten cents apiece, whilst in other places it does not do at all.—L. S. Relet.

COMMUNICATED.

JULY 23, 1881.

DR. S. S. RATHBON—Dear Sir: In the July number of THE Farmer, page 110, is an article, "Fertilizers in Pennsylvania," which is identical, word for word, with an article in the June number, entitled "Analyzing Fertilizers."

Now do not think I am going to find fault with its repeated appearance, but I do think that fault can be found with the information given and the deductions arrived at, that "if a farmer is now deceived and cheated in the purchase of artificial manures he has only himself to blame."

We are told that "only seventeen out of fifty-eight were worth the money asked for them," but of what benefit is this to me or the ninety-eight other farmers out of the traditional hundred? It is not general but specific information we want on such subjects, and the articles under consideration are therefore deficient in that they do not state which fertilizers are good and which are not worth the money asked. Harm may result, however, as some individuals may be deterred from using a needed artificial munition from fear of getting something worth only $2.05 per ton.

What is very remarkable is, that this article, or one similar to it, has been floating around the newspapers for some time, but none of them giving the farmer the information as to what fertilizer has been found really worth the money asked for it. Just here an Irish whisper is thrown me to the effect that a paper publishing such a list would be advertising articles "free gratis," as is the common expression.
ESSAYS.

AMERICAN ARCHAEOLOGY.

Collection of Mr. Robert C. Bair, of York Furnace Pa.

During the recent excavation of the Tucquan Club, it was evident that its members had not lost their ancient fondness for scientific pursuits. While some of the party were engaged in catching bass, others found as much pleasure in capturing insects, or in collecting the beautiful ferns for which the locality is famous. Needless of the burning rays of the July sun, several of the company took long walks to places which are believed to have been, at some remote period, favorite haunts of the aborigines, and drew from their ancient resting places, that a few bits of broken pottery.

On the evening which was memorable for its terrific thunder storm, the writer was not in camp, having accepted an invitation to accompany Mr. Robert C. Bair to examine his large collection of archaeological specimens. It was late at night when we arrived at the charming residence of our host; but the antiquarian fever ran too high to permit us to retire without first examined a portion of his cabinet. Next morning we completed our delightful task, and in due time returned to the encumbrance of our conferees on the other side of the river.

Mr. Bair’s collection is extensive and possesses peculiar interest. Most of the specimens were gathered in his immediate neighborhood, and they, therefore, furnish a very complete representation of the rudimentary arts of the Indian tribes which once occupied the region now included in the counties of Lancaster and York. In some respects it might be well to increase the collection by a judicious system of exchanges; but sometimes the cabinet which may be regarded as almost complete, so long as its field is purely local, becomes imperfect when it attempts to embrace a continent.

A local collection also possesses a special interest for the original collector, which he is loth to sacrifice to extent and variety. The specimens which he has personally gathered appear to be peculiarly his own, and every one of them reminds him of the delight which accompanied its original discovery.

Mr. Bair’s collection contains a vast number of interesting objects, the souvenirs of years of research. There are about three thousand so-called arrow-heads and spear-heads. Some of these were possibly originally affixed to wooden war-clubs, somewhat after the fashion in which the ancient Swiss garnished, with sharp spikes, the battle-mace which they called “Morgenstern,” or morning star, probably because it let daylight into the heads of their enemies.

In looking over so large a collection of arrow-heads, the observer is struck with their immense variety, both in form and material. The stone was evidently selected with much care, and often bronze it from a great distance. Is it not likely that these “arrow-heads” were sometimes employed as a kind of currency, so that, passing from hand to hand, they are now found hundreds of miles from the place of their manufacture?

Not to speak of curious beads, fragments of pottery, and other interesting objects, there is one department of Mr. Bair’s collection which is especially remarkable for its completeness. There are nearly one hundred grooved axes, and these are found in every stage of completeness, from the rude palaeolith to the most highly polished specimen. Among the most interesting specimens are those in which the workman, after carrying the groove half round the stone, evidently found the material unsatisfactory, and cast away his work unfinished. The amount of labor bestowed on these implements must have been enormous, and it is remarkable that they should still be so frequently discovered.

Among the most interesting specimens in Mr. Bair’s cabinet are the “polishing stones.” These, at first sight, appear rude and shapeless, but they most likely adapted to their original purpose, and are so extremely hard that to polish them would tax the resources of a modern lapidary. There, also, is a series of the polished “flashers,” which the Southern negroes call “thunderbolts,” under a firm conviction of their celestial origin. Nor can we fail to observe an extremely fine stone mortar, and various specimens of steatite pottery. In short, the collection contains so many interesting objects that we cannot venture to attempt a detailed description.

The careful examination of a cabinet of archaeological specimens leads the observer to do justice, first, to the skill of the aboriginal craftsmen, and into the enthusiasm of the modern collector. Let no one undervalue the patient toil which is devoted to the accumulation of a collection of the rude implements of a prehistoric age. It is of such materials that hence builds her safestest temples, and the humblest collector may enjoy the privilege of contributing to a structure that will prove the delight of succeeding generations.

SELECTIONS.

WORTH KNOWING.

Some Things for Housewives to Put in Scrap Books.

A poultice of fresh tea leaves, moistened with water, will cure a styte on the eyelid.

For carache, dissolve asafetida in water; warm a few drops and drop in the ear, then cork the ear with wool.

The true physiological way of treating burns and scalds is to at once exclude the air, with cotton batting, flour, scraped potato or anything that is handy.

Use fresh water. Water which has stood in an open dish over night should not be used for cooking or drinking, as it will have absorbed many foul gases.

Mix a little carbonate of soda with the water in which flowers are immersed, and it will preserve them for a fortnight. Common salt-petre is also a very good preservative.

Take a new flower pot, wash it clean, wrap it in a wet cloth, and set over butter, it will keep it as hard as if on ice. Milk, if put into an ear can, or even a tin one, will keep sweet for a long time, if well wrapped in a wet cloth.

Common soda is excellent for scouring tin, as it will not scratch the tin, and will make it look like new. Apply with a piece of moss-paper and polish with a dry piece. Wood ashes are a good substitute.

To cure bunous use pulverized salt-petre and sweet oil. Obtain at a druggist’s five or six cents’ worth of salt-petre; put it into a bottle with sufficient olive oil to dissolve it, shake up well, and rub the inflamed joints night and morning, and more frequently if painful.

Flyes may be effectually disposed of without the use of poison. Take half a teaspoonful of black pepper in powder and one teaspoonful of cream. Mix them well together, and place them in a room on a plate where the flies are troublesome, and they will soon disappear.

Red ants may be banished from a pantry or storeroom by strewing the shelves with a small quantity of cloves, either whole or ground. Some use the former, as not being so good placed upon the shelves. The cloves should be renewed occasionally, as after a time they lose their strength and efficacy.

The following drink for relieving sickness of the stomach is said to very palatable and agreeable: Beat up one egg very well, say for twenty minutes, then add fresh milk one pint, water one pint, sugar to make it palatable; boil, and get it cool; drink when cool. If it becomes curds and whey it is useless.
### TABLED ANALYSES OF FERTILIZERS MADE BY PROF. GENTH, STATE CHEMIST.

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THE LANCASTER FARMER.

TOBACCO CULTURE.

How to Manage the Coming Crop.

There is no period of rest for the tobacco grower from the moment he sets the young plants out in the field until he hangs the matured stalks with their wealth of rich green leaves in the tobacco barn. The entire season is one long struggle with the enemies of the plant itself, and continuous work in the field with the plant in order that it may attain its fullest and most profitable development. While he goes through the rows every few days to see that the tobacco worms do not damage it, in the fullness of time another and very important stage of its development is reached, and that is Topping. This is an operation that requires not only experience, but nice judgment. In ordinary seasons, in six or eight weeks after setting out the plants they begin to develop the seed bud at the crown of the plant. This, if left, will develop into a large spike covered with flowers, ultimately forming the seed pods. But if these are permitted to grow unchecked, they draw to themselves that nutriment which is required by the leaves for their fullest development. It is well known that the final aim of vegetable life is the propagation of its kind, and, if this is not early done, or in the form of fruit containing seed. The strength of the tobacco plant is concentrated in the effort to perfect the seed, and if this is allowed, the leafy portion of the plant is deprived of those essential properties which give them their highest commercial value. It becomes all important, therefore, that this deterioration of the leaves shall be prevented, and the operation by which this end is attained is by the process known as topping.

When to Top.

Some plants grow more rapidly than others, and send out the seed bud, or button, earlier than their neighbors. But for the few who are permitted to do this, the exercise of nicest judgment is required to begin this operation. Generally the grower waits until the seed bud can be easily seen, while a few do not delay the operation of topping so long, holding that even the earliest development of the seed plume abstracts strength from the plant which should be directed to the perfecting of the leaf. We can only say it is far better to err by topping early than in waiting too long. The less the strength and energy of the plant is permitted to go into the seed bud, the more vigor will be imparted to the rest of the plant.

How to Top.

In removing the seed button, the all important thing to be considered is where to pinch it off, how much of the top shall be removed, and how many leaves shall be left. It is not easy to lay down a fixed rule to govern all cases. Much depends upon the condition, size and vigor of the plant. If the stalk is strong and vigorous, higher topping is permissible than when it is small and weak. The quality of the product is largely dependent upon the proper topping of the stalk. If topped too high, and too many leaves are left, there will not be sufficient strength to manage the leaves properly, and the result is a thin, trashy article that has neither the body nor the color requisite to command the fullest market price. Then, too, neighboring stalks may vary, the one to be able to mature from two to three pounds more than the next. This also calls for a certain amount of judgment on the part of the grower. A little experience will, however, teach him the plan that will secure the most favorable results, and he will become more expert each succeeding season.

How Low to Top.

Every grower must, therefore, decide from the condition of his growing plants how low or how high to top. We cannot instruct him any further in this particular. The tendency in most cases is to permit too many leaves to remain. He desires the largest possible yield and the temptation to allow more to remain than the plant can properly take care of, or the consideration, that if one of a first-class article, is very great. The rule in this county runs all the way from eight to sixteen leaves, twelve and fourteen being most commonly the number. A few farmers are persistent advocates of low topping; they believe that more weight is secured in this way, which, of course, implies a greater development of leaf. The latter half of the proposition is certainly true, and sometimes the first half also, but where the ground is very rich and the growth very rank, there is a tendency to coarseness, which may leave the most marketable value of the product.

An extraordinary growth of leaf carries with it large leaf ribs, and these are inconsistent with the production of fine cigars, and this latter should be the point at which all seedleaf growers should aim. The large quantity of manure the tobacco growers of Lancaster county put on their fields is another factor which permits them to top higher than is possible in some other sections, and growers elsewhere should bear this in mind. The kind of tobacco cultivated also governs this matter, as certain species will not materially. In the foreground we had reference to the "Pennsylvania Seedleaf" and the "Glessner," which may be taken as the representatives of the varieties generally grown here. Narrow-leaved varieties, like "Havana seed," if topped as low, would make a poor show in the matter of pounds per acre.

As a rule the tobacco that matures earliest in the season will bear the highest topping. As the season advances fewer leaves can be matured, unless, indeed, the latter part of the season should be unusually favorable. The earlier topping should be done at least a month before the season of frost may be expected to come along, in order to allow it ample time to mature and be secured prior to that event. The bud must be carefully pinched out with the fingers, not removed with a knife, scissors or other sharp cutting instrument. The operation of twisting off the crown is highly desirable, inasmuch as the cells of the plant are sharply compressed and the loss of the sap or juice is greatly diminished, a very important consideration. Expert care must also be exercised lest the leaves around the upper part of the plant should be broken or bruised and their growth thereby retarded or their value diminished.

Learning to Top.

Unless one is an experienced hand, topping is rather a tedious operation. If the party at work must go to the trouble of counting the leaves on every plant in order to find out where the seed-bud must be pinched, he is likely to make slow work of it. There is, however, a rule, which, if carefully observed, will save him all this trouble and expedite the business in hand very materially. Let him look on the bottom leaf and then on the one overhanging it in the third tier, and he will find that nine leaves are below that index leaf. If it is desirable to top higher, a glance above that leaf will at once enable him to add as many more to the nine below it as he may desire. Or, if high topping is warranted, the index leaf may be pinched one tier higher up the plant, and the operator will then have twelve leaves as a starting point, counting the bottom and also the index leaf, and a little addition or subtraction will give him the required number. At first sight this may seem a complicated process, but it is easy enough, and a little care and practice will remove all the difficulties that may be encountered at first. Besides, we know of no other way of getting at the end in view short of counting the leaves, which is not to be thought of when work is desirable.

Priming.

This is almost universally practiced in the great Southern tobacco belt, but is practiced only rarely among the seedleaf growers of Pennsylvania, and we only mention it here to tell what it is and the reason why it is performed. Priming, if done at all, should be done at the time the plants are topped. It consists in removing from three to five of the lower leaves of the plant, which from being near or on the ground have sustained more or less injury from the sun and dirt which rains may have cast on them. In the South these are known as the commensal class of "lugs." Priming has its advantages, and perhaps more disadvantage, if not properly handled. But if it be properly handled, it will add to the value of all tobacco, and will materially improve the quality. As the number of leaves removed grows larger, the leaf above is drawn out some distance and makes a show, at least in other respects.

Where priming is severely practiced very large yields are out of the question, and a prominent Southern authority recently told the planters that if they wished tobacco farming to become profitable they must give up priming. A loss of several hundred pounds per acre, when the crop is sold at a fixed price through," means a money loss that our growers here are unwilling to encounter. We believe priming possesses no compensatory advantages and do not encourage it in this part of the country.

Suckering.

By topping, the natural inclination of the tobacco plant to propagate its kind through the medium of flowers and seed is interfered
with, but the plant at once endeavors to repair the ravage committed. After the lapse of a few days after topping, say five or seven in a favorable season, suckers or shoots begin to appear at the junction of the leaves with the parent stem. These are simply rudimentary seed spikes, that is, the plant would reproduce itself, unless removed, instead of into the leaves. It becomes all important, therefore, that they should be pulled off at an early stage of their growth. They grow rapidly and must be watched. They first appear at the upper leaves. When three or four inches long they must be pinched off. As in topping, this must be done with the thumb and fingers, and for precisely the same reasons, namely, to prevent the too free exudation of the sap. The injured part would hold much more freely if removed with a knife. They should never be permitted to grow over four inches long; the longer they are allowed to grow the more they absorb of the true life of the plant; they literally "suck" the juices necessary to perfect the leaves, hence their name, suckers. Neglect at this juncture will certainly result in an inferior article of tobacco, one deficient in those inherent qualities that give it its greatest value. The removal of the upper suckers induces the plant to throw out additional ones at the lower leaves also, and this process is continual until the attempt has been made at all of them. But meanwhile the process of reproduction has been quietly going on at the top of the plant, and in favorable seasons will continue until the tobacco is ripe. These suckers grow rapidly—four or five inches in a single week in seasonable weather. If any one cares to know what the result would be if they were permitted to remain, let him try it. The plant will grow into the semblance of a little thicket, will continue to grow thinner and more impoverished day by day until nothing but a commercial value is destroyed. So well was this fact understood in Virginia in early days, that special laws were enacted compelling the tobacco planters to exercise due diligence in this matter. After being removed three times, the suckers are no longer so troublesome as at first, the fourth crop being a small one. They succeed each other at intervals of about a week. It is as important to suck these suckers carefully and as often as the situation demands it as it is to search for and remove the green horn-worm. Unless removed when young and tender, they grow hard and fibrous and must be cut with a knife, which will result in severe bleeding to the plant. In sucking, as in worming, tobacco, the utmost care must be taken not to break nor bruise the leaves. If any are found turned up by the wind or any other cause, they should be put into their natural position, for the sun has a bad effect upon the tender under side of the leaves, often scorching or blistering it. So much depends on the careful attention to these points which we feel we can hardly impress this fact too earnestly upon the grower's attention.

**TRADE IN FLOWERS.**

NEW YORK, June 27.—Beyond the love of flowers, which is supposed to exist in every human breast, flowers are in fashion, and it is owing to this fact that a large number of florists are enabled to transact a very profitable business in this city. Said one flower dealer to a reporter:

"In one respect, at least, the business of the florist resembles that of the undertaker. The demand for flowers among the people of the city is heavy, business is brisk. The demand for coffins and the market for flowers keep pace with each other. During the summer months, when there is a great mortality among children, the florists are very busy arranging floral tributes for the little caskets. Not only wealthy people and those who are in comfortable circumstances, but poorer classes also purchase large quantities of flowers for funerals.

"Do you sell flowers on credit?"

"Not as a rule. Ours is a cash business generally, but we make exceptions to the rule on some occasions."

With reference to the size of orders he had received he said:

"I have frequently filled orders for $300 worth of flowers for funerals, and on one occasion I had a $2,000 order for the obsequies of a daughter of a wealthy resident on Fifth avenue; but the largest single order I ever filled was for the floral decorations for a Hebrew wedding festival that took place in June 172. That was a grand banquet, Steinway Hall having been engaged for the occasion. Tables were set for 350 guests. Each of the tables was ornamented with an immense pyramid of flowers, the walls and ceiling of the hall were clothed with festoons, and the place looked like fairyland. My bill for those decorations amounted to over $2,500. The wedding took place at, a time of the year when I had to obtain the most of my supplies from the conservatories and greenhouses, and I can tell you I had great difficulty in getting all the flowers I wanted. The owners of several of the large greenhouses formed a pool and cornered the market, and the result was that I was compelled to pay far more than the actual value for my supplies."

"Where are the flowers grown?"

"I get the most of my supplies from Union Hill and Greenville, N. J., but the floriculturists up along the Hudson furnish me with a large amount of flowers."

"Is there a large demand for bouquets?"

"Oh, yes, especially at this season of the year, when flowers are very plenty and cheap. I have numerous orders for bouquets, from the button-hole bouquet up to those of the largest size. Many of the dealers in flowers purchase their supplies of bouquets from farmers, who have small flower gardens upon their farms. I know a farmer, who lives near Irvington, who brings an average of 1,000 bouquets per week to the city. He has a beautiful garden of flowers, and the bouquets are made by his three daughters."

"What is the most popular flower just now?"

"Well, there is a great run on the common field daisy. In the spring the great demand was for the dandelion. The ladies went wild over this humble yellow flower. The dandelion fever raged for a month or six weeks, and when it subsided the cry was for daisies. You see, yellow is the fashionable color this year. The daisy having a yellow centre, with a border of white as a contrast, is even more popular than dandelion, even when the latter was in its palmette days."

"Is the daisy cultivated?"

"No; it is not necessary to cultivate it, as it grows wild in sufficient quantities to supply the demand. For two or three weeks young ladies besieged the florists for buttercups. As the buttercup is a very frail flower, its bright yellow leaves dropping off almost at the slightest touch, they will not last more than four or five hours after they are plucked. I was amused when I first heard what some of the young ladies wanted the buttercups for."

"How was that?"

One young lady told me in the strictest confidence that she wanted a few buttercups, so that she could ascertain whether her man really loved her or not. I then remembered the old tradition that if a buttercup blossom be held under the chin it will indicate whether the person is in love or not, the affirmative being shown by a bright yellow reflection being cast from the flower to the chin, and the absence of the reflection indicating the negative. So, you see, the old traditions do something to help us in our business."

**SUMMER DRINKS.**

In extremely warm weather, refreshing beverages are very desirable, especially in the field, where one is exposed to the scorching heat of the sun, and the whole system is deprived with the heat and exercise. It is very impudent to swallow great quantities of ice-cold drink when one is excessively warm; a few swallows taken slowly, will quench the thirst far better than a whole gobletful swallowed without stopping. The very best of all drinks is new milk with ice sufficient to cool it. It is not only cooling, but also nourishing. It is a most grateful beverage, not only in the field; but in the kitchen, and nursery as well as sick room, where it should always have a place. In fevers, it is the most delightful cordial that can be administered. A very nice beverage is made by taking two quarts of water, a tablespoonful of pulverized ginger, half a teaspoonful of strong vinegar and a half teaspoonful of molasses or maple sugar. Stir well, add a lump of ice the size of a quart bowl to keep it cool; put into a tin pail with a tight cover, and it is a very good field drink, and will keep cool half a day.

Another drink is made by taking a lemon or two, or roll or squeeze till soft, slice very thin, and put into a large bowl, and turn a pint of boiling water over the slices. Let it stand till cool; then allow a quart of cold water to each lemon, and half a cupful of sugar; stir well and add a lump of ice to make it very cold. The acid of the lemon is very grateful to the mouth and stomach on a hot day. All ice drinks should be sipped slowly, as they quench the thirst better, and give a coolness, to tone up the body; large swallows are not quantities. Still another drink is prepared by taking two eggs, beat thoroughly till frothy, add half a teaspoonful of sugar, a teaspoonful of extract of vanilla and a quart of milk; cool well with ice. It is very delicious and strengthening on a hot day. Another one is made by taking a teaspoonful of rasperry jam, stir it into three pints of water,
strain it through a fine colander, and set it in the ice chest till very cold; it is a very pleasant beverage. For hay pithers, nothing excels good hot coffee, as it stimulates a little and seems to raise sufficient internal heat, so that perspiration flows freely, and keeps up the strength.

Refreshing drinks are a very great comfort during the summer heat, and give much nourishment to the system, as one is not very apt to feel hungry in the long summer days when the thermometer ranges from 90 to 100 degrees in the shade. The more a person drinks the more he perspires; yet one cannot help craving some palpable beverage to cool the parched lips and mouth in the heat of summer. It is much better to take little at a time, and to drink more frequently, than to quaff a great quantity at a time. Frequent bathing of the face and head is a great preventive of thirst. Men are not so liable to get overheated if they occasionally wipe off their faces with a wet towel or sponge. People do not take half the pains to protect themselves from the heat of dog days that they do to guard against the inclemency of cold, and there is double the danger arising from overheating that there is from freezing.—Farmer's Wife, in Country Gentleman.

OUR COMING WINE CROP.
It is not improbable that in another decade or two, judging from present progress, the United States will be the greatest wine producing country in the world. In all the states where grape-growing with this view has gained some magnitude, there is a large and steady increase in the quantity manufactured from year to year; and with advancing experience in the amalgamation of the juices of different varieties of grapes, the quality of the wine is much improved. According to the census returns California alone produced last year 4,500,000 gallons, valued at $3,000,000, the vintage of New York, New Jersey, Ohio and Missouri, last year, nearly reached in the aggregate this total. The entire quantity of wine imported into the United States in 1853, from all countries amounted to the aggregate of only 4,500,000 gallons, valued at $8,000,000, showing a heavy reduction compared with many previous years.

As a rule our domestic wines are much purer than the imported, and a far greater degree of cleanliness is observed in their manufacture. A gentleman of this city, who was in the wine-producing districts of France some time ago, and saw the process of making clarets, says that the juice is still expressed by trampling with the naked feet, and that he saw some of these "trampers" leave the vats in which they were employed and cross a muddy road to get their dinner, without covering their feet, and on their return jumped into the vats again with the mud clinging to them! We suppose they depended on the fermentation throwing off all impurities; but it is not reassuring to think about.

FROM NATURE'S STOREHOUSE.
Among the strange things seen by Humboldt on the slope of the Cerra Duida, he records the discovery of "shirt-trees."

They grow to the height of fifty feet, and to obtain these garments the natives cut cylindrical pieces two feet in diameter; through the upper opening peers the wearer's head, and through lateral slits arms are thrust. These sack-like garments are seamless, and greatly resemble the pouches and monos-exposure, when from wheels and Peru; as we may easily imagine, these comfortable coverings of native growth are extremely coarse in texture, but if travelers' notes are to be relied upon, are regarded as very stylish "business suits" for that section of country.

What easy times the house mothers of those regions must have, if, in addition, a "thread-end-needle tree" should chance to spring up in their ample dwellings—useful adjuncts when rents appear and "patching season" approaches; their "shining steel," a simple thorn growing at the end of the leaf of the maguey tree, the "silken thread," poetically speaking, a fibre which is attached to the thorn. The fortunate seamstress deftly plucks the thorn, warily draws forth the delicate line of thread, and she is ready for her labor of love.

In New Zealand may be found a strong drapery made from the fibre of trees, and when covered with "impressed patterns," as is often the custom, a firm and even beautiful stuff for garments and house ornamentation may be obtained.

The tree, growing in the Indies, is utilized by the negroes to furnish material, both rich and delicate, for pleasant and comfortable garments.

Whenever one finds the cork tree, a curious process may be observed, for the natives of those regions have deft fingers and can, by distending the bark of a little switch the size of a quill, bring into shape a jaunty little cap, a convenient bag, or a useful whip, all of them possessing the wonderful flexibility of articles manufactured with the finest cord.

HOW CATTLE ARE KILLED FOR NEW YORK MARKET.
In the city of New York there are two large abattoirs or slaughter-houses. On the east side of the city there is a collection of several of these establishments, which occupy the blocks bounded by East Forty-third street, First avenue, East Forty-sixth street, and the river front. The total number of beef cattle slaughtered here last year amounted to about 100,000 head.

At the foot of West Forty-third street is what is called the West Side Abattoir, which is the largest establishment of the kind in the city. Its dimensions are 425 feet in length on Forty-third street, and 300 feet on Thirty-ninth street, with a uniform depth of 200 feet. The annual kill of beef cattle here is 2,200 head per week, or about 115,000 a year.

At Jersey City, across the river from New York, is situated another large establishment of this kind. It is not only a slaughter-house, but also a place of wholesale distribution of the cattle coming into New York. It is very favorably situated, being not more than a mile by water from any of the European steamship wharves, and cattle for export can be shipped by boat from the abattoir direct to the side of the vessel. For this reason it is the principal place from which the live stock export traffic is done. The stock yard covers several acres, and is divided into large pens, partly roofed over, with water troughs and hay racks running along the sides. They afford accommodation for about 3,000 cattle, and the charge per head for each animal entering the yard, no matter how long or short it may be the period of its stay, is forty cents. During the time they are in the yard they are fed at the owner's expense. The slaughter-house proper is a building 250 feet front by 300 deep, but with the offices and other additions the buildings cover an area of 270 by 300 feet.

The cattle coming into New York average from 700 pounds to 800 pounds in weight, and at ten cents per pound, about the usual figure, bring $70 to $80 each on the hoof. The method of killing is essentially the same in all the New York slaughter-houses. A rope is fastened around the animal's hind legs and he is lifted off his feet by means of a block and tackle, so that he hangs with his head downward, and just touching the floor. His throat is then cut with a large, sharp knife, and his death is speedy and comparatively free from pain. Three workmen, a dresser and two assistants, can kill, flay, cut up and dress an animal in about twenty minutes, and they slaughter eighteen to twenty head daily, for which they get fifty-nine cents per head.

After the slaughtering for the day is at an end all the buildings are flushed out with water pumped from the river by steam, and then carefully mopped over, so that no sign of refuse of any kind is perceptible—in fact, the floors, which are laid with an incline from the sides to a gutter in the middle of the houses, are as clean and white as the decks of a ship after they have been holystoned.—Shoe and Leather Reporter.

SCIENTIFIC NOTES.
Professor T. J. Burrill, in the American Agriculturist for Seventh month, states that "blight" in pear and apple trees, and the "yellows" of the peach, are the results of the presence of the minute organisms called bacteria in the bark of the trees affected. He says, "In 1877 I observed in the fluids of blighting pear trees great numbers of minute moving things, which were not clearly identified as bacteria till the following year. On diseased parts of apple trees with twig blight, and of pears also, he found drops of whitish, viscid material oozing from the bark, and that proved to be almost wholly made up of bacteria. After some hours exposure, the mass became yellowish and finally dark brown. He found by taking some of this exudation he could inoculate healthy trees with a penknife, putting some of the poison into the bark, and that the disease would spread in the branches. Pear trees could be infected from apple trees; showing the disease to be the same in both.

Professor Burrill believes that the spread of the disease may be checked by cutting away the infected part of the branches and leaves with extreme care to remove all the infected parts, not merely those which have become blackish and to observe care in cleaning the knife each time, so as not to spread the contamination. He thinks it probable that washing with carbolic acid or other antiseptic washes might be useful.

What implements could have been used for drilling holes in stone implements by the North American Indians has been a question.
Charles Rau, in the last American Naturalist, shows that copper being too soft for the purpose, or even bronze, the use of flint borers, with wooden handles twisted by a bow and string was the means probably used. Experiment proved it could easily be done, and James Wood, of Mount Kisco, N. Y., has in his possession a stone with an unlined hole drilled into it, and the flint drill shaped a little like an arrow head, but with rounded end, instead of a point, was found at the bottom of the hole in the stone.

Effects of Different Colored Light on Animal Growth—M. Yung, in recent investigations on the eggs of frogs, trout and Lymnaea, found that in the following order, the violet hastening, the red retarding; violet; blue; yellow and white near alike, red, green.

—Am. Nat.

H. H. Rueby, of Clifton, Arizona, writes to the American Naturalist that the country is one vast ant colony, and that ants prove the greatest drawback to successful agriculture in that region in the arable portions. Too little is yet known of their habits to determine how best to abate their injuries.

The wild rice, Zizania aquatica, grows extensively in many parts of the United States, and has been one of the most important food articles of the Indians of the Mississippi plains. After many fruitless attempts to introduce this plant into Europe, the seeds arriving too much dried to grow, M. Villinor lately sent fresh grains to France packed in a box filled with wet moss. The recipient, Count Hya-cinthe de Charenay, Department of the Orne, placing them in a swamp, had the satisfaction to see them sprouting. They soon arrived at maturity, and this valuable food plant may there find a climate as congenial to it as the swamps of America.

A specimen of the rhinoceros (Ceratodonta merki), was recently found imbedded in the ice of a tributary of the Lena river, Sibemia. It was almost entire, with the flesh in good preservation. The head and feet only were preserved; the former is now at St. Peters-

—Am. Nat.

ESTIMATE OF JAY GOULD'S WEALTH

The impression is that Mr. Gould is laboring to become the richest man on the continent, and, as a nest egg, it is presumed that he is worth to-day about $75,000,000, divided as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Western Union</td>
<td>$23,500,000</td>
</tr>
<tr>
<td>Union Pacific</td>
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<tr>
<td>Walash and connections</td>
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<td>Missouri Pacific</td>
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<td>Idaho Pacific</td>
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<tr>
<td>Texas Pacific</td>
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<tr>
<td>Kansas and Texas</td>
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<tr>
<td>Kansas City and Northern</td>
<td>1,000,000</td>
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<tr>
<td>St. Louis Bridge and Tunnel</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Central Pacific</td>
<td>1,000,000</td>
</tr>
<tr>
<td>New Cable</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Real Estate</td>
<td>500,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$75,000,000</strong></td>
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Immense Sums Collected in Lancaster and York.

This A. Wiley, Collector of the Ninth Revenue District of Pennsylvania, comprising the counties of Lancaster, York, Cumberland and Perry, furnishes for publication the following statement, showing the amount of United States revenue collected in this district during the years ending June 30, 1857, 1858, 1880 and 1881—the subjects from which the revenue was derived being given in detail for the year ending June 30, 1881, and returns only being given for the years preceding:

For the year ending June 30, 1881:

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>On Whisky</td>
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<tr>
<td>Tobacco</td>
<td>1,054,922,85</td>
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<tr>
<td>Cigars</td>
<td>1,072,544</td>
</tr>
<tr>
<td>Beer</td>
<td>21,000,16</td>
</tr>
<tr>
<td>Banks</td>
<td>375,000</td>
</tr>
<tr>
<td>Fencing</td>
<td>120,560</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,278,820.83</strong></td>
</tr>
</tbody>
</table>

The collections for the year ending June 30, 1881, were, from the different counties composing the Houck's Mill district, as follows:

<table>
<thead>
<tr>
<th>County</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Lancaster county</td>
<td>$649,907.62</td>
</tr>
<tr>
<td>York county</td>
<td>206,238.00</td>
</tr>
<tr>
<td>Cumberland and Perry</td>
<td>16,506.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,278,820.83</strong></td>
</tr>
</tbody>
</table>

Collected in the Lancaster office...

<table>
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<tr>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>$787,517.42</td>
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</table>

Collected in York office: 530,303.41

**THOMAS A. WILEY, Collector.**

It will be seen that Mr. Landis outranks any other county in the district in the amount of revenue collected, and the district far surpasses all others in the State except Philadelphia and Pittsburgh.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular monthly meeting of the Agricultural and Horticultural Society was held in their rooms on Monday afternoon, August 1st. The following persons were present:

President J. F. Witmer, of Paradise; Secretary M. D. Kendig, Cresswell; James Wood, Little Britain; Henry M. Engle, Marietta; Henry Kurtz, Mount Joy; John H. Linville, Gap; F. R. Diffenderfer, Ephrata; W. P. Rau, Lancaster; break, this season, the experiment of Mr. John Miller, Warwick; John H. Landis, Millersville; Peter Herhey, city; Jacob Bollinger, Warwick; Levi S. Reist, Oregon; J. G. Rush, West Willow; J. Frank Landis, East Lampeter; Ephraim S. Hoover, Manheim township.

Crop Reports.

The reading of the minutes was dispensed with, after whichcrop reports were called for, and John-

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
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<td>Union Pacific</td>
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<td>Walash and connections</td>
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<tr>
<td>Missouri Pacific</td>
<td>5,000,000</td>
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<td>2,000,000</td>
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<td><strong>$75,000,000</strong></td>
</tr>
</tbody>
</table>

Mr. Landis reported that the average yield was somewhat less than in some instances, but my own expectations, save that there were a great many smut heads in it. The Seneca White was also recommended by some, but the speaker had not tried it.

Mr. Bollinger, for the last ten years, had sowed a field half and half of milled and Mediterranean, and found that the Fults was decidedly the better. In the early sown the fly destroyed the Mediterranean, while in the late sown field the Fults was not much superior to the Mediterranean. He stood by the Fults. Mr. Miller had also mixed the two varieties and found that both kinds did better—two or three bushes more to the acre—than when sown in separate fields.

J. C. Linville sowed the most of his wheat from the 23rd of September last, but two acres down October 21 yielded very decidedly the better crop.

Mr. Engle concluded that as usual every farmer would choose his own seed wheat. Different varieties have been employed in the States, and the old straws, Lancaster wheat and many other varieties were all prominent in their day, but passed away. For himself Mr. Engle preferred the Fults. Levi S. Reiss said the Fults wheat yielded less straw than other varieties, and required a rich, loamy soil. The Red Mediterranean was the most durable variety, and Mr. Reis gave his preference to it.

Mr. Wood said the Fults wheat did best for him; no Mediterranean was raised in his neighborhood.

He used Key's Profile.

Mr. Johnson said the Fults was preferred in his neighborhood, but his experience with it was entirely unsatisfactory. In the last year he had sown a red-headed wheat, the name unknown, which had yielded very well. The Eureka's straw
is very stiff, the heads, long and well filled; for the whole thing.

Henry N. Ensign could not agree with Mr. Retal that the Fulton wheat should be abandoned, because of the little straw it produced. The more grain to the amount of straw the better farmers we are. It is too bad that these small stocks are as likely to be as just, as productive. We only need straw for bedding.

The Best Breed of Cattle.

Johnson Miller answered the question, What is the best breed of cattle for farmers? That I cannot refer to me for an answer. It is a question of great importance and one which every farmer in this county ought to study and purchase. If you take the best breed for dairy purposes we should consider the things which would belong to a full-bred cow for market. A member who has referred to me would himself be better qualified than I am to answer it. However, I will open the question for discussion, and I hope it may bring out some facts, that will be beneficial if not injurious. As an herb, whether he wants it exclusively for dairy purposes. Then he should select such as will give the most milk per cow, that will be the best. And of course, when he should select such as give most milk, say the breed, and not the cow. He should also purchase the best breed of cattle in the herd. This would be the answer to the question as it is presented to us, and we will answer it from several standpoints in a little to what circumstances surrounding it. In the best place we take our general Lancaster county farmer's herd, such as want to raise stock, even if it don't pay them, but will give us a way in which the will be shaped. Then we should select the best Durham, have the full breed and after he has them keep them pure and feed them well and he will get a good beef and butter and will have some weight when he wants to sell cattle.

This is now the stock our Lancaster county farmers would consider the best herd, but, Mr. Chairman, there is not a farmer here who has not a great deal of stock in the best breeds and best breeders. We have so often and will do to-day again say to this society and the good old bishop, if you don't want to pay your suited, where is worth $200 an acre, or even more. We have the same satisfaction. It can't be said of them, wheat, and to the answer as it is presented to us, and we will answer it from several standpoints in a little to what circumstances surrounding it. In the best place we take our general Lancaster county farmer's herd, such as want to raise stock, even if it don't pay them, but will give us a way in which the will be shaped. Then we should select the best Durham, have the full breed and after he has them keep them pure and feed them well and he will get a good beef and butter and will have some weight when he wants to sell cattle.

The Poultry Society.

The Lancaster County Poultry Association met on Monday morning, August 1st, in their rooms in the City Hall. The following members were present: Mr. J. D. Elder, Johnson Miller, M. John, old, city; W. W. Greist, city; William A. Schenborn, city; Charles Lippold, city; George A. Geyer, Spring Garden; J. A. Schaum, city; Henry M. Engle, Marietta; F. R. Different, city, and M. L. Greider, Gunpow.

In the absence of President Thaidley, Vice President Geyer took the chair and called the meeting to order.

Election of Members.

W. F. Nauch, of Columbia, was nominated and elected to membership.

The Next Exhibition.

Mr. Lichly suggested that it was time to select a time for holding the next exhibition. If the time is set now, we will not be so likely to come in conflict with the shows held around us, as these latter will hardly make the mistake of holding their exhibition on the same dates as ours.

Mr. Schenborn moved the Secretary be instructed to inform the members that their presence is desirable at the next regular meeting, and that the committee be authorized to select a time for holding the next exhibition of the society.

An informal discussion of the situation revealed the fact that among those present the success in raising large numbers of young birds, this season has been very good, and many other diseases have crept into the poultry yards and have carried off a great many of the young birds.

There being no other business, the society adjourned.
ing its entire life, and therefore corresponds to an immortal Triton, whilst a Triton corresponds to an immortal frog.

No. 2. A glass jar containing seven specimens of *Thalassocuratas*, collected by the Curators, along the margin of Columbus and Port Deposit railroad, a short distance above York Furnace Spring, in shallow pools of water that discharge from small fissures in the rocks. This reptile seems to be more assured on land than in water, and is rarely seen off the county. This is the same species alluded to on pp. 100 and 101 of the July number of the Lancaster Farmer, as having been found so very abundant in "Hunter's Lake," by William, Pa., August 5, 1853. The same perfect (July 14) there were noticed a number of small tadpoles in the pools containing the Tritons, which do not appear to be those of salamander, toads or frogs, and probably are those of "Tree frogs," (*Hyla* or *Hylidae*). We may be certain that they are not the tadpoles of Tritons or any other species of the Salamandrines, because they are excluded with external gills and retain them after the feet are developed. It may be well to say here that this family of Reptiles have the singular power of reproducing their feel or tails, even when injured ; they can replace them entirely several from their bodies, including bones, muscles and integuments.

No. 3. A bottle containing Goldfish, Crayfish, Tad and Tadpoles ; the latter exhibiting their stages of development on the 14th of July.

No. 4. A bottle containing 26 specimens of *Chrysops annulata*, a beautifully green and gold burnished Beetle, belonging to the family Cetoni- midae. Within the months of June and July, and perhaps as late as August, this insect may be found in great numbers, as a flight of bees found on the blossoms, ("Apopoecas annulata"), that grows near the river at the old York Furnace Ferry, or wherever else the plant or shrub may be growing. The 14th of July was within its nuptial season, and hence both sexes were present in about equal numbers. A few of these insects will feed on this plant, when they are abundant they entirely defoliate it. Nouras were present, and it is not apparent what the larva feeds on, or whether above or below ground. At the "Centennial" there were exhibited allied species of this insect in jewelry, which sold at a high price. Indeed the beetles alone were held at from 50 cents to 75 cents a piece, according to size and brilliancy of color. They were somewhat larger than our species, but in richness of color did not equal ours. Our Ours are American, the Braddish ones were foreign, and that makes all the difference.

No. 5. A small bottle containing representative species of insects found only on the "will-weed" or "wild cotton" (sagilepis cornutus) and the willow, (Salix). During the month of July, that beautiful red and black-spotted Longicorn Beetle—*Tetropium tomentosum*—may be found on the "will- weed," and possibly nowhere else. It does not seem to feed on the plant, or very sparingly; but during the nuptial season the sexes resort to it in great numbers—indeed it is known only in this single plant was introd into a town garden, which attracted this insect to it. The larva, like all its family, is a wood, or stalk boer. Two Hemipterous insects—*Ligusidae aureus*, and *twielenus*—are almost certain to be found on the "will- weed" in July, in all stages of development; but especially during their nuptial season in July. During the month of July, the willows are apt to be infested by various species of Chironomus, a family to which the noted "Colorado Potato Beetle" belongs. Among the most conspicuous species of this family are *Chironometra*, etc. Some seasons, the dwarf willows especially, are defoliated by them.

No. 6. A jar containing two species of *Bellota- ma grandis*, a male and a female specimen of *Vordel- ama*, and a male and female specimen of *Doryb- amara*. These are all conspicuous representatives of the orders Hemiptera, Neuroptera, and Heméoptera, sent to the Curators by different persons not now remembered.

No. 7. A piece of baked Indian pottery, and an Arrowhead, picked up by Wm. L. Gill, near "Flite's Eddy," Lancaster county, Pa., July 1th, 1851, and donated to the Society. These fragmentary relics of the Red-men of the County of Lancaster, seem almost hitherto unused. Hardly a summer season passes—so near as we can judge—of these very perfect, very curious, and very valuable as the historical relics of a race that has become extinct in Pennsylvania.

No. 8. Mr. Luther Richardson donates a peculiar Pine box, lidded, and catarurated with tarnipine, which, by attrition, has been worn into the form of a large pebble, resembling a large Early Rose Potato. This evidently was brought down from the upper Susquehanna, and being too heavy to float, was worn into the pebble, and then thrown into the bed that accompanied it in the bed of the great river.

No. 9. Several specimens of fossil plant impressions on a slaty mineral from the coal regions of Pennsylvania, sent to the Curators by persons of whom they have no present knowledge, but for which they are none the less thankful.

No. 10. Mr. Wm. Koedting of Elizabethown, donated a Double Bean—two beans on one stem, united along the "costal and ventral" margins their entire length.

No. 11. S. F. Eby, Esq., donated a most magnificent female specimen of the "American Imperial moth" (*Drepanocampa imperialis*) with a large number of her eggs, and quite a number of the excluded larvae in the first age of their development. This moth is a full month too late. It usually appears and deposits its eggs within a month of June, and the larvae should be matured by the middle of August. They feed on the foliage of the Buttonwood, &c.

No. 12. Miss S. S. Le Fever donated the clay-celle of a species of *Euphana*, a Hymérophy insect.

Donations to Library.

Lancaster Farmer, for July, 1851.

Cyclopedia of the Department of Education. No. 6—1850. 219 pp. octavo, from the Department of the Interior.

Five Catalogues, and miscellaneous circulars.

Proceedings of the Academy of Natural Sciences of Philadelphia, from January to May, 1851.

Nov. 25 and 26 of volumes 19, and 1, 2 and 3 of volumes 50, of the Official Patents Office Gazette.

Three pamphlets on Anthropology in France, Germany and Alaska.

Historical.

A Washington City Lottery Ticket, class 9, No. 20579, dated 1825, and bearing the combination "Knights of the Valley," was sold by the State Lottery, and the proceeds of the sale were donated by S. S. Rathbone, who had received it from some friend of the society whose name he could not recall. It has two endorsements on the back, namely: "J. F. P., P, and K. Curitz & Johnson;" and, "May the Lord bless this sale." The last endorsement was made on July 6, 1851, and the ticket is still unsold.

Four envelopes containing valuable contributions to the Historical and Biographical Scrap book of the Pennsylvania farmers. One, containing a letter from the Curators. This was when completed, (if ever it can be regarded as completed), will present such an array of local and general historical and biographical matter as cannot be found in any literary publication in the country, or the world.

Questions Asked and Answered.

Rachel B. Gatchel asked what kind of strawberries the club would recommend and the best manner of cultivating them.

Phoebe M. King said they raised the Brooklyn scarlet. It was best to plant out and not cultivate. They would do well for two or three years, then they have to be digged out and refilled, when another should be planted. Wilson and Kentucky were recommended as good varieties.

Father K. Haines: Has any one put ash on cabbage to kill the worms, and what is the result?

K. B. Gatchel had tried it, but it was not a success. It killed the leaf where it dropped; salt and eauzine pepper are better.

Josiah Brown had also tried it, but it did not good. W. W. Bicknell tried an ounce of saltpetre dissolved in a gallon of water. It will drive them off. Josiah Brown said he put dried fruit in the oven before putting it away.

Alice Coates: Not if taken off a hot slate roof and put away immediately after it becomes cool. Put in paper bags and tie. W. R. Bicknell why are hops put into yeast was referred to Reber D. King, to be answered at next meeting.

With the mercury up high in the nineties, the members gave the farm a very slight inspection and but few criticisms on the farming operations were given.
Agriculture.

The Turnip Crop.

The time is approaching when we are to think of providing the ground for the turnip crop. It is too early to sow yet, but it is not too early to set apart the field intended for the crop. The varieties generally grown are the Early Flat Dutch, the Purple Top, and the White Top. The Black Top, or Coloured, is not especially desirable. For commercial purposes, it is rare that turnips can be raised to much profit, unless one is in the regular market-gardening business. They cannot be put in a regular farm crop, to be taken to market, for the time must be found when they can be done with potatoes; and yet so is useful a vegetable for home use among cattle, or home consumption as a garden product, that a turnip patch is extremely satisfactory in everybody's ground.

There has been much improvement in the turnip for many years, and hence there is no great choice of varieties. Perhaps the kinds we have are good enough, and may be regarded as at least among the best. In most other vegetables we want them as large as we can get them or as early as they will come. But extra-large turnips are not desirable; and if one can sow turnip seed the end of August and pull in October it is sufficient to satisfy the earliest longings. Besides it is found, perhaps, in no vegetable so much as in the turnip, that it is necessary to make its use apparent by a carelessness of flavor. The right kind of rich ground will make a turnip-bulb in an incredible short space of time; and the root in such case becomes so tender and sweet that some will eat them raw as rapidly as they can get them from the ground.

The right kind of rich manure is that which is thoroughly well-decomposed. If fresh stable manure is employed for the turnip, we get an enormous growth of foliage and small growth of root. In many places the sign of a good root is abundant leaf, and a manner more favorable to a good root than otherwise. In England, where the turnip is universally raised, bone dust is the great popular fertilizer for the turnip. Here we find that a piece of ground heavily manured for some spring crop, and which has been taken off in time, is in a better condition for a good crop of turnips than the best manure immediately applied at sowing time. Where it can be made to suit, there is nothing so good as a preparer for turnips as manure, or any fertilizer, to which it is changed by the time they have done all they desire to do; the balance is just in the condition the turnip desires.

There is one thing worth remembering, that is, that the turnip is great exhaster of the soil. Many persons, who find at this season that they have little pieces of ground with nothing in it at all, so the turnip comes so soon they may as well have something as nothing from it. This is all very well if the turnips are really wanted, and can certainly be turned to good account. But if otherwise, they will not "pay for their feed," and it is much better to go without them.—Lancaster Telegraph.

The Monthly Reports from the Department of Agriculture.

The following crop reports are furnished by the Department of Agriculture:

Cotton: The reports to the Department on July 1, show an increase in the condition of cotton since the last report. This increase is due to the early season, which has already cleared up many acres of land. R. D. King and some others had noticed a cotton field and a tobacco field on the same farm in the neighborhood of Chestnut Level. The tobacco had been taken care of, but the cotton was neglected.

Ellen E. E. Fiske, of Philadelphia, the " Pipes of Lucknow," by Whittier; Wm. King noted "Tam O'Shanter."

The bells should adjourn to meet in pic-nic style, at the Black Barren Springs, at the regular time next month.
Fifty-four Bushels Apeice.

The Census Bureau gives us the grain products of the United States for the year 1879. From these tables we learn that from 62,729,602 acres planted in corn there were raised 1,772,580,846 bushels; from 35,879,605 acres in wheat the yield was 297,718,620 bushels; and 36,159,021 acres of oats produced 470,577,719 bushels; 2,065,466 acres were sowed to rye, and the yield from 1,419,479 bushels; and the 1,441,321 acres sown in rye brought forth 16,018,765 bushels, and the 856,304 acres of buckwheat gave a return of 9,821,721 bushels. The total sowing for cereals in 1879, was 118,665,019, and the yield of these three thousand millions of bushels, or an average of fifty-four bushels to each individual of our fifty millions of population, no wonder two thousand immigrants arrive on our shores every day.

Wonders of Broom Corn.

Broom corn is likely at no distant day to revolutionize the breadstuff supply of the world. A process has been discovered by which the finest and most delicious flour can be made from the seed to the extent of one-half its weight, and leave the other half a valuable food for making beef and milk. The average yield per acre is three hundred bushels, and in many instances five hundred bushels, or thirty thousand pounds, have been secured. Nor does it exhaust the soil as Indian corn, from the fact that it feeds, to the exposed surface. It is, however, the most important of all cereal feeds, a large share of our cattle are fed with the broom corn, and a large share of the ordinance to the roots of the plants. A new growth is soon produced, making the land profitable either as a pasture or for a second crop.—Agricul
turist.

Horticulture.

How to Plant Celery.

The old method of setting celery at the bottom of a trench is still occasionally followed, either by gardeners who have done this in the old country, or by our own people, who have not learned the better way of planting it on the surface. Celery is one of the plants with which little is gained by burying; it will not grow rapidly until the middler, when we have the favoring conditions of warm days and cool, doury nights, and our most experienced gardeners do not set out the main crop until the present month. Market gardeners grow celery as a second crop, the Hausteig yield. If the celery plants from the heat of the sun, and furnish the necessary nourishment to the roots of the plants. A new growth is soon produced, making the land profitable either as a pasture or for a second crop.—Agricul
turist.

Top-Dressing Meadows.

As soon as the first cut of grass is made an application of well-rotted, finely-divided manure may be made with very profitable returns. The manure put on the exposed surface. It is, however, the most important of all cereal feeds, a large share of our cattle are fed with the broom corn, and a large share of the ordinance to the roots of the plants. A new growth is soon produced, making the land profitable either as a pasture or for a second crop.—Agricul
turist.

Plowing Young Orichards.

If there is one job for the farm which requires more patience and care than any other, I think that plowing a young orchard is that job. Lines are broken, trunks are barked, and much more damage is done to roots than to any other portion of the tree. Incalculable damage may be done to roots by careless workmen in plowing deep close to the trees. Some successful orchardists use oxen in plowing their orchards. The advantage of using oxen is that they are very slow, and those who are not without orches can break the back of the practice. The practice which I have this year followed is to plow all the beds in the orchard, with two horses, and then finish with a single horse. By setting the plow to run land, so that the horse can travel in the furrow, and using a short whip to shovel the horse, a very satisfactory job can be accomplished. With these men, ordinary care and patience, plowing an orchard becomes a matter of no great difficulty.—Country Gentleman.

Garden Crops Yet to Grow.

Shrewd gardeners are ever on the alert to get all the information on the care of their crops. Some of the common plants are of certain kinds are well known to be grown from the same land, but two are very common with many. For instance, the early peas can be sown for a fall crop, and very welcome they are. Beans, the early and snap varieties, may be yet planted. Lettuce may be sown in the fall can be transplanted; head; spinach for winter use; the Golden (globus), the Chinas and red turnips, or roots radish for winter use; the turpia, of course, which we have already spoken of more at length; cabbages, if planted at once may yet head; so with rata-baga. But they must all have the best attention—in fact, extra attention—if fair crops are culated. If we consider for a moment we shall see how nicely extra crops of these things will come in at a period when they are not usually enjoyed, or can be put away for winter.

A Difficulty with Shrubberries.

Shrub berries, when set in the grass of a lawn, are often crowded by the turf which surrounds them. Spading them up they only partly removes the difficulty, as the spaded ground never extends to the length of the roots, which always run at least as far each way, as the height of the shrubs. Besides, the ground is necessarily more or less defaced by the operation. The proper remedy is top-dressing. Superphosphate, on such soils as these it will answer well and proper and prevent an unsightly appearance like coarse manure. Finely-pulverized old manure will not be objectionable. In many cases liquid manure for small plants will answer well. The top-dressing must be done in autumn or very early in spring, and special care must be taken to extend it as far from the stems as above indicated.

Apples.

A more extensive use of apples as food at our meals will do much to diminish dyspepsia and biliousness. They are "toning," and therefore tend to remove an attack from the stomach; if yet often the acid is known in dietetics—acts favorably on the liver, causing it to secrete the bile, which is nature's cathartic, thus preventing this constipation. By mixing the Book-Berry between meals must derange the stomach—like the use of all food at this time—they are really a very valuable food, demanded especially in warm weather. They may be too cooling in the coldest weather, while the more acid berries are better in the spring and summer.—Dr. J. H. Haus.

Thin the Crops.

Many pretty good cultivators and all the poor ones seem to lack the necessary courage to thin their crops as they should if they would secure the best results. Many a vineyard has been nearly ruined because its owner could not bear to thin anything away. Every plant may be kept growing in the same row, but the best quality of the surplus fruit. The same is true of pears and other fruit crops. Many vegetable crops need the same attention, and if they do receive it in time will be greatly improved. Mangoes, sugar beets and other roots are among those that especially need attention. Corn, melons, squashes and many other things will also need looking after in the same way. Do not neglect these important things if the best results are desired.

Summer Treatment of Calla Lilies.

The common practice is to remove the pots to a shed or any place where they will be dry, and leave them upon the side, where they may remain until time for replanting in the autumn. Of course the roots become dry. Another plan is to remove plants from the bed to the garden, where they will remain in a half-dormant condition until autumn. No water must be given and no culture is required. In the autumn set in a good, rich soil, and give plenty of water, but don't water too freely until signs of growth. By the latter plan flowers are secured earlier. August.—Vick's Floral Guide.

DOMESTIC ECONOMY.

Timely Suggestions as to the Treatment of Persons Overcome by Heat.

1. Carry the patient carefully but promptly to the nearest shade.

2. Instruct him as much as circulation of whole body may be possibly obtained.

3. If the skin is hot, sponge with cold water or ice.

4. If the head is very hot and the arteries of the neck pulseless violently apply ice.

5. Give two teaspoonfuls of good brandy or whisky every ten or fifteen minutes. The addition of two or three drops of laudanum to each dose of the stimulant prevents vomiting or purging, which is liable to occur and often to prove fatal.

6. Don't give large draughts of cold water or any
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other fluid, even if the patient is able to swallow them.

7. Don’t allow the patient to be moved or raised from a recumbent position until sufficiently recovered to render it safe to move. It is more commonly occurs for hours, and often not for days after the attack.

8. Send at once for the doctor, not for half a dozen. Otherwise valuable time may be lost by differences in opinion as to whether the case is one of congestion or exhaustion.

It is always safer for non-professional prescribers, and generally safer for doctors, to pursue methods of treatment calculated to relieve more or less profound exhaustion of vital powers.

The Milk Periods.

The period of milking may be classified in three parts.

For the first few days, a week or two after calving, the largest quantity of milk per day is produced. After this the yield falls off considerably, but then remains at about the same figure for two or three months, when a steady decline sets in until the milk is almost entirely lost. During this period the proportion of casein increases, and that of butter decreases. Milk produced by cows soon after calving contains, therefore, more butter and less casein than later, and the difference great enough to make itself felt in the larger dairy, if the cows calve about the same part of the year.

Blackberry Wine.

Martha, in Germantown Telegraph, gives the following mode of making this excellent wine: Take a five or ten gallon keg, clean it thoroughly. Take only ripe berries, crush them in a wine or elder press, or force them through a coarse wine strainer, wash carefully, and to each quart of juice add three pounds of the best yellow sugar and as much water as will make a gallon, and in this proportion for any quantity. Put the entire mixture in a kettie and bring it to a boil, and when cool fill the keg three-fourths full and let it ferment for one week, then fill up the cask with freshly made liquor, and when doing fermenting hung tight, set away in the cellar, where it should remain until February or March, when it may be racked off, the keg scalded out, and the liquor either returned to the keg to remain permanently or bottled for use. We prefer putting it in demijohns instead of bottles.

Usefulness of Lemons.

For all people, in sickness or in health, lemonade is a safe drink. It corrects bitterness. It is a specific against worms and skin complaints. The pippins, crushed, may also be mixed with water and sugar, and used as a drink. Lemon juice is the ant-scorbutic remedy known. It not only cures the disease, but prevents it. Sailors make a daily use of it for that purpose. A physician suggested rubbing of the gums daily to keep them in health. The hands and nails are also kept clean, white, soft and supple by the daily use of lemon instead of soap. It also helps the digestion. Lemon is used in intermittent fevers mixed with a strong, hot black tea or coffee without sugar. Neuralgia may be cured by rubbing the parts affected with a lemon. It is valuable, also, to cure warts, and to destroy dandruff on the head, by rubbing the roots of the hair with it.

Household Hints.

Never put salt on a steak until it is cooked. After trimming on each side equally dress to taste with sweet fresh butter, pepper and salt, and add, if preferred, a little gravy. When stripped stockings are washed and are ready to hang up to dry, turn them wrong side out. This will prevent the color from running on the right side and spoiling the stockings.

If you flavor a rhubarb pie with nutmeg it will improve it greatly and make it taste like a fresh apple pie.

A good way to cook liver is to fry it in butter, with an onion cut in small pieces, and cream over it. Cook it slowly, and let it form a crust, then add a lump of butter and a little flour; stir well and turn over the liver. Serve with Saratoga potatoes.

HOUSEHOLD RECIPES.

SALAD DRESSING WITH RAW EGGS.—Break three eggs—the whites into a bowl, the yolks into a flat plate; stir the yokes round and round upon the plate with a broad silver fork; add a quarter of a teaspoonful of dry mustard, continue stirring until well mixed; then add a few drops at a time, two-thirds of a cup of best olive oil, stir constantly until the dressing begins to thicken. The dressing should be made a few minutes before the salad is to be served. Use a little vinegar and a little salt to taste. It is always best to serve a dish soon after it is prepared. The quantities of mustard, oil and vinegar may be varied to suit different tastes.

MUCK BUCKWHEAT CAKES.—Warm one quart of skimmed milk to the temperature of new milk; add one teaspoonful of dry salt and three tablespoonfuls of sugar and mix it thoroughly with well beaten eggs and a little flour. Historic and the best thing. Add the flour in the shape of the top of real buckwheat cakes with Graham meal in which three handfuls of fine corn-meal has been mixed. Very coarse "muddlings," such as one gets from country mills, answer quite as well, and none but an expert would know the difference between the imitation and the real.

WHIPPED CREAM.—Place the cream where it will be thoroughly chilled, and whip with an egg beater. Should the cream be difficult to bring to a froth, beat it with the white of an egg. While whipping take off the froth and place it on a sieve, and run it of a new dish. It is used for dessert, or as a sauce for a wide variety of dishes, and works as a flavor. Use with strawberry shortcake, or with sweetened strawberries.

CELEBR FITTERS.—Boil some thick but tender stalks of celery in salted water; when done, dry them on a cloth, cut them in equal lengths about one inch and a half inches, dip them in butter, fry to a golden color, sprinkle fine salt well over and serve.

CAKE OR FRUIT SANDWICHES.—Four eggs, their weight in flour, sugar and butter; warm the butter and beat to a cream, then stir the flour and sugar into it gradually, beat up the eggs and stir them in. Beat the cake well for half an hour and bake in a rather quick oven. If for sandwiches slice the cake in half and put preserves between.

TOSSED POTATOES.—Boil some potatoes in their skins; peel them and cut into small pieces. Toss them over the fire in a mixture of cream, butter rolled in flour, pepper and salt, till they are hot, and serving without further dress.

TOMATO SOUP.—Take two quarts of meat stock, or make a good beef soup, stir, let cool, and remove fat, put it into a kettle with two quarts of tomatoes reduced to a pulp by straining through a sieve (in winter one can of tomatoes will do), thicken with flour, season to taste, and thicken further. The above proportion is for three quarts of soup.

ALMOND COOKIES.—This rule will make a large quantity, and may, of course, be varied to suit your needs: Two pounds of butter, three pounds of sugar, one pound of almonds blanched and chopped, 1/2 cup of milk, 1 spoonful of salt, 1 spoonful of vanilla. The sugar is sifted, mixed with the milk and vanilla, and after this is well worked, the almonds are added, and the mixture fitted with a meringue, 1/2 oz of powdered sugar, 1/4 oz of bittersweet chocolate, 1/4 oz of powdered vanilla. The mixture is put into rings and baked in a slow oven.

SPANISH EGGS.—Cook one cupful of rice half an hour in two quarts of boiling water, to which has been added one tablespoonful of salt. A stick of cinnamon improves it. Drain through a colander and add one tablespoonful of butter. Spread very lightly on a hot plate. Place on the rice six poached eggs and serve.

BEEFSTEAK PICKLED.—Lay a steak to a puddling dish with slices of onions, a few cloves, whole pepper, salt and bay leaf, a sprig of thyme, one of marjoram, and some parsley, add oil and tarragon vinegar in equal parts, just to come up to the steak, and let it simmer slowly for several hours, occasionally; then either boil or fry it to be butter and serve with mashed potatoes. It may also be slightly fried in butter, and then served with a little common stock, and served with piquante sauce.

To BOIL RICE.—Wash the rice thoroughly; put it in a pan with a sufficient quantity of water to cover it, add a piece of beef, or any part of your choice for stock, boil until it is half done, then drain off all the water that remains on it, return the rice to the kettle, allowing it to cook half an hour longer, when it is ready to serve. During this last process it should be stirred occasionally with a fork. It will then be full and soft, and each one retain its form perfectly.

POULTRY.

CAUSES OF ROUP IN FOWLS.

In the treatment of fowls one disease must not be mistaken for another. For instance, the name of "chicken cholera" is applied quite frequently to many diseases of fowls, and it is not uncommon to see the names of the internal organs that may be easily remedied by a change of diet or place. Roup is the worst enemy of the fowl, and it is no wonder the world has pronounced the root of all disease. It proceeds from the simplest causes, as a sudden cold contracted from a conversation with an unwell friend; perhaps a writer sold a cock for breeding purposes in April. He was a fine bird, and an open song under cover with a crystal clear exposure, and no pool to lead to the outside atmosphere. The consequence was a sudden cold caught, a change in the wind, and the cock received. A few days later a note was received from the customer conveying the information of the fowl's death, and the same day the fowl was found to be as he was diseased. All animals suffer greatly from change of home, not only from the difference of food and exercise, but from the change of air or from home sickness. Fowls suffer from the same cause but this was a case of downright cruelty. The fowl had not been hardened.

When shipping fowls, or selling them, without having been seen by the purchaser every particular concerning the treatment of the birds should previously be forwarded, so that accidents and sickness are less likely to happen. The birds should also be particularly fed before the marriage ceremony, especially in the spring of the year before the fowls are accustomed to the outside atmosphere. When ships arrive the fowl among them are able to take notes when visiting the premises, and do not get used to strange people. No owner or manager, can be attached to the chicken, in case of failure in the purchaser. Fowls also suffer greatly from transport- quirements of nature, and fresh, clean water motion, and irregularity of feeding, largely serves to disturb the equilibrium, and they fail a ready prey to what little disease there may be about them. The advanced state is incurable. It assumes many forms, and is ofttimes, no doubt, terminal cholera. It should be avoided as the worst distemper that afflicts our domestic birds. It may be advancing by slow degrees, and the result is a partial consumption, much reduced. At other times it puts on a more acute, but not so dangerous appearance. On the arrival of fowls from the islands, this disease is always in the same form as the first feeding. It is naturally supposed that the fowls are fattaged and hungry and will greedily devour whatever is put in their way, but before the time is sufficiently long to throw them off balance, scalded, easily digested food, and be placed at once in warm, comfortable quarters. If this precaution is not taken the disease will attack and kill the principal and less censer of the fowl. Bath food will not what it is good for in small quantity. The poultry business is a great and still increasing one. A country place is not stocked without them and many are the advantages to be derived from a small undertaking. It will not do to allow them to shift for themselves altogether. The gardener and fruit, vegetable or poultry keeper must keep an eye on them, and must be controlled in their movements. Constant close inspection will not be enough. Still fowls will thrive and be profitable if conducted in a business manner. It is half the day, but they must be supplied with all the requirements of nature, and fresh, clean water must be given. Fowls often get run down, and require a change of food; especially laying birds, which are not considered. The best care daily, will keep them from eating feathers, and promote health.
and activity. If the weather be cool, a little pepper may be given, but do not give too much to hens that are broody, or they may be apt to be unfertilized. Before doing allowing hens to be certain of the difficulty, as much damage is done by desultorily, hens may not exist at the time. —Country Gentlemen.

About Chickens
Summer is the time when chickens are more or less troubled with parasites, usually owing to the condition of the yard. The yard is well scarped and the interior three or four times each year thoroughly whitewashed, vermin of no kind will find favor with the gentle chicken, which attaches itself often to the heads of chickens, is the slow-moving parasite known as the "chicken louse." This also cuts down the growth of the chick and reduce it greatly in flesh. A little land or petroleum rubbed on the head and neck several times a day will prevent this effect. Coops infested with that minute species known as "blood fluke" are a good reason for thorough whitewashing. If a plot of petroleum and a small quantity of carbolic acid are mixed with a bag of whitewash before applying, the destruction of vermin will be more thorough and certain.

Poultry Notes
Poultry well cared for will always pay and give satisfaction, while they will afford much pleasure.

Hens are kept for eggs in the house, and are conducive to the health and thrift of the family. Leo weakness is not a common thing among fowls supplied regularly with fresh food, and are kept permanently. Better despatch at once unless the bird is a valuable one.

If hens are to be tended for grace, hence, with a good chance, they will supply a newly-seeded lawn or grass plot.

If hens, for any reason, are applied to the roosts and walls of their poultry-house more whitewash, more straw, and more corn, you have more cackling hens—consequently more profit.

Chilled corn, fed in limited quantities, is excellent for laying hens.

LITERARY AND PERSONAL.

RULES AND PREMIUM LIST of the "Ninth Cin- cinnati Industrial Exposition," of Manufactures, Pro- ducts, and the Arts.—A beautifully embossed royal octavo of over 70 pages, with diagrams and plans of the various departments on the first and second floors. The Exposition opens officially on Wednesday, July 15th, and closes Tuesday evening, September 6th, 1881. We observe that few money premiums are offered, except to the Horticultural department. It does one good just to contemplate an exhibition of this character—where the best in show must occur in "our own, our native land." There is one premium of $500 in gold; free of $10.00 and eight of $5.00. Then we have sixty gold medals and sixty-four silver medals, besides two hundred and sixty-four certificates of honorable mention. In Horticulture, Arboriculture and Floriculture, there is one premium of $1.00; nine of $2.00; eleven of $5.00; thirty-five of $5.00; two of $10.00; one of $15.00; thirty-one of $20.00; seven of $50.00; three of $100.00; four of $75.00, and three of $100.00. Natural History and Educational Appliances are amply recognized by silver medals and honorable mention; the latter often more creditable and more valued than either medals or money premiums. There are nine departments designated as literary or poetical, from 1st to 11th, and 40th grade.

The arrangements, in all respects, seem as perfect as human ingenuity can make them, and are the results of experience. ANNUAL CATALOGUE OF C. Aultman & Co., Canton, Ohio, 1881. A neat catalogue of their goods, and the illustrations of mowers, reapers, threshers, engines, horse-power, etc., etc., with an alphabetical sketches, incidents and hundreds of testimonial, all relating to the different kinds of goods they manufacture, interesting to read, and ponder over, even if you possess the articles yourself.

CALENDAR of New England Conservatory and College of Music, or Boston University, Music Hall 1 Boston, Massachusetts, 1881-2; 45 pages, square 12 mo., contains a world of useful and interesting lore to the patrons of music and musical instruments.

NEW MEXICO, Bureau of Immigration, Report on Bernalillo county, Wm. C. Hazlede, Commissioner, Albuquerque N. M., 1881. 18 pp., 8 vo. Containing a brief history of the mines, horticulture, agriculture, town and city, and other matters useful to the emigrant or resident.

ROCKY MOUNTAIN MINING REVIEW, Denver, Col., 16 pp., royal quart, historical and advertising medium. Specially devoted to mining interests.

TRAVELLERS' and TOURISTS' Guide.—The hand- some and useful little publication that has come under our observation the present season is the "Travellers' and Toursists' Guide of the Central Railroad of New Jersey and Branches." It is a large 12mo. of 80 pages, and contains 80 expressive illustrations, besides a rival publication in New York, Pennsylvania, Delaware and Maryland. Also a list of all the hotels and boarding houses along the Central Railroad of New Jersey, and its branches— together with the name of the houses, the proprietors' names and the prices of board per week and per day. About 500 of these hotels and boarding houses are arranged in an alphabetical. Among the Illustrations are many picturesque land and water views, and all is executed in the highest style of typographic art. The publication is issued gratuitously by addressing H. P. Baldwin, General Passenger Agent, No. 119 Liberty street, New York.

ST. LOUIS PUBLIC SCHOOL LIBRARY BULLETIN. 100 pp., royal octavo, from January to April, 1881. Contains an immense amount of matter relating to school literature.

THE JOURNAL of forestry and Estate Management. A magazine about trees, and all subjects connected with management of estates and rural life. For country gentlemen, foresters, land stewards, estate managers, and lovers of trees. London: J. & W. Rider, 11, Bartholomew Close, E. C. Monthly price, 4s. 6d. net; the present number being the 19th. We take this opportunity of this excellent publication which is the Slavo of the series is especially a good one, being appropriately illustrated. Among the Illustrations is a view of Windsor Castle from the Thames; then a view of the same, of the esteems, and the "Thames, "Tere's Oak," as it appeared in 1706, and when R was blown down in 1833. Queen Elizabeth's Oak; William the Conqueror's oak; Evergreens Oaks in the "Home Park;" Luther's Beech; Windsor Castle, from "Queen Adelaide's Tower;" Windsor Park, planted in 1761; Arbouria imberia, at Drop- more, 61 feet high. This is the "Chill Pine," from the Andes of South America, and is one of the hand- somest of the genus. The article on Windsor Forest and Great Park, is interesting reading, possessing all the romance of fact and history, from which we learn that the first plantation of forest trees in England, was made at Windsor Park, in the reign of Queen Elizabeth. Subsequent plantations were made at different times, and the present generation are enjoying the pleasures and the uses, wisely provided by their predecessors.

NEW JERSEY AGRICULTURAL EXPERIMENT STATION, BULLETIN 15.—This is a tabulated analysis of commercial fertilizers, giving their compositions and values, as well as the recognized market prices of the different kinds. It is a most important work, and where and by whom kept for sale. These matters in New Jersey, as now, also, in Pennsylvania, are regulated, or professed to be regulated, by law—a law, which, according to this bulletin, has been "very well administered," as it has been in the different States, in which manufacturers have failed to make good their guarantees. As we have, in the present number of the Farmer, inserted the analysis of the Chemist of the "State Board of Agriculture" of Pennsylvania, we will here tabulate the new one from the Bulletin referred to, where we keep a record of the form some estimates of the work when we inform them that it contains 570 quarter pages, 37 chapters, 25 full-page colored illustrations, 218 wood engravings, embossing 202 separate figures. This number contains the conclusion of an able and industrious writer, and open, and open, on the "Commodity of the Dairy. Taking it at all it is not more than 50 per cent. cheaper than any other serial of standard literature, of a similar quality, that has come under our observation. Such a publication on any of the branches of natural history usually costs from $1.00 to $2.50 a part, running up to $5.00 or $8.00 per volume, instead of $1.00, whilst for goodness sake it is far more important public.
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July 1869.
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1891-1894
LANCASTER, PA., SEPTEMBER, 1881.

Vol. XIII. No. 9.

The Lancaster Farmer.

Dr. S. S. BATHYON, Editor.

EDITORIAL.

JERSEY MARL.

Since the publication of our remarks on "Marl" in the August number of The Farmer, we have had calls from two or three of our progressive farmers, who have entertained intentions of making a trial of it, but would like to have something more specific on the subject—especially in relation to its analysis and the ingredients of which it is composed. As our remarks were mainly of a general character, with only a single specific reference to its application to tobacco in the suburbs of Lancaster, we shall offer such further information as is accessible to us in regard to its details.

Although it is pretty well known by analysis, what marl is, as to its chemical composition, yet there are various theories among men as to its origin; but if the farmer knows just what he is administering to his soil it is of very little importance to him how it originated, or where it comes from, except so far as the marl from one locality may be better than that of another. According to what is deemed a competent authority before us, "marl is a natural fertilizer dug from the earth, and is found at various points along the Atlantic coast, extending from Navesink Highlands in New Jersey, to the delta of the Mississippi, in Louisiana. The most acceptable theory is that which ascribes the character of the deposit as being similar to the material taken from the bottom of the Gulf Stream by Prof. Maury in his "Deep Sea Soundings," and leads to the belief that at some remote period the present line of the Fossil Marl-beds were once in the track of that remarkable ocean current. The deposit or strata of marl consists of the upper, middle and lower beds; and in the middle bed, containing a fossiliferous marl, sea-green in color, there are found vertebral remains of an extinct race of animals; bones of reptiles, the walrus and whale, antlers of the reindeer, gigantic saurians, huge turtles, immense birds' leg bones, bills and claws, sharks' teeth, and many others, as though this vast trough had been one common graveyard, not only for residents of the Arctic zone, but also those of the tropics, which may have died and drifted into its mighty embrace.

However naturalists may differ in their theories as to the cause of this singular formation, it seems to be a well assured fact, that, like the coal-beds of Pennsylvania, it is a great reservoir of untold value to the world; and that in the discovery of Marls as a fertilizer, as coal for a fuel, or coal-oil as an illuminant, nature seems to furnish a product at once the cheapest, the most accessible, and the most efficient.

Marl contains ingredients which are not only essential to the life and growth of plants, but also holds enough bone and animal matter in perfect solution as to permanently enrich the soil wherever it is applied. It readily disolves and incorporates itself thoroughly with all surface soils.

In New Jersey marl was first discovered in the county of Monmouth, in 1768, by a farmer who was digging a well, and when the marl was dug up from an adjacent field, its effects, according to a geological history of the State, are plainly visible even at the present day. Johnson, in his "standard work on Agriculture" states as a positive fact, that a larger surface of the cropped lands of Europe have been improved with marl, than by the aid of burnt lime and barnyard manure put together. It has also been tested in Europe, as well as in this country, that the transfer of marl found in one section, is productive of better results than when used nearer home; hence the marls of New Jersey have recently been used with far better effect on the soils of Maryland and Pennsylvania, than upon the soils of its native State. A fair and impartial trial of its merits has amply justified the wisdom of the Pennsylvania legislature in exempting the marls alone, of all the manures not found within its borders, from the provisions and penalties provided in relation to commercial fertilizers manufactured and sold within the State.

Of course, there are different kinds of marl. Some are decidedly bad, some are at least indifferent, and would not pay the expenses of transportation to a distant locality, although they might be passable nearer home.

The green marl, however, that which contains most organic remains, and is rich in phosphates, silicates, nitrates and chalybeates—that for instance, which is handled by Hoopes & Co., and of which M. D. Bittner is the local agent, cannot be included in the category of indifferent, but must be classed with the best. Our readers can judge from the following analysis, as to its chemical composition and what crops would be benefited by it: of

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>6 lbs. per ton</td>
</tr>
<tr>
<td>Siliceous</td>
<td>100</td>
</tr>
<tr>
<td>Potash</td>
<td>140</td>
</tr>
<tr>
<td>Lime</td>
<td>50</td>
</tr>
<tr>
<td>Magnesia</td>
<td>66</td>
</tr>
<tr>
<td>Alumina</td>
<td>178</td>
</tr>
<tr>
<td>Feasible of Iron</td>
<td>34</td>
</tr>
<tr>
<td>Moisture</td>
<td>170</td>
</tr>
<tr>
<td>Total</td>
<td>2800</td>
</tr>
</tbody>
</table>

All of which elements are beneficial to the soil, and the specific effects of which have long had a more or less intelligent acknowledgment.

For instance it has been demonstrated beyond a peradventure that phosphoric acid in any fertilizer is beneficial to a greater extent than any other when applied to corn crops, and when we say corn we mean cereals generally.

It is also as well known that silicic acid, or soluble silica, performs an important function in furnishing the glazing and stiffening material which enters into the composition of the straw or stems of plants, and also how essential this is to the proper maturing and gathering of the wheat crop. As to potash, it has been considered an essential ingredient in nearly all crops. 850 pounds of marl constituted as the foregoing analysis, contains as much potash as 2240 pounds of wood ashes, and we have had experimental evidence of the good effects of this element in promoting the growth and fertility of the potato crop.

Lines, Magnesia and Alumina, although not leading ingredients in the best of marls, are still present in sufficient quantity to constitute a healthy condition; or seasoning to other elements that are present in larger quantities. Potassium of iron is a chemical substance of which most soils are deficient, and yet, experience has abundantly demonstrated that it is a great promoter of the growth of vegetation generally, and especially the various kinds of fruit trees.

There are three elements, however, that are usually absent in marl, namely: carbon, silica and alumina, and these added to the kind of marl we have under review, will produce a fertilizer that cannot be excelled, even if it can be equalled. The intelligent farmer, however, need not be in a "pothole" about the absence of these elements in a manure that he can obtain so cheaply as he can marl, for if he is a judicious and economical farmer, he will have an abundant and never failing reservoir of these, in the manure pile of his barnyard.

Farmers are more cunning (kakickey) now than they were when we were a boy, some fifty years ago or more, and attach more importance than they did then to liquid manure. Through a "quaish" feeling of humanity for their stock, barnyards were so located that all the surplus liquid was carried away from the yard, out into the road parvenue, even making a gutter to facilitate the draining of the manure pile. Sometimes these drains would continue for a quarter or a half mile along the road, and great "stilwart" weeds would grow up to a height of five or six feet, whilst just over the fence, in the field, the same species of weeds would hardly attain to five or six inches in height. But now they reason a priori—"what's good for the goose is good for the gander"—and act accordingly. A compost of marl and barnyard manure, liquid, solid, or both, in alternate layers, always ending with the marl on top, to confine the volatile elements to the pile, makes a desirable and profitable pabulum for the soil, without incurring any expense, except the labor and the cost of the marl. As a matter of course, if the farmer has no stable marlure, (des mus ein ferteiveled bowerie so in keen mib isht) then he will have to purchase carbon, nitrogen and ammonia at the shops, and his fertilizer will cost him just so much more; but even then, it may not be as high in price as an artificial fertilizer that is worth having at all.

It would require more time and space than we are able to devote to the subject, were we to attempt to make a record of the different kinds of marl, their chemical composition, their mode of application, and the benefits
that have resulted from an intelligent use of them. These are matters the farmer will obtain a knowledge of through his observation and experience, under the direction of those who make the traffic in them a local specialty. Something may also depend on the nature of the soil to which he proposes to apply the marl, and the particular kind of crop it tends to raise. Dealters in marl will cheerfully impart all the information they possess, either verbally or through explanatory circulars and pamphlets; and as the dealer's own permanent interest is as deeply involved as that of his patrons, it would add nothing to his ultimate reputation or profit, to misrepresent or denounce fraudulently. There is one thing, however, of which the farmer may be well assured, and that is that in the domain of progressive agricultural marl is making a steady, if not a rapid headway, and every advancing year will witness its wider extension. The truck-gardener in the vicinity of New York, Philadelphia, Baltimore, Camden and elsewhere, have availed themselves of its recuperating powers these many years, and it has been to them the most potent aid in their system of cropping. Fossil marl as a fertilizer of corn, potatoes, wheat, grass, flowers, fruit trees, tobacco, and vegetable generally, nucleates, if not entirely, honestly and intelligently true, in order to its general adoption when a fertilizer is needed.

THE DROUGHT.

Some of its Blessings.

Amid the loud and constant complaints of our present prostrated drouth, so one has yet found silence, the heart to breathe a warm and cordial sentiment of gratitude. Let me ask my brother farmers to look both sides of this absorbing question and see if they cannot find some cause of congratulation in what they, "with the rest of mankind," regard as an unmitigated calamity.

The first cause of gratulation is the general health that the drouth produces. We are free, almost entirely, from the frightful curse of the ague, and other malarial diseases that follow upon a wet season and that owe their birth and life to the decomposition of vegetable and animal matter thus constantly produced or of gratitude.

Second—A prostrated spell of dry weather will add greatly to the destruction of the seeds of many noxious weeds, and thus leave the places that they occupy for the future growth of food plants. This is so, our lands, like our bodies, require rest, and a drouth is a rest to our soils. If season of perpetual fertility should occur, one of two things would happen: Either our fields would grow up in weeds that would require, in each successive year, additional labor and expenses, or our farms would be rendered totally unfit in a short time for the cultivation of our three great cereals—corn, wheat and oats—which crops cultivated successively on the same soil (with a total disregard of chemical affinity) would necessitate the introduction of new food plants, or the constant application of costly artificial manures.

Fourth—There is suppressed beneath our soils an exhaustless fund of manures in the shape of gases that can only be reached by heat. These natural reservoirs of fertility are rendered by the pressure of moisture and by shade. They exist in beds of humus (vegetable mould), or in a virgin soil too deep to be reached by the plow. That they exist is known to every observant farmer, from the simple fact that he is enabled, during the course of a season, to plow the surface, as from the excavation of a well, will produce for the first year or two a very luxuriant growth. Their evolution of latent force, reached only and generally diffused by heat, makes them beneficially apparent by the next year's crop; for old farmers will remember, with me, the drouth of 1834 and the great product of 1835, and other successive seasons of drouth and abundance.

Fifth—A drouth forces us to agricultural economics. As a class our farmers are proverbially wasteful. To a stranger it would seem that feeding corn to cattle and hogs has been the pursuit of the entire farm population. The ground is regarded by so many of us as the perfection of husbandry, and that the burning of our straw piles is imperatively demanded by the necessity for the next year of the ground, thus occupied. It seems almost useless to denounce a practice that is so strongly recommended by the agriculturists followed by men who aspire to the reputation among their neighbors of good farmers. If this drouth shall teach us to make shelter for our cattle and subsequent manure from the straw (if any remains unburned), or to lay planks or rails or poles on the ground where our hogs are fed on corn (if any of us shall have any corn), then this much calculated season will not have been in vain. During the last severe winter I fed and kept fat all my horses and cattle on wheat and hay straw, saved in my barn; and set up by a straw cutter, mixed with bran and occasionally sprinkled with salt water. I have found clean wheat straw, but thick and used as food for cattle, as good as over-ripe hay. I will not bore your readers any further, but will unfold to you the secret of the plow that, if they will look at this thing right, they will come to regard this drouth as a blessing in disguise.—As Old Farmer.

We clip the foregoing from the Missouri Republican, a copy of which, with the article marked, is sent to us personally. We print it entirely, because it contains a novel and interesting argument in favor of a drouth, which is not met with every day among those people whose pecuniary interests are affected by the "drouth" more or less disastrously; and when we say people we do not intend to discriminate against any special vocation, but mean the fidgety, discontented, and unfthankful among all classes of people. Any sound moral sentiment addressed to any avocation, that is calculated to help those who labor therein to "possess their souls in patience," is as wholesome to the mind, as the most potent agricultural product is to the body. Rainy-day philosophers are abundant, and the more time they have to house themselves and philosophize, as they sit and contemplate the fatness that is dropping down from the skies on the bosom of their thirsty soil, the more selfish they become, and the less inclined to bear a cross, when peradventure it is thrust upon them.

But the dry-day philosophers are not many, at least there are not many who find occasion to thank God through the medium of the clouds, and who are conscious of the fact that our direct calamities may have their compensations, if we only could cultivate sufficient patience to perceive and appreciate them.

"Master, thieves have driven away the ox and we shall have no beef." "Well then, we will have to fatten up the old cow." "But they have driven the cow away with the ox." "Then John, we will have to content ourselves with mutton." "But Master the wolves have killed all the sheep, and we are utterly alone. "Still, John, the wolf can bear that too."

The philosophy involved in such an experience is akin to that of the "Old Farmer," although it does not include the principle of recuperative compensation.

A very dry summer of nearly fifty years ago now looms up before us. On that occasion, one man in the town was so pressed for time that he could not attend to the proper cultivation of his "potato patch," and felt too poor to hire help, and consequently it was overrun with weeds; and as nobody expected a crop even after such cultivation, on account of the dry season and previous drouth, they were entirely neglected. But when the time to harvest them came, he was the only man who was able to gather anything like a crop. The weeds shaded his vines and kept them green until the tubers matured, whilst the vines of others were burnt up before they could mature a tuber. Now, although this is not intended to favor negligent culture, it may illustrate that even under the most adverse circumstances there may be resultant compensations, and may, therefore, be regarded by those in opposition against the searching effects of a long and intense drouth; and that there is a "Divinity that shapes our ends, rough hew them as we will," but the lesson amounts to nothing at all if we are too obstinate to perceive that this Divinity operates through rational means, which are facilitated by human co-operation.

AN UNGATHERED HARVEST.

Now, when the sunace is coloring the leaves from the Lakes to the Gulf of Mexico with its rich crimson, is the time to draw the attention of our agriculturists to the scheme of the Agricultural Bureau for making it a source of real profit to the country. The leaves of the sunace are used, as our readers know, as a spring article of food and as a remarkable medicinal drug. The importation of foreign sunace averages 8,000 tons annually, outside of an immense amount smuggled into the country; the imported article being worth $50 per ton more than the native. Our wild sunace improves, for purposes of tanning, and is much more wholesome than the store article of tannic acid obtained from the Sicilian bleaches it. Dr. Mac-Murtrie, who has published a official report on this matter, states that this difficulty can be obviated by gathering the sunace leaves in June or July, when they are tense upon the tree, and the price to the importer is much lighter; the tannin then present being smaller in quantity, but of purer quality, and the value of the ground leaves being equal to the Sicilian.

There is no reason," says the Department very justly, "why the $1,000,000 in gold that foreign sunace should not be kept at home." The plant grows like a weed on every stretch of poor ground or mountain range, and it requires but little culture and skill in harvesting to add it to our country's resources. It is as valuable a source of wealth as our Indian corn, or our leafy and bright cattle straw and corn. The leaves are gathered in August, or the crop is harvested that year; the crop should be gathered the year after planting, by breaking off all the leaves; after that year in Sicily the tree is either stripped of all leaf-bearing branches and pruned down to straight stalks, or else, which is best, hand picked three times a year. At present the crop of American sunace is reaped almost exclusively by negroes and poor whites, especially in Virginia. About 800 tons are brought annually to the Virginia mills, carelessly gathered and consequently worth about half the value of the imported.

This is the in the of Botanists, and may be regarded as one of the reserved products of our country, which only needs time and necessary to fully develop and bring into general practical use. There are several species of it, from a low straggling bush to a tree from ten to thirty feet high, namely; the *Sighorn
THE LANCASTER FARMER.

1851.

THE AUGUST BEET.

The August number 1851, of this energetic advocate of a laudable, but still dubious industry of the United States, has come to hand, freighted with its usual amount of information, compared with the former product, it would be a reflection on American genius to presume that no discovery could be made by which its value could be equalized. Let establishments be erected for its purchase and preparation for market, and traffic in it will soon grow up and become profitable.

THE SUGAR-BEET.

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to notice the ravages of an insect which he proposes to name in future *Betata alitio,* of which he gives a magnified illustration. We hardly think it necessary to erect the genus *Betata* for its reception, for it evidently belongs to the typical genus upon which is founded the family Halticidae, and possibly may be *Haltica nemorum,* of Linneus, which, in Stephenson's *Manual of British Beetles,* is thus described: "Old-ovate, flat-tish, black, thinly punctured, elytra greenish-black, with a broad uninterrupted longitudinal sulfur-yellow streak, not touching the apex: antennae, knees, tibia, tarsi, and base of antennae, testaceous. On cruciferous plants; too generally distributed," p. 291.

It is true that the Halticans seem to be partial to the Crucifereae, but then it is not any more remarkable that this species should be found on the Beet, which is a Chenopodiaceous plant, than that its congener *Haltica piceascens* should have become the confirmed pest of the tobacco, which is a Solanaceous plant. If this insect is not a foreign species introduced into this country, or has not been described as an indigenous species, and must have a specific name, then it would be far simpler and better to call it *Haltica beta.*

The name of this genus is by some authors written *Alitio,* both names having reference to the leaping powers of the different species included in the genus, of which there were over one hundred and fifty, which are now referred to new genera, but which are best known under the name of *Halticidae.* The specific name relates to woods and groves which once was its normal habitat. The eggs of *H. nemorum,* or "Turnip-beet," are deposited one by one on the lower sides of the leaves by the parent female, hence the larva which feed on the perichyma, tunnel them in serpentine channels. They are smooth, oval, and partake of the color of the leaf: and the larva is a small six-footed worm, with black head, a black dorsal patch on the pro-thorax, and a black spot on the dorsal surface of the caudal segment. The color is whitish or pale yellow, and the body is punctured with small black dots, and it only takes them about a week to mature, when they desert the plant, and burrow in the ground to pupate and evolve.

They seem to be hard to manage; too small to be hand-picked, and even if this were not the case, as soon as any attempt is made to put your finger on them, "they are not there." Turning sheep and cattle into fields intended to be planted in beets, will destroy many of them, as they do not go very deep into the ground, and for the same reason they may be plowed down too deeply to come up again.

* Koiiien long ago recommended plants, infested by beetles, to be sprinkled with an infusion of wormwood, as a very effective remedy to prevent them from attacking plants, if it does not destroy them. Linewater applied in the same way has also been recommended. In transplanting the tops should be immersed in these liquids as a future prevention—especially in the wormwood.

**EXCEP'TS.**

During the campaign of 1850-51 1,319,211,000 kilogrammes of sugar-beets were worked in Germany. The average number of working days of all the factories was 149. The average amount of sugar made by each factory is 1,912,000 kilogrammes. The total production was about 400,000,000 kilogrammes. This is 40,000,000 more than the previous year. — *Sugar-Beet.*

According to Licht, the total production of beet-sugar in 1881 for Germany, France, Hungary-Austria, Russia, Belgium and Holland will be 1,580,000 tons, an excess in the total production of 175,000 over preceding years. — *Sugar-Beet.*

Florida will send fifty millions of oranges to make the present year.

Over 60,000 quarts of huckleberries have been shipped from Brown's Mills, N. J., this season, and to the value of over $5,000.

During the nine months from August 1st, 1880, to May 1st, 1881, 1,348,806 barrels of American apples have been shipped to the different parts of the United Kingdom of Great Britain.

Orange County, New York, produces more apple whisky than any other county in the Union. Her annual distillation is 60,000 gallons, yielding an internal revenue of $50,000.

The peach crop is large this year in the State of Indiana. Dean's orchard, Clark county, will market 20,000 bushels, all of which have been monopolized by the city of Cincinnati, at $5.00 per barrel.

Last year New Zealand produced 5,461,000 bushels of wheat; 7,770,275 of oats; 1,124,281 of barley; and 97,400 tons of potatoes. Of all kinds of wheat, it has a wonderful crop to ship on the island, now there are 12,000,000 bushels.

In England it costs about $1.25 to produce a bushel of wheat. Dalrymple, of Dekota, who has 75,000 acres "under the plow," alleges that under ordinary circumstances, he can deliver wheat in New York at 66 cents per bushel, and in Liverpool, England, at 70 cents. With these odds against him, what chance have English wheat growers, or even Pennsylvania farmers, in the competitive race of wheat culture?

A good means of destroying field mice is to place empty pickle bottles in the ground of farms infested by these animals, into which they fall, and from which they cannot escape. The mouth of the bottle must just be level with the ground, and in the line of the run of the mice. These traps should be set in the autumn before the frost sets in. — *Jour. Forestry.*

**SOLUBLE FIRTREE OIL INSECTICIDE.**

This is said to be a sovereign remedy for all kinds of insects in England where it has been thoroughly tried. It mixes freely with water, and any one can use it with a watering can, or a garden syringe. It is not offensive in smell, and not injurious to the plants. Manufactured and sold by E. G. Hughes, Victoria street, Manchester, England. — *Jour. Forestry.*

An Insecticide Fly-Trap. — During the present summer we had a 3 oz. bottle with a neck about half an inch in diameter, standing on a shelf near our place of daily occupation. A small quantity of alcohol, to the depth of about half an inch, was in the bottom, and in this we had immersed one or two insects that had been given us by some boys, no stopper of any kind was kept in the bottle, and, being very busy, little attention was paid to it. But every day we observed it contained an increased number of flies, dead, and in the "agonies of death." Never, while we were looking at it did we see a fly approach it, but there they were, and at this writing, the bottle is nearly half full. Our theory is, that the flies are attracted by the alcohol, alight on the mouth of the bottle, become stupefied, or intoxicated, by the alcoholic exhalations from the mouth of the bottle, and helplessly fall in. Those within, attract others from without, and the accessions become continuous. This circumstance is suggestive. Some people and some houses are excessively infested by flies, and various kinds of traps are employed to catch them, which are more or less offensive, or repulsive, and therefore objectionable. Now, one or more such bottles, set in places about the house where flies most do congregate, would prove a diminisher, if not an exterminator, of them. If the mouth of the bottle was wider, it perhaps would be more effective. The alcohol preserves them, and the traps therefore do not become offensive in smell. Perhaps whiskey, brandy, or any kind of liquor that retains its intoxicating qualities longest would answer as well as alcohol. We were surprised at the result, because we were not particularly annoyed by flies: hence, we record this experience for what it may be worth.

To Protect Trees from Rabbits. — Some years ago a notion prevalent in England was that the growth of trees would prevent other rabbits from "barking" them, but now when our nurserymen wish to protect their trees they paint them with bullocks' blood. The rabbit being granivorous, has an aversion to blood, and hence is repelled by its presence on trees. This is a simple remedy at all events, and also very a cheap one, and there would be no harm in trying it at least. — *Jour. Forestry.*

In 1880 England increased her forest area to the amount of 222,194 acres over the acreage of 1879. The idea seems to be that timber will ultimately pay better than the late unprofitable use of soil for other purposes. — *Jour. Forestry.*

To show the interest manifested by Nebraska in forestry, during the year 1888, we give the following from the statistics of work done that year: Number of forest trees planted, 53,092,046; fruit trees, 2,445,988; grapevines, 401,406.

Last year Chiono alone consumed and disposed of 2,000,000 baskets of peaches; 20,000,000 quarts of strawberries; 1,000,000 baskets of apples, and other fruits in proportion. What kind of an exhibit will she be able to make this year?

Mr. A. Kelley, in *Fruit Recorder,* explains that he has had forty years' experience with pears, and has had many trees killed by blight, but he has been uniformly successful in combating the disease with copperas wash that began it. He uses a pound or two of copperas to a gallon of water, and thickens it with powdered lime or sulphur, so it will show when applied; he puts it on near the 1st of June, after first removing every sign of blight. When a branch is cut off, he saturates
a cloth with the mixture and binds it over the exposed end. The copers is cheap, costing less than five cents per pound in quantity, and he has restored, too, of a tobacco factor, and blighted, by a thorough use of six.

The Pitylorella has, up to the close of 1880 extended over more than 1,000,000 acres in France, and has utterly ruined the vines in 700,000 of them. The appearance of the pest is reported even in the Moloc, the most famous vine-growing section in France, and Chateau Latitte for which Baron Rothschild paid $850,000 two years ago, is nearly ruined. At this rate it is expected that the whole district will be infected before the end of next year. Sulphur of carbon is the most favored remedy, enough deep plowing and mowing, with an application of turpentine and powdered resin on the roots, is said to be a cheaper and equally effective remedy.

A writer in the Country Gentleman says, I have saved my cabbages from the green worm, for two years, by making an infusion of Tansy and pouring it on the plants after they begin to head, two applications being necessary. This season the butterflies commenced depositing their eggs before the cabbage began to head, and I gave them a dose of the bitter herb, after two weeks there was not a green worm in sight.

The Indiana Farmer says, the juice of the tobacco plant is said to be of great value as an insecticide. The leaves and stems are well boiled in water, and when the fluid is cold it is sprinkled over plants attacked by insects. It immediately destroys caterpillars, black and green flies, bugs and other species of enemies to vegetable life, and in no way impairs the growth of the plants. A peculiar odor remains and acts as a repellent for a long time.

As much as forty-five years ago we had a practical demonstration that the expressed juice of manufactured or plug tobacco, is immediate death to all insects that infest animals, that the fluid of tobacco, for instance, or tobacco boiled, or steeped for twelve hours in water and then the juice pressed out of it.

LONDON Purple and Pyrethrum Powder, are perhaps the best insecticide extant. The first named takes precedence on account of its price, costing about six cents a pound in New York, whilst the last named sells at 81.25 per pound.

London Purple is a resination prepared from the distillation of Rose Aniline; hence it cannot be adulterated, because it would cost more than the original article to do so. Half a pound of the purple, in fifty gallons of water, is a safe and effective remedy.

Severe and steady cold is not only unfavorable to insect hibernation by causing poisoned state of torpor, but indirectly in preserving them from the attacks of birds, and other animals, which, during the severe weather cannot reach them in the frost-bound ground. Mild winters, on the contrary, generally cause premature activity in insects, often followed by relapses into the torpid state, and such changes are prejudicial to their well-being. Insectivorous animals also fare better during such mild winters. So says the American Entomologist, and such has been our experience these very many years, whether the theory be correct per se or not. Yet, there were those who attempted to promulgate a counter doctrine last winter, and who persisted in it, even after they were instructed otherwise.

**QUERIES AND ANSWERS.**

**DESTRUCTIVE OWLS.**

(GRIPDON P. O., LANCASTER CO., Pa., Feb. 9, 1881.)

**DR. S. R. RAYTHON—Dear Sir: The birds I sent you this morning by the Lancaster and Port Deposit stage, I forgot to state how I captured them. About 4 o'clock this morning I arose and heard them squealing, very near me. I put on my shirt and musket and went to my chamber window and saw one of them sitting on a shade tree near the house. I shot at it and two birds fell to the ground. They have been about here from May to September for at least four years, and have carried off many turkeys and chickens. They were the only two of that species of owls I ever saw about here. I captured one about four years ago in a trap and sent it to you, but that was a "Hoot Owl." In sending you these, I thought you would like to have them for the museum of the Linnean Society. I would like to know where they originally belonged. They have been roosting through the day on the mountain near Peachbottom for some time. I am a subscriber to the Farmer, and expect to see a history of birds by the number.—Respectfully yours, J. P. Hamblen.)

In a previous note accompanying the birds, Mr. H. says, "They watch the poultry as they leave the coop, and then nab them."

Your birds were the "Great Horned Owl," sometimes also called the "Virginia Horned Owl," (Bubo Virginianus) very formidable birds, and found in almost any part of North America, from the icy regions to the Gulf of Mexico. There are three species, but most abundantly in the central part of the continent. They are not migratory in their habits, but remain in certain localities all the year round, feeding on young poultry, birds, rats, mice, squirrels and young rabbits. It would be difficult to tell where they "originally belong," seeing that they are almost everywhere, and always with us. They are usually very seduced, their favorite resorts being the dark solitudes of swamps, covered with a heavy growth of timber, which they make more dense than is their nature, at night sets in. Although they prefer retreat, yet necessity often compels them to take up their abode in the vicinity of a detached farm, where they cause great havoc among the poultry of the farmer, especially young chickens, turkeys, ducks and Guinean fowls, grasping them with their talons and carrying them off to the woods.

Your remedy is an effective one, and ought to be universally applied whenever such an interloper invades your premises with sinister intent upon your poultry stock. Nevertheless, as a defense these owls have some redeeming qualities, and it is only when the evil overbalances the good, that it is wise to destroy them. For instance, it is on record that in certain districts of the British Empire a war of extermination was waged against all hawks and owls; but their absence favored the multiplication of rats and mice, which became so numerous as to destroy the grass and grain crops, starving their sheep and cattle. Thanking you for your kind intentions in sending us the birds, yet we are constrained to say that an owl shot in the month of August is usually not in a very good condition to skin and stuff. Three specimens are now in the museum of the Linnean Society.

**COLORADO POTATO BEETLE.**

(FAIRFIELD, Aug. 25, 1881.)

Mr. H. S. R. Raython—Dear Sir: I send by the stage driver a bottle containing a very curious worm. It was taken from a persimmon tree on the farm of D. L. Glackin, and we wish you to give a description of it to The Farmer. Yours truly,

DAVID L. GLACKIN, Willmington, M. Lee.

GENTLEMEN: Your "curious worm" was duly delivered to me as soon as it arrived in Lancaster city. It is the larva of the "Great Walnut Moth" (Pterocampa roguin) or, as its European describer would have named it, the "Illegal Walnut Moth." It is frequently found on the hickory and on the persimmon in localities where that tree abounds. When the larva is perfectly mature—which occurs from the middle of August to the middle of September—it burrows into the ground, in-
THE LANCASTER FARMER.

Contributions.

NOXIOUS WEEDS.

Farmers cannot be too careful and watchful in preventing the spreading of noxious weeds. The "Ox-eye Daisy" (Leucanthemum vulgare) is not bright injurious by some people, but is very tiresome to all railroad men. In traveling from Philadelphia to New York, through New Jersey, you can see whole fields that are overspread from one end to the other, so that nothing else can possibly grow in them at the same time.

In New York State, the "Yellow Buttercup," (Ranunculus) is also monopolizing every nook and corner of the fields. These two pernicious weeds vie with each other, seemingly to see which is greatest in destroying other useful grasses. Fields in abundance can be seen overgrown with buttercups from one end to the other, so that one could nearly stand on the "Ox-eye daisies." But these noxious weeds are usually found in pasture grounds. These noxious weeds, however, are no comparison to the "Canada Thistle," (Cirsium arvense). That is the weed of all weeds for injuring a piece of ground, of which western New York State is full through one-half of the State, east of the Niagara river and southeast of Ontario. There is nothing can destroy it but a general revolt of all the western counties against it, and the cooperation of all the railroad companies against it, in that district.

It was the railroads that caused the increase and spreading of this weed more than anything else. They are growing everywhere all along these railroads and are now going into seed. In going from Syracuse to the Niagara Falls you can see almost continuously how they have spread from the railroad tracks into the middle of the fields. So thickly indeed, that nothing but thistle can be seen occupying the ground.

In travelling over that railroad I saw acres upon acres of it—indeed it is seen so often, and in such vast abundance, that it became tiresome to have the attention called to it, and sometimes it only elicited a motion of the hand, or a nod of the head from my partner on the same seat, to look again at the "splendid crop" of thistle.

This hateful weed is continually increasing, and will continue to increase, unless a general law is passed, compelling railroad companies, as well as land owners, to destroy them. The reason why there has been such a rapid increase of Canada thistle along the railroads, is because the plants have been permitted to ripen their seeds, and these seeds have been blown far and wide by the winds, and hence have been carried in time into the county of Lancaster, and elsewhere, and this is becoming one of our local pests.

Another cause of the spreading of this thistle is the habit of its roots—like the roots of locusts. They grow under ground and throwing out sprouts, even after the plant is pulled up or cut down, not by the foot only but by the yard. We hear sometimes how the Canada thistle has been destroyed; but there are three or four varieties of this plant, and it may have been one of those varieties not so obnoxious. I know of an instance where they existed, and people thought they had destroyed them, but on examining the ground several years afterwards, they found them again on the increase. They require not only yearly but monthly and weekly attention in order to entirely eradicate them. They require continual hoeing, with the assistance of salt. When a stall is cut down or pulled up, apply a small handful of salt, and by perseverance that will finally dispose of them. On one occasion I found the Canada thistle at a country meeting house. The first year a single stalk; the next year half a dozen or more, and by the aid of the hoe and salt it took me four years to eradicate them. It was my opinion that the seed had been brought thither by a horse that had been fed on hay brought from New York State. No doubt the grass that is cut after the grain harvest, and then made into bales and sent into our county, and elsewhere during the winter, contains the seeds of the Canada thistle, and in this way is propagated wherever such hay may find a market. —L. S. R., Oregon, Sept. 10, 1851.

The family of thistles is a large one, and all are more or less noxious, and spread rapidly by rootlets; but more particularly by the dispersion of seeds, each seed being borne on the winds by the aid of a little parachute, and carried to the remotest corners of contiguous domains. They belong to the order Compuestas—rather a compound flower, or the flowers in a circle, upon a common receptacle—the sub-order Trubiuliflorae—the simple meaning of which is that the corolla in the perfect flower is tubular—and tribe Cynaraceae. This tribe is composed of the genera Centaurea, or "Star Thistles," with four species: Othina, or "Blessed Thistle," with one species: Cirsium, or plumed, common, swamp, pasture, yellow, and others, with 10 or 11 species: Carduus, a "Thistleless Thistle," with one species, Onagoras, or "Common Thistle" with one species; and Logea, or "Barlock," with one species. As contradistinguished from the Blessed Thistle, the Canada is also called the Cursed Thistle; as much, perhaps, on account of the curses it receives from those whose lands it infests, as the curse it itself inflicts on any soil in which it gets a foothold. Many diverse forms, useful, beautiful, and noxious, are grouped together in the order Compuestas.

ESSAYS.

A LIBRARY PEST.

There are several species of insects which pierce holes through old and unused volumes; but we know a book-worm of another order, which has the Ingenious and the useful; and which is not a burrower, but a borrower. You have gathered a library that suits your especial purposes. Every volume was selected, and to remove one is like tearing a leaf out of a dictionary. Possibility you have a fondness for rare editions and fine bindings. You do not like to be called a bibliomaniac, but you point with pardonable pride to a rare Aldus, a beautiful Elzevir, or it may be a few choice "Americas." Now the destroyer appears

The following article, which was published anonymously in the Boston " Literary World" for July 3d, by J. H. Dubbs, D.D., of this city, it constitutes a part of the essay read by the author at the May meeting of the Lunaeum Society.
upon the scene. He is engaged in important literary work, he tells you, which renders it absolutely necessary that he should consult these precious volumes. "Will you lend them for a few days?" It requires a flinty nature to resist the appeal; but if you suffer good-naturedly to gain the mastery over judgment and experience, the probability is that you have seen your favorites for the last time. Or if, by some lucky chance, you should finally succeed in forcing the enemy to desist, you will find your books so stained and dog eared as to be deprived of half their value. The field is probably in the habit of reading at breakfast, and uses his egg-spoon as a paper-cutter.

Dr. Samuel Johnson was greatly displeased because Garrick refused to lend him his rare Shakespearean quartos. There can be no doubt that Johnson was thoroughly honest, and the thought of personally appropriating these books would never have entered his mind. But he was slovenly and careless. He would have handled them with unwashed fingers, and might have suffered them to lie exposed where any intelligent thief could have carried them off. Was Garrick to be blamed? There can be but one answer to the question.

It is the province of recensions for presenting the ravages of this pest of the library have generally proved entirely inadequate. One of the earliest consisted in writing doggerel verses on the fly-leaf of the book, and possibly, in affixing to the inside of the cover a printed label, bearing, besides the name of the owner, a solemn warning against the crime of peculation. One of the oldest books in possession of the writer contains the following laconick couplet:

"To lose this book would cause me grief;
Whoever takes it is a thief."

Another—a school-book—has the following, in a school-boy's sprawling hand:

Steal not this book, for fear of shame,
Here you see the owner's name.

Still more clear and unmistakable was a stanza which, thirty years ago, could be found in school-books innumerable. The spirit of the lines is so boyish that no one but a boy could have composed them; and this was probably done in the days when men and boys were still hanged for stealing. They exist in numberless recensions, but the one we remember reads as follows:

Steal not this book, my honest friend,
For fear the gallowes will be your end.
Up the ladder, down the rope.
There you'll hang until you choke,
Then I'll come along and say,
Where's that book you stole away.

Printed labels are sometimes found in old books, which, beside the name of the owner, bear a scriptural passage or a stanza especially addressed to the borrower. The following quotation, which we find in Warren's Study of Book Plates, are certainly pungent and appropriate. An early book-plate reads, "Psalm xxxvii: 21: The wicked borroweth and payeth not again." Another has "Go ye rather to them that sell, and buy for yourselves.—Matt. xxv: 9." Still another quaint application of Scripture is made, on an early book-plate, for a somewhat different purpose. "Revelations x: 9: Take the book and eat it up."

That was a curious device which was adopted by an eccentric physician of the last century. He affixed a label to his volumes bearing the inscription:

Stolen from the Library of Dr. John Brown.

Of course, if the book was found at home, these words had no significance; but elsewhere, they conveyed a serious impertinution. Is it possible that books to those who deserve the privilege; and we cannot help admiring the spirit in which a celebrated anti-quarian of the sixteenth century inscribed his books, as "The Property of Joseph Groller and His Friends." Nothing can be too precautions for a friend of sympathizing tastes, who accepts your trust with a due sense of its value; but we think there is room for another protest against the common notion that books are, like umbrellas, to be regarded as common property.

Selections.

AN EAST DONEGAL DAIRY.

David M. Eyer's Stock of Imported and Blooded Cattle.

David M. Eyer, living in East Donegal township, near Schoole's Mills, is one of the most successful practical farmers in this county, and he has made his farm one of the finest to be seen anywhere. It comprises over one hundred acres of land and stretches from the river back towards Maytown. His residence and farm buildings are models of comfort, convenience and neatness, and his land is in the best condition for the cultivation of crops. As an instance, we remember a year or two ago, an acre of tobacco cultivated by himself brought the largest price we have heard of an acre bringing in this section, viz., $430.

Mr. Eyer within the past few years has been devoting himself to acquiring a herd of imported and blooded stock. He now has twelve head of fine cattle as can be found in this county, and he is justly proud of them. His herd is as follows:

"May," is a half Guernsey and half Durham; she has had three calves, was dry but two days last year, and made eleven pounds of golden edged butter per week when fresh.

"George," a sister of the former, has the same record.

"Twinney," a sister of the former two, gave a crock full of milk the morning the calf was born, and is never dry.

"Graybill," half Guernsey and Durham, gave fourteen and a half pounds of butter when fresh.

"Wild Deer," is a Durham, and the mother of these just named, and gave twelve pounds of butter when fresh.

"Daisy," is a common cow and gave nine and a half pounds of butter when fresh.

"Blynn," is a Durham, and gave ten pounds of butter when fresh.

"Sir Leon," registered No. 2822, is a Jersey bull purchased from Col. James Young.

"Laco," registered No. 35,627, is a full Jersey, purchased from Samuel C. Kent, of Chester county.

"Achievement of Donegal," registered No. 11,411, is an imported Jersey heifer, and her first calf is due June 26th.

"Lydia," registered No. 550, is an import-ed Guernsey heifer, with her first calf; she gives very rich milk.

Mr. Eyer believes in having everything convenient and having water running into the passage of every row of stalls in the barn, convenient to feed troughs, and easy methods of cleaning out the stalls.

His dairy fixtures are all modern. He has in use the Moley creamery—the most convenient and labor-saving machine we have seen in use—he also has a patent churn, butter worker and stamp, all reducing the amount of work which was formerly required. He does not make much butter at present, George Williams, the popular ice cream maker of Marietta, getting most of the cream, which is so rich that Mr. W. is enabled to make better ice cream than he ever made before. Mr. Williams says he never had such thick rich cream from any dairy.

Mr. Eyer is entitled to a great deal of credit for proving, as he has to his own satisfaction, that it does pay to keep fine stock on a farm. He has kept an accurate account of the stock and finds that it yields him a handsome profit on the investment.

A BIG FARM.

A Wheat Farm of 75,000 Acres in Dakota, and How It is Worked.

In an article on Dakota and its mammoth farms a New York Herald correspondent gives the following interesting particulars about one of the largest farms in that immense Territory:

A great deal of interest has attached of late years to scientific farming on a large scale. I have seen nearly all the big farms in Dakota, but have not yet made up my mind as to the practicality or profit of mammoth farming.

One of the best big farms in Dakota is Mr. Dalrymple's. It consists of 75,000 acres and cost from forty cents to $5 per acre five years ago. The taxes are ten cents per acre on anum for school, road and county purposes. There is no government tax. The farm is laid off into 5,000 acre tracts with a superintendence over each division. He has a foreman and gang foreman under him. The superintendents subdivide his 5,000 acres into 2,500 acre lots, and these also have foremen. All the business is conducted on regular vouchers, and all supplies are drawn on requisitions, the same as in the army. The division foreman gives all orders. Money is paid on time checks, and each workman receives his money whenever he wants it. Mr. Dalrymple is cultivating 25,000 acres, and 5,000 acres is being added each year. The crops are sowed in April, and about three weeks are taken for the planting season. Wheat of the Scotch Fife variety is planted, and one bushel of wheat per acre. All the planting is done by machinery. It takes 400 head of horses and mules to plant the crop. One seed sower plants about 200 acres, and each harrower about 100.

The new land is broken after the crop is in, and the breaking is generally commenced early in May. The land produces No. 1 hard Fife wheat, and the yield is twenty to twenty-four bushels per acre.

The cutting of the crop commences August
THE PEACH CURL FUNGUS.

After the peach leaves unfold from the bud, and before they have reached one-half their natural size, they are frequently seen to be distorted into very strange shapes, and of an unnatural color, often variegated with red, and otherwise highly colored. This is the peach curl and is an old prevalent injurious deformity, the cause of which has been variously ascribed to aphids, or plant lice, lack of some food element in the soil, &c. The trouble is due to the parasitic plant of the low order of fungi, which grows within the tissues of the young peach leaf, and brings about the peculiar external appearance so often met with in the peach orchard at this season of the year. The fungus does not confine itself to the leaves, but works in the young stems, causing them to take on strange shapes and unnatural colors, and finally wither, turn brown and at last die.

This pest, though somewhat different in its manner of growth, is a close relative of the fungus known as the black knot, which has proved so destructive to the plum and cherry trees. The black knot is a much more common disease, however, as it works almost entirely upon the stems, and even large branches, and becomes very noticeable from the distortions and black color which the branches assume. The only remedy for the "curl" is the one of the knife. All the branches with their leaves, which are affected, should be cut off and burned. The disease (if the term disease may be used in this sense) is propagated by means of small spores that are found in the leaves later in the season, and by burning they are destroyed. The "curl" has usually been seen when the tree has been trained for it, and an orchardman, unless it is badly affected, can be gone over in a short time.

There is no doubt that it is injurious, and it is also evident that unless means are taken to keep it in check the trouble may increase, and in time become a serious matter in the peach orchards. Those who have had their plum orchards ruined by the black knot know something of the way in which a fungus can destroy valuable fruit trees. The peach curl belongs to the same destructive class.

THE DISCOVERY OF SILK.

The discovery of silk is attributed to one of the wives of the emperor of China, Hsiung-ti, who reigned about two thousand years before the Christian era; and since that time a special spot has been allotted in the gardens of the Chinese royal palace to the cultivation of the mulberry tree—called in Chinese the "golden tree"—and to the keeping of silk worms. The first silk dress in history was made, not for a sovereign nor for a pretty woman, but for the monster in human shape, Heliogabalus. Persian monks, who came to Constantinople, revealed to the Emperor Jus- tinian the secret of the production of silk, and gave him some silk worms. From Greece the art passed into Italy at the end of the thirteenth century. When the popes left Rome to settle at Avignon, France, they introduced into that country the secret which had been kept by the Italians; and Louis XI, established at Tours a manufactory of silk fabrics.

Francis I. founded the Lyons silk works which to this day have kept the first rank. Henry II., of France, wore the first pair of silk hose ever made, at the wedding of his sister. The word "satin," which in the original was applied to silk stuffs in general, has since the last century been used to designate tissues which present a lustered surface. The discovery of this particular brilliant stuff was accidental. Otagio Maf, a silk weaver, finding business very dull, and not knowing what to invent to give a new impulse to the trade, was one day pacing to and fro before his loom. Every time he passed the machine, with no definite object in view, he pulled little threads from the warp and put them to his mouth which soon after he spat out. Later on he found a little ball of silk on the floor of his workshop, and was attracted by the brilliant appearance of the threads. He repeated the experiment, and by using certain mucilaginous preparations succeeded in giving satins to the world.—*Hatters' Gazette.*

TOBACCO CULTURE.

We come now to the final operation of the tobacco grower on his crop while still in the field. Cutting and hanging—here as everywhere else along the line, the utmost care, prudence and judgment must be exercised. It is just as possible for the planter to damage his crop through ignorance or neglect at this final stage, after having safely brought it through all its previous besetting dangers, as at any previous period of the season's operations. What has been so carefully watched and guarded, therefore, through the many many weary days of early spring and summer, deserves especial attention at the final moment when the farmer can see that his season's work is about to be amply rewarded. To cut and house his crop in the best possible manner is all important, and to tell him how to do this, will be our aim in the present chapter.

The Test of Ripeess.

In from two to three weeks after it has been topped the tobacco plant begins to ripen. The change that then occurs in the plant is very marked and not to be mistaken, even by an obstinate novice. The uniform green color of the leaves is beginning to fade. They assume a mottled or spotted appearance. These spots are not always alike in color, but are by turns yellowish, reddish and brownish. They are discernible at a considerable distance from the plant. The upper leaves should also have expanded until they approach the lower ones in size, and the plant generally presents something of a uniform appearance. If, however, these signs are not sufficient, another is at hand to lend its confirmation. When ripe, the leaves become more brittle and when taken between the thumb and fingers and doubled up they break easily. Either of these indications is an infallible sign of maturity, although the farmer is much the safest guide to a new beginner. By watching it closely he cannot be deceived or make a mistake.

When to Cut Tobacco.

In a plant that matures as slowly as tobacco, there are as a matter of course various stages of ripeness, which may perplex the grower somewhat. At what particular stage shall he cut it? When under ripe—fully ripe—or over ripe? And this we may say is a very important matter for the grower of seedleaf tobacco, as experience has demonstrated to the old growers of this county. Several important considerations come to the front which cannot be ignored. If the heaviest possible yield is the only object, then, undoubtedly, a fully ripe plant will give the most weight. Then the plants have attained their fullest possible development, and are richest in gum, which does not evaporate as the ordinary juices of the plant do, but remains, adding to the weight. Cutting tobacco, those grown in the South and used for the manufacture of plug tobacco
are not cut until they are fully ripe. If not cut when fully matured it will begin to lose in weight. Among many of the growers in Pennsylvania, this same course is followed. But just here the matter of color steps in, and largely directs the matter. Our best growers have demonstrated to their entire satisfaction that tobacco when cut before it is fully ripe will cure a richer, darker brown than when left to mature fully; and as the ultimate value is largely dependent on its dark chestnut color, this settles the matter. There may be a slight loss in weight, it is true, but the increased price the product commands more than compensates for the loss in pounds. But this is not the only reason that might be urged for early cutting, although it is amply sufficient in itself. Rain and hail storms are not infrequent in tobacco-growing regions, and all are aware how these can damage a crop. We have seen a splendid crop, ready to cut, reduced to poor fillers in five minutes. This is a contingency likely to occur at any hour and not to be lightly regarded. A single day may decide whether the crop will sell for 25 or 5 cents. Then, again, if the tobacco is a late crop, a well-known acquaintance of the farmer, familiarly called Jack Frost, sometimes comes along when his presence is little desired, and he will settle the value of the crop even more effectually than the tobacco worms, the grasshoppers, or the tea-bettle. A timely removal of the crop from the field is the only remedy against this danger. A single day may make all the difference to the planter, and in this matter, as everywhere else along the season’s chain, he cannot afford to run any chances. He will, therefore, endeavor to keep on the side of safety, even though it be to cut his tobacco two or three days earlier than he would prefer to cut it. The weight of the various advantages is, therefore, clearly on the side of early cutting, and the Lancaster county planters have, as a rule, made that one of the vital points in their tobacco growing.

When Not to Cut Tobacco.

One of the essential constituents of tobacco is the resinous gum so palpable to the touch when a green leaf is handled. It is one of the most valuable properties, and being freely exuded by the glands of the leaf, is liable to be washed off by rains. Tobacco should, therefore, never be cut immediately after a rain. Wait three or four days, during which time the leaves shall be allowed to dry thoroughly, the emollient gum, and then it may be cut without danger from this cause. Neither should the plants be cut while covered with dew. If laid on the ground in that condition dirt is likely to adhere to them. Try and avoid a very hot day if possible in which to cut tobacco. If left too long in the heat to wilt it is likely to sunburn, whether it be in the morning or afternoon. The afternoon is the favorite time to cut tobacco with many farmers, but there is no good reason why this should not be done in the morning. Of course the weather, especially when the day is cloudy and the general condition favorable. It must not be forgotten that care is necessary to prevent sunburn. Half an hour is enough under certain circumstances to produce this result. If there is danger from this source, the tobacco should be turned as it lies on the ground. Never cut more in the morning than you can put away by noon, or more in the afternoon than can be taken care of on the same day.

How to Cut Tobacco.

The cutting off of the plants should be carefully done. Small saws, large knives and sharp cutters such as are used in cutting corn are used. Some prefer one instrument and someone another; so that the work is done quickly and easily it don’t matter what instrument is used. The operator seizes the stem of the plant—not the leaves—with his left hand, bends it over slightly and cuts or saws it off with his right hand near the ground, below the lowermost leaf. The plant must be laid on the ground, carefully, so as not to injure the leaves. If several rows are cut through the field at the same time the plants from both may be laid together which will give ample space to perform the operation of sawing afterwards. If a number of stalks are placed in one heap less walking will have to be done later in the day. The tobacco is left lying in the rows until it has wilted sufficiently to admit of any handling; the leaves lose their brittleness and can be manipulated more easily.

Putting It on the Laths.

Formerly there were many methods in vogue to hang up the tobacco, but the almost universal practice now is to string the plants on laths. To lay the plant, from five-eighths to three-quarters of an inch thick and four feet long. This is done by means of an iron spear head, beveled on both sides, moderately sharp at the cutting edge and with a socket into which the lath fits closely. One end of the lath is placed firmly on the ground, while the iron spear is affixed to the other and held with the left hand: with the right hand pick up a plant at the butt end and affix it against the spear, then with both hands grasp the plant and press it against until the stalk has been pierced and the plant pushed to its place on the lath. Another practice rapidly coming into vogue by the most advanced growers is to have a socket affixed to the tobacco wagon itself, which leaves the lath in a horizontal position, and by which the leaves of the plants can be kept from becoming entangled, as each stalk is pushed to its proper place on the lath at once, and requires no further re-arrangement. The leaves are also kept from the ground during this operation, which is an important matter. The size of the place on the lath where the number that is put on each lath. When they are large, five or six will be enough, for crowding must be avoided; but where they are small seven or eight can be strung on a single lath. When left in the field to wilt first, of course they can be put closer together. Years ago, before the spear was known, the plants were strung up with strings sometimes, or fastened to the rails in the barn with nails. Both these processes were more tedious and did not give such good results. Latterly a few growers have adopted a plan which we believe possesses advantages over the method of sawing the plants. This is to use laths a little heavier than those now employed, drive nails into them on alternate sides at a sufficient angle to prevent the plants from slipping off while handling them, and on these hang the plants by making a small incision at the butt. It is generally conceded that the splitting of the stalk by the spear allows that portion to dry out too rapidly, quicker than the unsplit portion, and thus the leaves cure unevenly. It is also held that the more slowly the stem dries, the finer the leaves will be. Both these advantages are realized in these tobacco laths on the laths by hooks or nails firmly attached to or driven into the laths. The one objection to this plan is that the laths prepared on this principle are much more costly, and as most of the growers have the old kind, they are unwilling to incur the expense of getting the other ones. These laths also allow the filling up of a given space more evenly as the leaves are hung on both sides alternately instead of right of the center as in the old method. Those who use them unite in speaking very highly of their many advantages. When used in the field, a lath is hung on the rear end of the tobacco wagon in a place specially designed for that purpose, where it is held firmly in its place and when filled a second man on the wagon can hang it over the rails and substitute an empty one to be filled in turn.

The Tobacco Wagon.

There is no more useful implement at the tobacco grower’s command than the tobacco wagon. It is the great tool of his trade and the wonder is it was not invented long before it really was. By means of it the tobacco is safely conveyed to the field scaffold and from thence to the tobacco barn. No progressive planter should be without one. It is so well known that we deem it unnecessary to describe it here. Suffice it to say that instead of being piled on each other to a height of from three to six feet and liable to great damage thereby, and thus hauled to the scaffold or barn, the plants after being secured are easily hung on the four feet wide upright frame and transported without sustaining any damage whatever.

The Tobacco Scaffold.

The common practice in Lancaster county is now to scaffold tobacco prior to putting it in the barn. The advantages are, less danger from overcrowding and heating, greater security to the leaf and economy of space, as willed plants will occupy far less room in the tobacco shed than green plants just out of the field. The practice has everything to recommend it. The scaffold is erected in some suitable place in the tobacco field, generally under the shade of some trees. Here posts, forked poles or some other contrivance is set up and on these at intervals of four feet, nails of some sort are affixed horizontally, and sufficiently high not to allow the tobacco to touch the ground. A plan for these the tobacco plants with the plants spaced on them are hung, and left to dry for a period, varying with the fancy of the planter, from three to ten days, when the leaves will hang loosely apart, and they are once more removed upon the upright frame of the low tobacco wagon to be carried where they are to be cured and receive their final manipulation.

Conclusion.

As we adopted for this series of articles the general title of “How to Grow the Coming Crop,” our task properly ends when the ma-
THE LANCASTER FARMER.

(Sepember, 1867.)

FONESTR.

It may perhaps be worth while to call your attention to the fact that although a great deal has been said and written about forestry, and we seem to know all about it, very little indeed is understood of its relations to the industries of the human race, and of our own comforts and conveniences; and nothing comparatively has yet been evolved to remedy the waste of trees and the extreme danger of the fast approach to forestry destruction. It is really the foremost importance of all our industries. We can scarcely conceive of anything being done without timber. Yet we find the State fostering and protecting the iron interest in various shapes and forms, and nothing done to foster the basis of all industries. We cannot even build a railroad without timber. We must have timber for sleepers—especially for ties—and various other matters in connection with the laying of the rails. We must have timber for the coaches, the freight cars, the trucks, the cars on the locomotives, the depots, the elevators and there are a number of other ways in which timber is required in order to carry on our railroad traffic. We boast of what we have done with the telegraph, and yet without timber for the poles we would be sadly in want of the magnetic message-bearer. We could scarcely follow the simplest branches of agriculture without timber. If the farmer were without timber, although he might be able to drive his plow made of hickory, and his barrel and his cultivator, yet it would be impossible to go far without it. In fact it would be impossible to do without timber. It is absolutely essential to the existence of man on the globe; and yet many States have done comparatively nothing for forestry, this great industry the basis of other industries. I think it is wrong, perhaps, to say that our State has done nothing. We have been for years talking about the necessity of doing something. I remember Governor Hartman speaking to me on the subject several years ago, and saying that he was beset on all sides about forestry culture; “but,” he says, “no one tells me what to do. I have asked our friends to show us what should be done, and no one has a plan.” I believe the only thing that has been suggested and the only thing acted upon by the Legislature was that those planted trees on the roadside should be relieved from the payment of road taxes, or heaping the dirt on a pile, with two ridges alongside of it. Now, the whole secret of the relation of power for various industries, to relieve the threatened famine by planting trees on the roadside seems puerile beyond measure. It seems to me if anything is done, it should be usefully done; and that appears to be the intention of this Committee on Forestry.

What Has Been Done in the United States.

The United States has done perhaps more for forestry than this State, or all the States have done. But even there we find a want of knowledge of what should be done. It has resulted, as in Pennsylvania, in very little good; and what has been done has been done in such a dead way, that its results are not at all commensurate with the demands for forestry culture. There are some States, for instance, which granted rights to the owners of farms and other people—rights to those who plant timber trees on their sections of land, in regard to the timber interest. In the course of time the want of protection the West will amount to nothing for those who are here. It will not meet the wants of the whole of the West. The common alnus tree, voted a nuisance here, and of little value anywhere, has been planted in the Western States, on condition of giving people land who plant timber there. Many such illusions might be given to show that what has been done, has been done ignorantly or unwise.

Now, the time has arrived when we can do something more than has been done by the United States, or any other State. In this connection, I think it would be well to consider other nations, held to be more enlightened than we are, are doing. Germany has done more than we. The Empire of Japan has done an immense amount towards fostering the timber interests of that country. I have here a book that shows small sections of every species of timber which is cultivated or grows wild in that country, giving cross sections and longitudinal sections cut from the actual wood, and all the information about the wood that can be desired. The books are furnished by the Japanese government free to those who want them, and where there those who desire them can get them. This is the interest of the timber growth of that country. I have also a work in my hands from the Australian government, showing the various kinds of trees that may be of value if introduced into Australia. We have nothing like this in this country. The English government considers this of great value, and introduces and circulates the work among the inhabitants of the British colonies. As illustrating what kind of information they give, I will read a little of what this tells about the Australian cork tree:—"and we can gather much ourselves in regard to our own oaks and forest trees, (issued at the expense of the British government,) beyond anything that has been published by our own State or our own people. Here, for instance, is the information it gives about "the pin oak or marsh oak (Quercus palustris, DuRoi) of North America; height, 80 feet; of quick growth. The wood, though fine-grained, is strong and tough. It is ornamental for furniture on account of the strong development of medullary rays."
cultural the trees they have, which are growing, doing well and thriving, and which will prove to be important kinds of trees for forestry purposes. Such facts could be gathered from members of the Board all over the State, and the gathered facts circulated freely among those who are experimenting, particularly in tree culture, could not fail to be immensely valuable.

Then again, "What kinds are most in demand?" That would be a question which would require a great amount of inquiry all over the State. There are some localities where there will be a demand for some kinds which would not suit the varieties suited to their needs. There are other localities where coach-making is carried on extensively, and the demand would be for hickory and ash. In other places oak would be preferable at the industrial establishments. Then some furniture establishments prefer the walnut and the ash, and other industries other kinds of wood. The special uses of each species is certainly an important question.

Then "What soil is best adapted to certain kinds?" That would be an important point. The chestnut oak is adapted to rocky places; the pin oak to marshes, and the white oak to rich soils. So with other trees. Then trees have not only each their soils in which they thrive best, but their altitudes. Some trees grow better high above the sea than on low levels. All these facts would be required of those who intended to pursue the timber question, not only as an art but as a science.

Then on the cultivation of timber—

"Can the cultivation of timber be made profitable?" and please give your experience and opinion on forest culture in your vicinity. That is one of the most important of all the questions, for unless it can be made profitable there if no use in advocating it. Some say it is almost impossible to make timber profitable, for it has so long to grow. I think the reputation that trees here for growing slowly is derived from the experience of their growing on poor soil or in thick forests. But if we are going to cultivate timber different results will be found, and we shall find that timber will pay in a much shorter time than we have the least idea of. I myself saw, during the last five or six years, oaks not cultivated and put in soil where they have been so much crowded by other trees slow; but with fair soil and a little attention they will grow four or five feet in a season. I know of one case where an oak made twelve good posts in twelve good years. That was in timber culture well cared for. If raised in this way, in a reasonable time timber can be grown ready for use. It seems to me that railroad companies, who are interested in the growth of good timber, if they would undertake its cultivation, would find it certainly profitable to them, or the timber companies here in Williamsport, if they would undertake the cultivation of timber on a sufficient area, might have trees large enough to be of use in 15 or 20 years, and if left for thirty or forty years, have trees as large as they have now in their ponds to be worked up. But of course trees must be cultivated with some intelligence to be ready in that short time. They would have to be planted pretty much as corn is, and kept clear of weeds and vegetation, and of other trees. When it is grown they now best they will grow. But while they do well with good cultivation in good soil, where they have rocks and hills to fight and have to struggle for life—such kind of timber culture never will be profitable, but with the care I have indicated, the growth of the trees will be so rapid that the time supposed to be necessary for timber to grow to proper size for market will be very much shortened.

There are other points to be considered on the subject of profitable timber culture. There are some localities where there are other States where timber will scarcely be profitable; for instance, near the large cities; because it is so much easier to bring in timber by rail or water from where timber land is not so high priced or dear, with a comparatively large forest within 30 to 50 minutes’ ride of a large city, the investment, with interest added, would not bring as much, with the land worth now what it was forty or fifty years ago—say $40 or $50 an acre—for we have lost twenty years into that fund money during that length of time. But if the forest had been grown upon land worth now forty or fifty dollars an acre, that was worth at the time of starting it, forty or fifty years ago, but four or five dollars an acre, there would be profit in timber culture. There is no interest lost. So in large tracts, where we shall be able to reach them by water or by rail at no distant period, timber culture would have a far better chance to be profitable; but it would have to be cultivated as corn is cultivated, with care, and the trees would be ready in twenty years.

Is Timber Growing Profitable? That is the kind of information the committee seem to be anxious to obtain. They wish to find out or determine whether timber growing can be made profitable. I really think if such facts are collected we would be accomplishing much towards the ultimate relief of our people from prospective timber famine.

There are other topics suggested by the Question Committee and the Board. One is the objection to the cultivation of timber. People say, "What are we going to do against forest fires?" What is the use of attempting to raise timber in this way, if we have to run the risk of having it burned up?" I think there is no way of having forests protected against fires, when there is much dead wood, dead leaves and dense underbrush. When that gets under headway, with all this material under the trees, there is nothing to prevent utter destruction. But those fires can be prevented by not allowing the underbrush to accumulate. When there are only a few inches of leaves, a fire fails to have any serious effect. I have seen forests where the trees were little injured by fire, though the leaves had burned up. When the trees are alive as a general thing in a woods, and the underbrush is kept out, there is very little risk of fire from the dead leaves that fall under such circumstances. With the underbrush out, there is nothing to set fire to that will do serious damage, though there may be a fire near by. Wheat timber culture becomes profitable, as I hope it will be, when we will cultivate as corn, and all kinds of underbrush are prevented from growing, there will be no more danger of trees taking fire than an ordinary field crop. When we enter into it in an intelligent way, we shall have no danger from fire.

The question then remaining is, taking the ground of timber culture being profitable at places indicated. What kind of trees are best to plant? and then we have to follow with that the best methods of cultivation, and how to cultivate them cheaply and profitably. That would involve, of course, questions of pruning, of thinning out, etc., all of which could be gathered by study in the way I have outlined. Then I have no doubt that we should undertake to express our wants very readily and generally supplied.

I really think the time will come when we shall have to do something of this kind, and when there will have to be forest cultivation in this country; that the time will soon come when the information we ask will have to be spread before the people to the end. That time coming, I have no doubt we shall have all the timber we need, speedily and cheaply. As that time will, however, not come within the next fifty years, we shall have all the timber we need in a State like this probably as little as this year, or not at all. But it is time to begin gathering these facts. It takes time to digest them.

OUR LOCAL ORGANIZATIONS.

LANCASTER COUNTY AGRICULTURAL AND HORTICULTURAL SOCIETY.

The Lancaster County Agricultural Society met statately on Monday afternoon, September 5th. The meeting was called to order by the President. The reading of the minutes of the last meeting was, on motion, dispensed with.

The following members were present: Joseph F. Witmer, Paradise; Henry M. Engle, Marietta; M. D. Kendall, Manor; Casper Hiltzer, Conestoga; Henry Kurtz, Mt. Joy; Joseph Miller, Warwick; James Wood, Little Britain; W. H. Hemel, city; W. W. Grimes, city; J. C. Wendell, city; A. H. Bonnycastle, city; C. L. Huctsecker, Manheim; Washington L. Hershey, Chickies; Simon P. Eby, city; John Haber, Lititz; Peter S. Reist, Lititz; Levi S. Reist, Manheim; Elwood Green city; Israel L. Landis, city; George D. Krieler, Lititz; John Birkwalt, East Lampeter. The following committee of five was appointed to dispense with the business of the evening: Mr. J. C. Wendell, city; Mr. A. H. Bonnycastle, city; Mr. S. P. Eby, city; Mr. Peter S. Reist, Lititz; Mr. Levi S. Reist, Manheim. The meeting was adjourned.

Crop Reports.

Henry Kurtz reported poor wheat; corn will be of a fair crop. Berries are a little better than last year; better to some particulars and worse in others. There have been some sales; one sale was made at 25, 12, 7 and 3.

Johnson Miller said there was no rain during August, and corn will be half a crop; wheat was three-fourths of a crop; tobacco, which was first-class, has nearly all been sold at from 20 to 30 cents.

Mr. Landis said corn was about two-thirds of a crop; it has suffered in consequence of the dry weather; peas and grapes are a good crop; tobacco is irregular; the rainfall for August was only 5% of an inch.

H. M. Engle, of Donegal, reported the crops an already reported; there are few late potatoes, but the early crop was never better; the quite late may yet be good; young clover has died down—not killed,
flebitic disease, attended with great prostration of strength, debility and early infarmission of the usual, farcyous or bronchial mucous passages, generally complicated with irritability of the digestive system, matched with mucous morbidities in the intestines, the whole of the lungs, pleura, liver, structures of the joint, the fibrous tissues of the heart, muscles, tendons and the many other organs of the body. The causes are numerous and difficult to define, being generally attributed to supposed, at all times and in all seasons, from atmospheric, changes in exposure, cold, bad ventilation, crowding, fear, anxiety, bad dressing, neglect, bad food, overwork, in fact any of those causes which by debilitating the system of the patient, can cause the departures from the body, the causes are numerous and difficult to define, being generally attributed to supposed, at all times and in all seasons, from atmospheric change, exposure to cold, bad ventilation, crowding, fear, anxiety, bad dressing, neglect and bad food, overwork, in fact any of those causes which by debilitating the system of the patient, can cause the departure from the body.

Epicotile appeared as far back in history as the year 1599, in Spain, destroying thousands of horses, and in 1636-46, in the French army, then in Germany, and in 1871-72 it broke out with fearful results. During its outbreak there I beseeched it over treating over twenty thousand cases. With the American outbreak, occurring in Montana, Idaho, Oregon, Washington, 1872, with all or more or less familiar, at speed over this Continent in an incredibly short time, destroying thousands of animals on its way to New York, which it reached in twenty days. Some of the following symptoms, depending on the location of the disease, are generally noted. The morbid materials, or poison, absorbed into the blood, gives rise to great fever, nervous depression, The period of incubation or lateness in the poison, after it locates itself in some part of the system. In fact, mercurial poisoning is a direct result of this attack. Its primary symptoms are usually chills or rigors, elevation of pulse and temperature, great weakness, often accompanied by loss of appetite, cold extremities, constipation, third, general stiffness and unwillingness to move, inactivity, retention of urine, frequent urination, a little red, but not excessive, sometimes bright, indicative of intestinal irritation.

The simple form owing to malnutrition, chiefly characterized by the absence of the lung corn, liver and sometimes ending in ricketsia, involving the flexor tendons below the knees, or foot, the toes, along with the corn, not readily yielding to medical treatment.

Horses are not generally attacked more than once in a season, if properly treated it is a rare disease generally, but old, heavy, badly-constituted, overfed horses are usually affected with respiratory trouble, very often successful, General treatment consists in good nursing through the following symptoms: clothing to the body, hand and bandages to the limbs, warm washes, boiled oats, linseed, fruits, such as apples, carrots, corn bran, and a little prepared linseed. Water, meat, meat, milk or drink, always within reach, inhalations of warm vapor, warm bath, good bed, cleanliness and plenty of pure air without, and digestion of the food, the morbid complicated forms of which attack the vital structures, requiring the attendance of a skilled surgeon. The chief recommendation is to never put this plant in the mouth of a horse, if badly attended to, are often disastrous, such as the following: fever, chills, chronic cough, thickened wind, dyspepsia, roofing and rheumatism.

One word of caution: Avoid emetics, or quacks. Treat your horse yourself, and trust to nature sooner than employ one of them. They generally do harm by interpolating.

The thanks of the society were tendered him for his essay.

J. Frank Landis read the following on

The Yearly Value of Cow’s Milk as Food for

Average daily yield of 4 cows the year around, 8 gallons of milk, which should feed 12 pigs, worth $6.50.

To use milk to best advantage feed 48 bushels of corn (or equivalent) and hay of cows this be too strong for weak cows.

Grain in pork over first coat of grain fed, 25 per cent.

This should produce hogs of average weight of about 500 lbs. at 12 weeks of age.

Profitable

$360.00

Average per cow...

$19.50

Dayly Project.

74 bushels of better.

36 bushels of 25 bushels of milk per cow.

Average per cow...

$22.00

Cost of Feed.

Milk and hay...

$7.75

Buttermilk as milk for chickens (preventing of disease)

$0.00

Whey of skimmed milk...

$0.00

4 calves at 6.5 lbs...

$90.70

Average per cow...

$22.00

Cost of Feed.

For each cow, in winter months, 1 lb. daily of mixed corn and bran (or) 12 lbs. of hay or its equivalent (120). Total cost per cow...

$4.60

28 cwt.

$100.00

Summer months, 3 per month, pasture, and

Salt

1 lb.

$0.50

Net profit per cow... $27.50

DIFFERENCE IN QUALITY OF MILK.

Tried 2 cows separate for a week, each giving a pound of milk per day, one producing 27%, the other 26%.

The former, 12 lbs. per week; the latter, 11 lbs., the cow of 26%.

On older cows gained $2.20 per week.

H. M. Engle remarked that thousands of cows did not pay for their keeping. The creamometer is the true test, and the most accurate. Churning is, however, the true test, the milk does not always give the most butter. Every farmer should make such tests, and find out which of his animals are worth their keeping.

How to Select Seed Corn.

Casper Hiller said a good plan to select seed corn is to study the flowers in the field, and select those which show unusually good qualities, that fill well, mature early, and have other good indications. Then select again from these.

J. C. Linville did not favor corn that gave two or more ears to the stalk. The trouble is we don’t get one good ear on the plant. if time to select seed corn, is when it is baled to the crib. Then the whole crop is before the farmer, and he can select the best.

Mr. Martin selects his sugar corn seed in the field; he selects the plants, and when the corn is well set and then it ripens a week earlier than usual, which is a great deal gained in early corn raised for market.

Mr. Engle selects the most corn on the cob possible, and the best filled ear. He wants a thin cob and long grains. You can by judicious selection get almost any sized or shaped ear you wish. There is much in the sucking; the suckers sometimes impregnate the corn proper and help destroy or diminish a crop.

James Good thought the preservation of the seed corn after it is selected a matter of value.

The Kieffer Pear.

Casper Hiller said, in reply to a question, that he has a number of grafts and young trees of the Kieffer variety and none show signs of disease, although Mr. Smyeow showed him branches that were quite black although the leaves were green.

The Fruit Committee.

Measurs. Engle, Landis and Wood made the following report on the fruit exhibits. The Landis County has very many varieties of choice fruits, it is by no means an easy task for any one to make a special list for others to plant. Your committee takes it for granted that the list asked for is one for home use, and as some kinds appear to do better in some localities than others, and this is even sometimes the case on adjoining farms, your committee can do no better than to name such varieties as have a general reputation for productivity, quality, etc. This list will, no doubt, be quite too large for the general planter, but he will not go far wrong in making his selection according to season.


Grapes: Telegraph, Harvard, Concord, Martha.

THE LANCASTER FARMER.
The Counties Poultry Society.
The County Poultry Society held its regular monthly meeting on Monday, September 5th. Members present: J. W. Brukeshi, Salunga; H. H. Tehedy, Lititz; Tobias Martin, New Haven; Dr. E. H. Witsen, Neffsville; John E. Schum, Chas. A. Lippold, Herbert Johnston, Chas. E. Long, P. A. Diffoenderfer and Frank Grist, city; John G. Lintner, A. A. Schum, and George H. Kroat. The Secretary read the report of the Executive Committee according to which the next poultry show will be held Thursday, Saturday, Sunday, Monday, Tuesday, Wednesday and Thursday, Jan. 12-18. The report was adopted.

Members, Schum and Lippold presented a revised pigeon premium list, which was adopted.

This year premiums will be paid on both young and old turkeys, thus there will be no competition between them.

Mr. Schum and Nemew, last year's judges, offer to do that work this year at $2 per day and expenses.

Premiums will be offered on both single and Pecoomb Partridge Cochin.

It was resolved to employ Prof. S. B. Heizer, York, as one of the judges, should he be willing to come on terms offered last year.

Members elected—Mr. Brooks, Willow Street; Abram Perry, Landisville.

The members of the executive committee will put up the catalogue and whatever is made out of it will be offered in auction for the prizes.

The society decided to rent Roberts' Hall again for the exhibition, if it could be obtained on the same terms as before. Adjourned.

FULTON FARMERS' CLUB.
The Fulton Farmer's Club met at the residence of William King, on Thursday, August 8.

Alice Coates exhibited Trophy tomatoes and a few pods of Dreer's Lima beans. The tomatoes were fine specimens of this well known variety, and the beans which were quite large, were said to be two weeks earlier, more productive and much superior to the old variety of Lima beans.

Montillon Brown exhibited some early peas of an unknown variety.

William King exhibited an unknown variety of apple and weed resembling mustard, found growing in his field of golden miller.

S. L. Gregg exhibited Early Garretson apples. This is a new variety for this section and is large and of good quality.

Montillon Brown—What kind of fertilizers are the farmers present going to use for wheat? The answers to this were as numerous as to the question about fertilizers and included Red, Fulta, Canada White, Kid's Yrolley and Italian or McCullough.

Esther K. Haines—Has any one used ashes to keep the woods off cabbage? Rachel B. Getchell had, but does not advise its use; she sprinkles them with equal parts of salt and cyanse powder. Wm. Bicknell uses an ounce of saltpetre dissolved in a gallon of water.

Martha Brown—After fruit has been dried in the sun, is it of any use to dry it in the oven before putting it away? Alice Coates dries her fruit on a slate roof and always takes it in about noon, or the sun is made very hot, and after letting it cool ties it up in paper bags and has no trouble about it keeping.

Alice Coates—What kind of yeast is the best for summer use, easily made and always reliable? Rachel B. Getchell, an experienced housekeeper, gave the following receipt for making jug yeast, which she has found to be good: Boil one quart of hops one and a half hours in sufficient water to have two quarts when done, strain and add two large potatoes sliced and two spoonfuls of flour, add yeast and let rise twelve hours, then jet and place in the cellar.

Ellen H. E. Price read "The Pipes at Locknow;" William King recited "Tam O'Shanter;" an article on Tobacco Labor, by James P. Boyd, of Philadelphia, was received and read.

The next meeting of the Club will be held on the first Thursday of each month, in Hon. James Black's grove at Black Baron Spring, to which a public invitation is extended to farmers and others interested in agriculture to come and spend the day in a sort of pic-nic style. A table will be provided on which to display seeds, fruits, vegetables, flowers, etc., and visitors will be appointed to bring samples of their crops, and those that will add interest to the occasion. Makers or dealers in agricultural machinery will also be given an opportunity to show their machines. William M. Way, and probably other speakers, will address the meeting. Those desirous of coming to the show will please not hitch them to the trees, as the timber is young and it is desired to preserve it from injury.

LINNEAN SOCIETY.
The society met in the ante-room of the museum on Saturday afternoon, August 27th, 1851, Prof. J. H. Dubbs, D. D., occupying the chair. Minutes of last meeting read and approved, and dues collected; after which the following report was made on

Donations to Museum.
Your committee to whom was referred the donations of the heirs of the late Prof. S. S. and Dr. E. Haldeman, have thus far only had time to examine the contents of one of the boxes of the former, and the following is a general list of its contents.

Historical.
1. A fragment of Queen Mary's Palace, Edingburg.
2. Do of Giant's Causeway, Ireland.
3. Do of Montie pavement from the Bath of Caradoc, Here, Italy.
4. Fragments of Mosaic from the house of the "Tragic Poet," Pompeii, Italy.
5. Two Cerecume Nodules from the same.
6. The following relics of the Indians of British Guiana.
7. A Spherical Indian Paint-Cup.
10. Warri-warri, or fan used for kindling fire, made of plant fiber.
11. A Warg, a species of bark from which shoes or sandals are made.
12. A Namaste flute, made of the thigh bone of the Jaguar.
15. A Piplet, or Basket and lid.
16. A beautiful bead-worked Aron, the sole clothing of a Guatam Indian woman.
17. A specimen of Lava from Mount Vesuvius, in which is imbedded a colin.

Natural History.
18. A gigantic Fish Scale from Florida.
19. Twelve craniological specimens of Birds, Mammals and Reptiles.
20. Fragmentary specimens of the skeletons of Birds, Mammals and Cransecanes.
21. A "Toad-Fish" skinned and stuffed.
22. A Pike, do do do.
23. Four specimens of Perch do do do.
25. A specimen of the "Sea Horse" (Hippocampus).
26. Two tubers, or nuts, of vegetable ivory.

Mineralogy.
27. Fifteen specimens of native Copper from the Lake Superior mines, Michigan.
28. Five specimens, Chrysoeda from the same.
29. Three specimens Potatoul Saddles, filled with small copper nodules.
30. A box of (23 specimens) of Chloriscolotide, only found on Yale Island, 12 to 40 miles along Lake Superior.
31. A box of Agate pebbles (100 specimens) from the Western States.
32. A box of Colorado pebbles (about 40 specimens).
33. Two specimens of Arizona Stone, Pike's Peak.
34. Three specimens Native Silver, Michigan.
35. Two specimens Protegno, Mount Blanc, Kentucky.
36. Two specimens Velvet Copper, Michigan.
37. Three specimens Canuel Coal, Scotland.
38. Four specimens Hawal Gum, Sudward Islands.
40. Three or four specimens, that will add interest to the occasion. Makers or dealers in agricultural machinery will also be given an opportunity to show their machines. William M. Way, and probably other speakers, will address the meeting. Those desirous of coming to the show will please not hitch them to the trees, as the timber is young and it is desired to preserve it from injury.
Mr. Jacob Rothermel does a small looking glass said to have belonged to Thos. Jefferson, the sage of Monticello. This was presented to his brother, the late Henry Rothermel, by his friend Jno. P. Halbach, of Cohoes, N.Y., in 1851.

Mr. D. Sitter donates a sample of Jersey malt, and a bone found therein, supposed to be a vertebral section of a shark.

Mr. J. M. Westheuer offers a number of bitter cucumbers supposed to be disqualified peletes of a sewer.

Mr. Campbell and Master—donate male and female eggs of the spectre insect (Spectrum feuviarium).

Two fine specimens of the “Virginia Horned Owl” (Bubo virginianus) were sent by Mr. J. P. Hambleton, but the Taxidermist thought their plumage too imperfect to make good specimens for a museum, being shot in the month of August.

Dr. Rogers, U. S. N., donated a specimen of Yellow Oxide Iron, one of Speciate Ammonia and Potash, one of Black Scoriol, and a cotton ball, all from Egypt.

Professor Stahr donates a large species of Chilrope.

Mrs. Zell, donated a large specimen of Silica granola, commonly called “Loose Killer”—order Hymenoptera.

Library.

Nos. 4, 5 and 7, Vol. 29, Official.


Nos. 1, 2 and 4. Circulars of information from the Lancaster Bureau of Education.

Lancaster Farmer for August, 1881.


Four envelopes containing fifty historical and biographical sketches.

New and Desired Business.

Action on the two referred propositions before Society at the last stated meeting was for cause postponed until the next meeting: and that cause was the limited attendance.

Dr. B. T. Rogers, U. S. Navy; and Rev. Geo. Gaul, Glenmore, Chester co., were unanimously elected correspondents of the Society.

The Society then adjourned to the last Saturday in September (24th).

AGRICULTURE.

Suggestions of and for the Season.

The leading farm work for September, in many parts of the United States, is the sowing of the fall crops. This involves putting the soil in thorough readiness, and the selection, and sowing of the seed.

There are a number of essentials in the proper preparation of the seed bed, all of which should obtain in every field devoted to a grain crop. The soil should be rich—rich either by the accumulated fertility of long years of undisturbed vegetation—the virgin soil, or made so by the addition of a fertilizer in the form of barn-yard dung or the so-called “chemical manures.” Of these two, that made in the barn-yard and the ashes to be the better practice, and the superphosphates and other “salties” only used as a supplement to the barn-yard manure, or in cases where the latter is not to be obtained. Next to richness should come a fine tilth. This requires that the soil be plowed in a thorough manner, and afterwards stirred with a narrow or some other cultivator—in fact with any implement, until the lumps are reduced, and the whole soil is in a fine, mellow state. The importance of the mellowness of the soil for all seeds can not be too strongly insisted upon, as without it the germination will not be complete, and the seedling will have to overcome the struggle with the particles of earth, and therefore cannot make a good start, and many of them will not grow at all.

With a good supply of plant food, in a condition to be readily taken up by the young plants, the next thing is to select the seed, and sow it properly. To put the matter of selection in a nutshell—sow the largest, strongest, and best, and forget that of the ordinary sort. When the fact becomes more thoroughly known that of two kinds of grain, for example, under identical conditions, one will yield twice as much as the other, more attention will be given to the proper selection. It is not for us to say which variety of wheat or other grain is the best; that depends upon local circumstances and conditions, and each farmer must, after careful study, decide such matters for himself. The “Chew- soul” wheat is at present taking a high rank for yield and grade among the varieties, but it may not be the best for all places. Were it not for the Hessian Fly, early sowing of wheat should be recommended in all cases. Late sowing is a disadvantage in itself, as the plants make a smaller growth before winter sets in; and also, the richer the soil the later the best can be done with safety—American Agriculturist, 6th September.

Plowing and Pulverizing.

Our first plowing, some fifty years ago, was done with a wooden mould-board. Then came in the wrought iron mould-board, last if it came by the blacksmith. About forty years ago the introduction of the cast iron mould-board, with replaceable points, caused no little excitement among farmers, as these could be produced so much more cheaply than wrought iron, and being harder they wore longer. But on occasion the point was put to a counterbalance by the breaking of the “point,” and often of the “land-stile” and even mould-board itself.

A few years later the steel mould-board and points came into use, and subsequently the chilled iron plow to the great advantage of farm improvement, and from time immemorial before that, the chief ends aimed at have been the perfecting of the old instrument, in form, in material, in the frame, in coulter, guiding wheels, etc. The princi- ple has always been the maintenance of a full surface free from furrows and incorporating it on the surface.

But there has all the while been the feeling that Jehol Tuill was right in claiming that thorough pulverizing the soil was the great requisite of cultivation. And to secure this we have had a succession of implements devised, as cultivators, rotary diggers, rotary harrows, etc. Most of them have been valuable so far as they have helped to divide the soil, so as to provide a finer seed bed. But we are inclined to believe that Charles E. Sackett has now made such important and distinct a common plow, as to amount to a radical and most valuable change in its mode of operation and in the desirable results produced. Here is a general idea of it: First a surface plow which is readily and quickly adjusted to cut off two, three, or four inches in depth of the soil, and turn it well over into the bottom of the previous furrow. Following this, upon the same bearer or frame, is another plow, adjustable to take up a sub-furrow of any desired depth. But this second, or sublative, is not merely turned over in a mess upon the top of the first one with only a partial break, but quite thoroughly and very securely. Quite different; upon the frame is an open- worked wrought iron wheel or cylinder, say 40 inches in diameter, which follows upon and smooths down in part the turned surface of land, with its grass, straw, stubble, weeds, etc. The second furrow is turned into this revolving wheel, and carried round and round on its inside, among its teeth, and against its open-work bar on the rim and outer side, and it is so broken and pulverized that it drops out upon the furrow, as if by magic, and the soil is pulverized quite as much as it could be done with roller and harrow, and without any trampling or pressing by teams; it is left light and fine and in excellent condition for receiving seed. There is also the possibility of using it as a second furrow plow, or as a drill plow.
of grafts, to which all will be welcome if called for. The
Tyson pear comes into bearing almost as tard-
ily as the Early Catharine, but is not so regular or productive in its yield as the latter, and has no drawback, without it. In our City market we believe that any quality, however large, would go off in a flash. We shall also have any number of grafts of the Tyson to distribute in the spring. As a
drawback, with it, without having to state to a certainty, we think that if the dwarfs be planted they will come into bearing in two or three years, and three or four years will be ample for a family—Trenton Telegram.

The Fruit Garden. The old strawberry beds should be kept clean of weeds, removing all runners not needed for new plants. New beds may be set this month, but there is very little danger of setting them before the ground is sufficiently heated unless "potted plants" are used. These are plants from runners, set in pots and left in them until set out; by removing the earth with the plant there is no checking of growth, and a fair crop will be had even the first year. There is a gain in setting ordinary strawberry plants in the fall in that the soil is in better condition, and the plants are planted in the ground being made cool and soft, the bed being downed and placed on the tips, which will soon strike root. Most red raspberries and blackberries may be propagated readily by "suck-
ers," or shoots which spring from below ground. The setting of the raspberries is an easy task, and may be done as early as April. In watering set out in the fall.

Early Frosts in the Garden. Our gardens are often at their best in early au-
tumn. We have a few days of early frost, in which the plants should be protected. If a few low days, weeks of the most delightful weather, in which the plants have flourished the first part of the season, is to the amateur, to see his beds of Celosia, and his Cannas, all lim and useless, while the harder Ger-
aniums seem to flourish. So far as we have noticed, this is the usual experience, and it oc-
curs that the plants most likely to suffer from frost, are those most easily injured by it. It is not unusual to lose a large quantity of potatoes were stored out of doors in the open ground. They were arranged in a heap, a foot or two in diameter, and ten or twelve inches in height. The mass of potatoes will heat, and covered with earth sufficiently thick to keep out the frost. But since the approach of spring the potatoes have been much followed, though the rotting has been very much diminished. The infected tubers will not be sold, but the little, and the diseased ones will often communicate the disease to the rest following. In the cellar this can be seen and noted, but in a mound out of doors no one knows the trou-
ble till spring, when great loss has been found. Be-
els wise to wash every potato before using, and that those who have no way to preserve potatoes ex-
cept this, as a general thing prefer not to grow at all in such a climate. Dampness undoubtedly favors the spread of the potato disease, and therefore where there is a danger of dampness on the soil, they ought to be stored as dry as possible. There are few things which can be kept perfectly dry and cool, but this should be especially seen to in the case of seed potatoes. Since the potato beetle appears in the fall, it is well to have the best results from early planting and by the use of the earliest varieties. Now these early kinds or-
ner is not done with, but the weather being so fine, they sprout easily, and coolness is therefore the more to be desired, except where the plants are already grown, it would be well, whenever possible, to make a little difference whether seed potatoes sprout or not before planting. We have known people turn off sprouting potatoes and plant them before they had any faith that they will sprout again and be more the worse for it. They do generally grow, but there is little to be gained by this, and much more liable to disease than those which do not sprout till ready to go in the ground.—Ger. Tel.

How the French Workman Lives. The French laborer probably gets more for his wages than any other. His food is cheaper and more nutritious; this bullpen is the liquid essence of beef at a penny per pound. His bread at the restaur-
ants throws in without any charge, and is the best bread in the streets in the morning at a sou per cup. It is coffee, not espress. His half of bottle of claret is about a sou per bottle. It is said that in a few hours a man can make an evening’s amusement at one of the minor theatre, with his coffee free. Sugar is very cheap here. You can buy a whole doz-
en cigars for a cent. There is no gallery code, no peanuts, pipe, smoke, drunkenness, yelling, or howling. The Jeesus des dunes of the Louvre, Hotel Cluni, palace of the Luxembourg, in the room in the family, and the Parisians hold out to their children’s treasures at small cost, or no cost at all. French economy and frugality do not, of course, mean economy of life, which would deprive life of everything which makes it worth living for. Economy in France, more than anywhere else, means simply economy of means. America throws away, but it does not mean a pinch-
ching, or a refusal to pay for a barren exicts of work and bread and water.

HOUSEHOLD RECIPES

SWEET PICKLE. Take small cucumbers (the quantity to be regulated as desired), say a two-gallon stone jar filled; after washing in cold water place the pickles in the jar and have ready two in two-quart boiling water, and have prepared a little salt-boiled in it; pour this over the cucumbers and let them stand twenty four hours; wash them out the second day, and then put in the cold water, and let them stand two weeks in four quarts of cider vinegar and place it on the stove, to-
gether with three pounds of brown sugar, one cume-
rin, four cloves, half a stick of bitter orange peel, or slipage, or with only the celery seed; when this has been allowed to simmer for half an hour, add the pickles, with 120 pickles, and maneuver, and keep for four years if the vinegar is good.

CELERI ffERS. Boil some thick but tender stalks of celery and hang them on a cloth, dry them on a cloth, cut them in equal lengths about one and a half inches; fry them in a batter to a good brown; stir them while frying, and serve them.—American Agriculturist.

SAGO PEDURING. Three teaspoons of milk, three tablespoons sago, two eggs, four tablespoons sugar, two quarts of milk, and the sago in the milk two hours before adding the other ingredients, heat the eggs well, mix and flavor with vanilla or rose. If the sago settles to the bottom of the milk, stir it up; stir it thoroughly, and stir it often enough to have it thoroughly mixed.—Catharine Wilkins.

SMOTHERED CHICKEN. Cut a good sized chicken open as large as it will go, and put in on a cloth, dress them on a cloth, cut them in equal lengths about one and a half inches; fry them in a batter to a good brown; stir them while frying, and serve them with gravy.—American Agriculturist.

PAN DUMPY. Fill a pudding pan with apples-
pared, quartered and cored; cover the top with a cake of hard butter, as thick as possible. Place a whole clove in the lid and set the pan in a brick oven. After it has cooked lift the crust and add molasses or brown sugar, as much as you please, to taste, and then add the apples. Once in a while stir it, cover it with a large plate, return it to the oven, and let it stand about three or four hours. Serve hot. A pan dumby may be baked in a stone oven, in which case the crust would be stiffer and more crisp; then mix all together and bake two hours.
THE LANCASTER FARMER.

[September, 1861.]

CUSTARD SOUFFLE.—Two scant tablespoonsful of butter, one level tablespoonful of su- fars, one cupful of milk, four eggs. Let the milk come to a boil. Beat the flour and butter together to a smooth paste with a wire whisk, and cook eight minutes, stirring often. Beat the sugar and the yolks of the eggs together. Add to the mixture, and continue beating until the mixture is frothy. Pour the hot mixture over the egg yolk and sugar mixture, and beat well. Pour into a shallow, well-buttered, moderate oven. Serve immediately with cream sauce.

ROMNT GRIKIEI CACE.—To one pint of warm milk, add one cup of sugar; this is not enough to make a thin batter; beat up two or three eggs and stir them into the batter with a little salt. Fry in scarce butter.

BREAED EGG.—Boll hard and cut in round, thick slices; pepper and salt and dip each in a beaten raw egg; then in cracked crackers; then fry in butter, hinging hot. Drain off every drop of grease and serve hot.

Griddlecakes.—Take two pound of flour, half pound of treacle, three ounces of butter, two ounces of sugar, two tablespoonfuls of cream and two eggs. Make the batter as thin as can be kept up the strength of the with the paper, put it; pour in the mixture and bake in a slow oven for one hour.

LIVE STOCK.

Garget: Its Causes, Symptoms, and Cure.

Under the last head (Cure) Dr. Manly Miles writes in the "Medical Recorder" of Dr. Hungerford, "Only one has been found that consumers will not accept of the products. It is a good practice to feed cattle to the best advantage. Those who have been successful in making a profit have something yet to learn in cattle feeding. If be a fact, and there appears to be the best of evidence to prove that the English hay, because of great hays, with food they are only a milk of hay and good sufficient for milch cows but it produces better milk than the best of hay. The phaff at a guess. We have no regular customers, therefore if they can tell when change from cornfield to hay, and they tell us all this, they will do the best of hay, being richer and better color."

—Massachusetts Ploughman.

LITERARY AND PERSONAL.

The American Agriculturist for September 4th, is, as usual, illustrated with some sixty original engravings and sketches, which are both pleasing and instructive. Besides the usual assortment of useful, practical articles, the Work of the Season, etc., including Plan for Chief Sides; Illustrations of "Polotus" and "Iroquois"; New Strawberries; Treatment of Celery: special contributions appear "The Dogs and Cats, or Knowledge of "Nature of Animals"; Prof. Arnold, on "Butter Sub- stitutes"; Prof. Deal (Michigan Agricultural Col- lege), on Improving Cereals; Beecher’s Clearing," by D. W. Judd; "Railroads and Agriculture," by Mr. F. T. Howard; "Dancing," by Mr. Bartlett; "After the Storm," by Mr. Julian; "Weld; "Horse Shoewing," by Dr. Sants, of Harvard University; Garget, Its Causes, Symptoms, and Cure," by Dr. Miles, of "Houghton Farm; "Rules for Right Living," by Mrs. Leland; "The Great Grain and Produce Speculation, Bulls and Bears, by Mr. Fredrickson; "The Case of the $1,500 a year; 15 cts. a copy, Orange Judd Co., Pub- lishers, New York.

Tenth Annual Report of the Secretary of the State Horticultural Society of Michigan. 1850, "by authority." 619 pp. Royal 8 vo. Ninety-six pages are devoted to a systematic catalogue of the botanical productions of the State, giving their scientific names, and also, as far practicable, their common names. If any thing were necessary to prove the necessity of scientific names in natural history, we might refer to this catalogue of the plant kingdom, a Pro- alogue. Eleven species are enumerated under the common name of "Sunflower;" eighteen under "Bog- rush;" twenty-two under "Pond-wed;" twenty-four under "Golden-rod," and one-hundred and twenty- three under "Aster," or the common daisy. The author of the catalogue doubtless did the best he could in the application of vulgar names, from the meagre supply extant; but it must be apparent to the veriest carper against technical nomenclature, that, however many species, in any branch of natural science, many synonyms will be profane, even if it were possible. It would involve great labor, great space, and great expense. We don’t know that we have ever before seen a report of any State Horticultural Society, that ought to be more acceptable to the horticultural public than this, which volume now before us. It contains no long articles; most of them are short, terse, and practical, and perhaps embraces all that is really known on the subjects it treats of. It is signalized free from that "ver- boxenology" which so terrifies the non-educated, retaining only as much as is absolutely necessary in the identification of species.

It contains not only an alphabetical index to the present volume, but also a careful tabulated index to the entire series. It was published in 1859, which will be a great convenience to those who possess the whole series, enabling them to refer to a specific article, without the trouble of examining all the tables.

The material and typographical execution is about the average of agricultural and horticultural reports generally (always excepting the first biennial report of Kansas, which, is so far, no "plus ultra") the great drawback; being the absence of proper illustrations. We hope that we may see better things from them. There is not a circus, a mangerie, an opera, a concert, a negro minstrelsy, or a puppet show, that does not feel the necessity now, of illustrating itself by pictures.

HUNGERFORD’S REAL ESTATE JOURNAL devoted to the land interest of Central and Northern Wis- con. 16 pp. quarter published monthly by G. W. Hungerford, Seven Points, Wis., at $1 a year in ad- vance. Mainly an advertising medium, of value to the liquidators and examiners of estates.

PREMIUM LIST OF THE NEW MEXICO EXPOSITION AND DRIVING PARK ASSOCIATION.—First annual fair to be held at the city of Albuquerque, October 3, 4, 5, 6, 7 and 8, 1853. E. S. Stover, President; four vice presidents, treasurer, corresponding and recording secretaries, 19 directors, 15 ex- ecutive committee, etc. The Union Pacific, the Atchison, Topeka and Santa Fe Railroads, are the official sponsors of the enterprises, and they will doubtless make it a success. The list is contained in a demi-octavo pamphlet of 29 pages, and is very liberal. Premiums are offered for the best exhibits of minerals, cattle, horses, sheep, swine, poultry, fruit, grain, vegetables, mechanic arts, household produce, domestic manufacturers, flow- ers and shrubs, fine arts, speed, ring, etc, etcetera. The list contains no more prominent, the evidence of material progress. It is printed on very good paper, and in this first effort, no doubt, New Mexico will be enabled to advertise itself in a manner creditable to the enterprise, and the country. If any of our readers should contemplate an autumn trip to the west this present year, it probably will be of interest to him, and extend it to an October visit to New Mexico.

QUARTERLY TRANSACTIONS of the Lancaster and County Medical Society. Vol. 5, Parts 4 and 5, 1852. Edited by Dr. LaFrand, Rev. Sterling Craig and R. M. Bojulus, committee of publication. Price, one dollar per annum. An octavo monthly magazine of 20 pages, devoted to the allopathic school of medi- cine, and recording its progress.

Report upon the condition of the crops for June and July, 1851, from Department of Agriculture. Since the issue of this pamphlet a long "dry spell" has been interceded, which may modify the general result.
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Stony Brook, N. Y.
EDW. J. ZAHM,  
DEALER IN  
AMERICAN AND FOREIGN  
WATCHES,  
SOLID SILVER & SILVER PLATED WARE,  
CLOCKS.

JEWELRY & TABLE CUTFERY.  
Sole Agent for the Arnold Tinted  
SPECTACLES.  
Repairing strictly attended to.  
ZAHM'S CORNER,  
North Queen-st. and Centre Square, Lancaster, Pa.  
79-1-12

E. F. BOWMAN,  
(Watches & Clocks)  
AT LOWEST POSSIBLE PRICES,  
Fully guaranteed.  
No. 106 EAST KING STREET,  
79-1-12  
Opposite Leopold Hotel.  
ESTABLISHED 1822.

G. SENER & SONS,  
Manufacturers and dealers in all kinds of woods and  
LUMBER,  
The best and most CHEAP in the country.  Also Rush,  
Doors, Window Blinds, &c.  
PATENT O. C. WEATHERBOARDING  
and PATENT BLINDS, which are far superior to any  
other.  Also best TOIL constantly on hand.  
OFFICE AND YARD:  
Northeast Corner of Prince and Walnut-st.,  
LANCASTER, PA.  
79-1-12

PRACTICAL ESSAYS ON ENTOMOLOGY,  
Embracing the history and habits of  
NOXIOUS AND INFESTING  
INSECTS,  
and the best remedies for their expulsion or extermination.  
By S. S. RATHVON, Ph. D.  
LANCASTER, PA.  
This work will be highly illustrated, and will be put in  
press (as soon after a sufficient number of subscribers can  
be obtained to cover the cost) so the work can be possibly  
accomplished.  
79-2

FRUIT, SHADE AND ORNAMENTAL TREES.  
Plant Trees raised in this county and suited to this climate.  
Write for prices to  
LOUIS C. LYTE,  
Nursery at Kunkeltown, six miles east of Lancaster.  
79-1-12

WIDMYER & RICKSECKER,  
UPHOLSTERS,  
And Manufacturers of  
FURNITURE AND CHAIRS.  
WAREHOUSES:  
102 East King St., Cor. of Duke St.  
LANCASTER, PA.  
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Special Inducements at the  
NEW FURNITURE STORE  
W. A. HÉNITSH,  
No. 15 E. KING STREET  
Lancaster Co., Lancaster, Pa.  
A general assortment of furniture of all kinds constantly  
on hand.  Don't forget the number,  
15 E. KING STREET,  
Nov-1  
(over Burk's Grocery Store.)

For Good and Cheap Work go to  
F. VOLLNER'S  
FURNITURE WARE ROOMS,  
No 309 North Queen St.  
(Opposite Northern Market),  
Lancaster, Pa.  
Also, all kinds of picture frames.  
Nov-17

GREAT BARGAINS.  
A large assortment of all kinds of Carpets are still sold at  
lower rates than ever at the  
CARPET HALL OF H. S. SHIRK,  
No. 202 West King St.  
Call and examine our stock and satisfy yourself that we  
can show the largest assortment of three Brussels, three  
plains and ingrain at all prices—at the lowest Philadelphia  
prices.  
Also on hand a large and complete assortment of Bag  
Curtain.  Satisfaction guaranteed as to price and quality.  
You are invited to call and see our goods.  No trouble in  
showing them even if you do not wish to purchase.  Don't  
forget this unusual opportunity here if you wish to buy.  
Particular attention given to customers.  
Also on hand a full assortment of Counterpanes, Oil  
Cloths and Flannel of every variety.  
Nov-17

PHILIP SCHUM, SON & CO.,  
38 and 40 West King Street.  
We keep on hand of our own manufacture,  
QUILTS, COVERLETS,  
COUNTERPANES, CARPETS,  
Bureau and Tidy Covers, Ladders! Furnishing Goods, So-  
linos, etc.  
Particular attention paid to money Bag Carpet, and  
covering and dyeing of all kinds.  
PHILIP SCHUM, SON & CO.,  
Nov-17

THE HOLMAN EVER PAD  
Cures by absorption without medicine.  
Now in the shape of these Remedies.  They will do  
for you what nothing else on earth can.  Hundreds of citi-  
zates of Lancaster try it.  
Get the guaranteed  
LANCASTER OFFICE AND SALESROOM,  
22 East Orange Street.  
Nov-12

C. R. KLINE,  
ATTORNEY-AT-LAW,  
OFFICE: 15 NORTH DUKE STREET,  
LANCASTER, PA.  
Nov-14

THE LANCASTER FARMER.
DEATH OF PRESIDENT GARFIELD.

In our July number we recorded the diabolical attempt on the life of the President of the United States, by an assassin named Guiteau; and now we painfully record his success in his hellish design. After seventy-nine days of conflict, in the "valley of the shadow of death," the strong man succumbed on the 19th of September, 1881, and left the stormy banks of Jordan, peacefully and tranquilly, for the happy shore that lies beyond. President Garfield was two months short of being fifty years of age, and therefore was stricken down in the midst of his usefulness, and in the very prime of life. The manner of his death is a disgrace to the age we live in, a dark blotch upon the face of humanity, and a reflection upon our free institutions.

Perhaps no man has ever died in this country, or the world, whose death has been more universally lamented, or more sincerely mourned, than that of JAMES A. GARFIELD, the late President of the United States. There is no record in history like unto it; it thus far stands out prominent and alone. This may not be because he was the greatest man who had ever died, but because of the manner of his death; the absence of all rational provocation, and the long sufferings he manfully endured in an unpredecented struggle between life and death. Something may also be due to the facilities with which important news is now transmitted throughout the civilized world, through the modern invention of telegraphy; whereby during all those eleven weeks of prostration the hopes and fears of the nation were daily brought to the notice of the peoples of this and other realms. But more, much more, is due to the fact that he was an unqualifiedly one of the people, and by way of distinction, one of the common people. His life and moral and intellectual attainments, his elevation to the Chief Magistracy of the American Union, illustrated the possibility of a common man to reach the highest Chair of State, and his worthiness to occupy it; and that too by the sovereign will of that body of the people of whom he was an integral part. Kings, Queens, Princes, and nationalities have manifested their condolences, and mingled their sympathies with those of his countrymen, for the stricken family and friends of our late dying, and now dead President; but there was no sympathy more universal, more profound, and, that welled up from a greater depth, than that which flowed from the hearts of the common people. The wretch that shot him down in cold blood, was not one of the common people; he would have spurned the idea of being regarded as such. His aspirations and ambitions were far otherwise, or he would never have aimed his fatal missile against a human life, only because it legally interposed between himself and his untimely desires.

According to our Republican theory there is nothing to detest the humblest citizen—when otherwise properly qualified—from serving in any function to which he may be appointed, or elected by the people. In view of this theory how singular the coincidence, that two of our Presidents—self-made men—who had risen from the common people, should have fallen by the bullets of assassins; not assassins from among the rabble, but intelligent, and educated assassins. Follows, no doubt, who could not brook being thwarted in their aspirations by one of such an humble origin. God forbid that this should be the practice of Republicanism, but the coincidence seems singular. These assassins were not Farmers: they were not Mechanics; they were not common Laborers; they were Nothingers—Nihilists—although they may have claimed to be gentlemen. And to show how utterly futile have been their attempts to annihilate common worth, they have only assured to their victims monuments, and an enduring fame, to which, until ordinary circumstances, they never could have attained. How true it is that "man proposes, but God disposes." Evil always has, and, ultimately, always will, react against itself.

THE CROPS OF 1881.

The special Report, No. 93, of the Department of Agriculture, is to the following effect:

The Cotton crop from ten States, including 305 Counties, has an average crop, up to the 1st of August, 1881, of 88 against 102 on the 1st of August, 1880. It diminishes five degrees below what it was on the 1st of July last. The highest condition is that of Florida, which shows 100: the lowest is Texas which is 79.

The general average condition of corn on the 1st of August last, was against 98 at the same date in 1880; on the 1st of July last the average condition of corn was reported at 90, which shows a great decline in one month. The lowest condition is in South Carolina, 41; the highest in Wisconsin, 95. The great drawback to the corn nearly over the whole country was the prevailing drought, to which has been added the Locusts and the Chinchies in Illinois, Missouri, and Kansas.
men] imagine a large field or park with very little shrubbery, a grand bare race-course, and 'they will have an idea of what Ogiethorpe Park was eight months ago. Then let them imagine a vast town of immense modern structures, covering many acres, of every conceivable style of architecture, standing there in ornamental and symmetrical proportions, with all the barren space between them laid out in beautiful smooth drives and gravelled walks, lined with exotic and indigenous plants and flowers; with beautifully designed basins and fountains, as afitting relief to the eye, soaring high up in the air their crystal spray, and every surrettued with flowers to please the fancy, and they will have an idea of what Ogiethorpe Park is to-day.' The elaborate preparations for this grand exposition have been the work of a few short months, and the opening was auspicious of ultimate success. Perhaps there has never been on this continent—if on this planet—a more elaborate illustration of King Cotton in the almost endless variety of its details; and, all in the North who desire to see the 'Sunny South' in its most approve, cannot be better than to avail themselves of this rare opportunity. For the accommodation of such, it is proposed to start an excursion train from Pennsylvania about the first of November next, at greatly reduced fare for the round trip. Although cotton, for half a century has been a great factor in the domestic world, yet those who are fortunate enough to witness this exhibition, will, no doubt be greatly astonished at the multitude of uses to which cotton may be applied. Cotton seeds, cotton plants, cotton flowers, com broom. Cotton in the boll and out of the boll, cotton wadings, cotton lapp, cotton bat-tings, cotton twine, cotton cords, cotton yarns, cotton ropes and cotton cables, cotton flosses and threads in their multitudinous varieties. Cotton cloths, cotton muslins, cotton ducks, cotton ticking and cotton drills. Cotton scabs, handkerchiefs and shawls. Cotton clothing and underclothing for men, women and children, almost as numerous in style, form and use, as the leaves upon the trees, or the stars in the heavens. Cotton bags, cotton bellings, cotton sheets, quilts, counterpanes and eurchins. Cotton hives, cotton wigs, cotton wigs, cotton d Yes. Cotton cloths, cotton boxes, cotton trays, (we once saw a flota made of cotton, the price of which was $800,) and an immense list of endless so-forths. Then there will be exhibited the various improvements and devices used in the cultivation and harvesting of cotton—the implements and machinery used in its manufacture, and its previous preparation. Cotton looms, cotton wheels, cotton carders, cotton gins, cotton reels, cotton mules and the different spinning inventions. Cotton oils, cotton flour, cotton bread, cotton cakes and cotton fertilizers. The various insects that feed on cotton, and the various inventions used in their capture and extermination. We opine that any one with eyes and a tolerable understanding who visits this exhibition, will learn more about cotton in one week than he ever knew in a lifetime before.

POCKLINGTON GRAPE.

This is a new chivalrous candidate for public favor, and is perhaps nearly, or quite, a stranger in Lancaster county. We notice it especially on this occasion, not only because we have seen and have eaten of the fruit, and therefore know whereof we are writing, but also because a premium of $100.00 in gold is offered for the best sample of it, to be exhibited at the Massachusetts Horticultural Society's meeting, to be held in Boston, in the Autumn of 1883; and we desire some lively fruit-grower of Lancaster county, to carry off that premium. The venerable Marshall P. Wilder says—'Thanks, many thanks for the fine basket of Pocklington grapes, which are giving our family such a luscious feast. It is a remarkable variety, so rich and sweet, and with a hardy and vigorous, as it proves in your cold room.' We have a fine cluster of this grape now before us (about six inches in length, and the same in circumference), and we are writing (October 7th), under the inspiration engendered by its taste and fragrance; and, so far as the fruit is concerned, we can fully corroborate what Mr. Wilder says, although the corroboration of our testimony by such a distinguished authority as he is, would be in much better taste. It has been awarded the first premiums at the Western New York Fair, in 1875; the New York and Toronto exhibitions in 1879; the Geneva, New York and Toronto exhibitions in 1880, besides many County fairs. It belongs to the green or white varieties, but when fully ripe the berries are yellowish green or a dull amber color. Choice clusters attain over seven inches in length, eight or nine inches in circumference, and the larger berries near one inch in diameter. It is sweet and luscious, as above testified, and is calculated as a very fruit, averaging one to two and a half inches in diameter. We believe that Mr. Storer enjoys the monopoly of this grape for the Autumn of 1881 and the Spring of 1882. Our cluster has not the symmetrical form it had when we began this paragraph; we could not resist the temptation, and therefore it now looks as if it had been depre-dated upon by cut-birds. Mr. Wm. Poole, an afuretime citizen of Lancaster county, has the agency for its sale in this and other localities in the state. We have never found it difficult to rear a grape-vine when it was of a hardy variety, hence our patrons would not be risk-ing much in giving the Pocklington an honest trial.

A B O U T  F R O S T S .

Mr. D. J. Jones, of Sadbury township, Lancaster county, has kept a very interesting record of the frosts which have visited his section for the past nine years, and we produce it below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Date of last frost</th>
<th>Temp.</th>
<th>Date of first frost</th>
<th>Temp.</th>
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<tbody>
<tr>
<td>1873</td>
<td>Oct. 19, 1873</td>
<td>39</td>
<td>Sept. 15, 1873</td>
<td>52</td>
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<tr>
<td>1874</td>
<td>May 33, 1874</td>
<td>42</td>
<td>Oct. 1, 1874</td>
<td>42</td>
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<tr>
<td>1875</td>
<td>June 20, 1875</td>
<td>44</td>
<td>Sept. 21, 1875</td>
<td>43</td>
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<tr>
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<td>May 20, 1876</td>
<td>44</td>
<td>Sept. 22, 1876</td>
<td>43</td>
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<tr>
<td>1877</td>
<td>May 15, 1877</td>
<td>40</td>
<td>Sept. 22, 1877</td>
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<tr>
<td>1878</td>
<td>May 14, 1878</td>
<td>37</td>
<td>Sept. 24, 1878</td>
<td>43</td>
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<td>May 22, 1879</td>
<td>27</td>
<td>Sept. 25, 1879</td>
<td>40</td>
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<td>1880</td>
<td>May 16, 1880</td>
<td>29</td>
<td>Sept. 24, 1880</td>
<td>43</td>
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<tr>
<td>1881</td>
<td>May 5, 1881</td>
<td>26</td>
<td>Oct. 6, 1881</td>
<td>46</td>
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*On October 6, 1881, ice was formed.

The above statistics are very interesting, and 'tis a pity that more of them, on the various subjects relating to human interests, are not observed and carefully recorded. From this it will be seen that there has been a larger absence of frost in the summer of 1881, than there has been in the seven preceding summers, a fact that goes very far towards accounting for the prevailing droughts, and the complaints of the people about the excessive heat, the shortness of the corn, and the excess of mosquitoes, chinch-bugs, army-worns and other noxious vermin. Moreover, it must be a great relief to those people who "never saw the like," to have their ansae thus authenticated and sharpened.

EXCERPTS.

The American tobacco crop of 1880 places Pennsylvania third in rank as a tobacco-producing state, her production being only below that of Kentucky and Virginia.

The loss of weight in an egg during incubation is found to be the same in a given time as that of an egg if left to itself, so that it would seem to result from simple drying.

Keep the grass and weeds cut away from around the hives. Much time is lost by bees falling in the grass. They may become chilled by the rain or dew in cool weather, or before they regain the hives, fall victims to toads or spiders; and young queens returning from their bridal trips are liable to fall in the grass and be lost.

Yeast loses much of its fermenting power by being washed with water. It becomes inactive when heated, either alone or with water.

The ashes of feathers of birds that live on grain contain much silica. The feathers of old birds contain more than those of the young, and the wing feathers more than those of the tail and breast.

The ancient manufactured cloth from the asbestos to wrap about the bodies of the dead of the pyre. In modern times one use of it for gloves with which to hold hot rot crucibles.

A cow wintered upon two tons and a half of hay will produce not far from five tons of manure, provided she be well littered and none of the excrements be wasted.

Large quantities of electricity are developed by the friction of water in minute globules against solids. If one hand be held in a stream of vapor from a boiler and the other brought near the metal a spark may be obtained.

Tomato vines should always have some kind of support. The fruit will grow larger, ripen sooner and more easily, and will be better flavored than if the vines are allowed to lie on the ground.

In a lecture at San Francisco, Lieutenant Schwatka, the Arctic explorer, stated that the coldest weather ever experienced by white men was 103 degrees below the freezing point, or seventy-one degrees below zero.

Damness and dew are fatal to young tur-keys. Therefore they should be kept in coops until the dew is off the grass. A great many young turkeys die from this cause, while breeders wrongly ascribe their death to improper food.
It is affirmed by medical psychologists that indigo dyers become melancholy, and those who dye scarlet cholerie. Our phrase, "the blue devils," may therefore derive its existence from a scientific fact.

Keep your farm buildings and all your premises absolutely clean. Use absorbents, such as dry earth and ashes, and all offensive gases will disappear, thereby promoting health and prosperity.

While working with the bees, avoid all sudden jars, quick, active motions, and never fight them. Careful handling will cure nearly all cross bees, while with careless, rough handling, the most quiet will become cross. It is a part of the nature of bees to gorge themselves with honey when alarmed, and when in this condition they rarely, if ever, sting unless pinched. Use the smoker judiciously, and avoid the disagreeableness of stings.

It is said that one of the best remedies for the cabbage worm is to sprinkle air-slacked lime on the plant in the morning on the dew till the plants are white with it. One who has tried it for several years says that at most two applications are sufficient.

Poultry need as much protection during the summer from the fierce rays of the sun as they do in winter from the severe cold, although far too many breeders lose sight of this very important fact, and suffer corresponding losses in consequence.

Kerosine oil poured on the nests of caterpillars until thoroughly saturated will destroy them.

Do not allow the soil about young fruit trees to become hairy and crusted, but keep it clean and constantly mellow.

The leaves of the Madeira vine are used in France as spinach.

Excessive drinking of water by farm animals is said to increase the consumption of fat in the body. Too watery fodder and too much drinking should be avoided, especially in fattening, if we wish to obtain the most rapid and abundant formation of flesh and fat.

Oregon produces four, five, six, and even seven-leaved clover.

Get ready a dust bath for the fowls in some bright, sunny place. If it can be put under a shed with a southern exposure, where the sun will fall on it a part of the day, and where it will be shielded from the rain, so much the better. Road dust and sifted coal ashes, with a plentiful sprinkling of sulphur, is the best. Never use wood ashes. Do not spread it about, but mound it up. The hens will soon scatter it.

Nut-galls are excrescences on the leaves and stalks of the oak, made by the gall wasp to deposit her eggs.

The petals of flowers still inclosed in the bud are mostly green, and only acquire their distinctive color by contact with the light.

A manufacturer of chemical instruments in Paris has made ivory flexible for probes and tubes by steeping it in oil.

The cheapest meat for the farmer, says an exchange, is mutton. It may safely be said to cost nothing, as the fleece from a sheep of good breed will pay for its keeping. Then, for additional profit there is a lamb or two, the pelt of the animal, if killed at home, the excellent manure from its droppings and the riddance of the pasture from weeds, to which sheep are destructive foes. With the exception only, mentioned, not the most convenient meat for the farmer. A sheep is easily killed and dressed by a single hand in an hour, and in the warmest weather it can be readily disposed of before it spoils. Science and experience both declare it the healthiest kind of meat.

There were sheared in Michigan over two millions of sheep, according to the statement of Mr. Jenny, the Secretary of State. He says that the total averageclip was 10,071, 163 pounds of wool, which is an average of nearly five and one-half pounds per head.

In a recent work on the nests and eggs of birds, Dr. W. Von Reichenan states that the ornamental plumage, crests, etc., of the male bird are due to an excess of energy, while the vitality of the female is exhausted by the production of eggs and the task of incubation.

If those farmers whose farms are soils underlaid with clay would sell one-quarter or one-half of their land and put the proceeds into the judicious thorough tile-drainage of the rest, they would make more money from the one-half of the original farm under improvement than they now do from the whole area.

It has been computed that the power of the steam engines in England would suffice to raise from the quarries and place in position all the Great Pyramid in eighteen hours.

There is probably no feed so good for raising good dairy animals as warm skim-milk with a mixture of moderate quantities of ground oats, rolled. The milk and oats contain a large amount of muscle and bone material, and, as a consequence, we have a cow with an excellent constitution and a good-sized frame. Corn meal does not contain enough of the requisite materials for giving a good-sized and at the same time a well-formed animal. The oats might be alternated with linseed and cotton-seed meal.

Intensity of color in flowers of the same species increases with the altitude.

Manure should be forked over occasionally to make it fine. If it is heating, then muck or loam should be mixed with it to absorb the ammonia which is formed during the process of decomposition. Sprinkling the manure pile with ground plaster is advisable. The plaster will absorb any ammonia which escapes from the pile and save it for the use of growing plants. Ammonia is too valuable an element of plant food to allow it to be wasted. Again upon some lands plaster is an excellent fertiliser.

Hand-Kirchhiefs of Queen Elizabeth were of parti-colored silk or cambrie edged with gold lace.

From the peats of Brittany have been obtained, by means of re-agents, benzene, paraffine, resinous matters, acidic acid and other substances.

Late advice from British speak discouragingly of the fishing operations on the northern portion of the coast. At some places the prospects are very gloomy. At Esquimaux Bay the worst apprehensions prevailed; starvation is feared there the coming winter. The Government has been applied to for assistance. The weather is so unfavorable on the southern and western shores of the island that it is thought large quantities of fish will be spoiled in curing. In Placentia Bay rain and fog without sight of the sun have prevailed for eighteen days, paralyzing business and making navigation extremely dangerous. The bank fisheries continue good.

QUERIES AND ANSWERS.

PEACOCK MOTH.

Mr. Rathvon: Here is a large, fine looking fellow, but I do not understand him. What is he?

Yours Truly, A. X. B., Jr.

Your 'fine looking fellow' is the larva of the "Peacock Moth" (Sesamia inferens) About three inches long, and light green all over, except a reddish streak along each side, and the sides and back covered with short, green divergent bristles, situated in tufts on the dorsal or the sides, of the segments (the Hyperchiria inferens of Fabrièüs) spins a roundish compact cocoon, and the moth appears in the month of June.

Mr. John Martin, in his paper on Lepidopterous larvae, in the Tenth Report of the State Entomologist of Illinois, states that it feeds on False Indigo, Sassafras, Black Locust, Indian corn, Willow, Wild-cherry, Oak, Birch, Sweet-fern, Currant, Apple, Clover, Snowberry, Ash, Elm, Hop-vine, Balsam, Poplar, Balm of Gilead, Dogwood, Choke-cherry and any soft, easily eaten plant, it will inhabit the omnivore. We have never found it on all of these; but we have found it on one-fourth of them at least. The sexes differ very much in regard to size and color in the moth state.

The male is the smallest—expanding about two and a half inches—is of a corn yellow with purple wavy and zigzag lines on the front wings, and the hind wings have a large bluish spot on each, with a broad black margin, something like the spot on the ends of the feathers of a Peacock's tail. The female expands fully three inches, and her front wings are a purple brown minged with gray. She has also the spots on the hind wings, but much larger than those of the male, and her body is more that twice as thick.

CORN APHIS.

Mr. Joseph Pearse, Drumore township, Lancaster county, Pa. The Aphids sent to me by the hands of Mr. W. H. Brosius, of Liberty Square, without much doubt, are the Corn Aphid (Aphis mutabilis) of Doctor Fitch; and they are said to infest the whole stalk, as well as the roots, especially the young silk. We have frequently found them on the corn, but never thought of looking for the same species on the roots. They are frequently found as early as May, and we think the unusual dry weather the past summer, and the consequent looseness of the soil, caused them to confine their operations to the roots throughout the months of June, July and September. The predominating coloration of these insects is green, some few were pale yellow, and others a pale reddish color, which only shows advanced stages of development. It would have been
difficult to have applied a remedy; perhaps submerging the fields, where that could have been done, would have been effectual.

HONEY LOCUST.

Conewago, Sept., 22, 1851.

S. S. Rayvon, Esq.—Dear Sir: Enclosed please and seeds of the Honey Locust, some in a short time. If explained, together with their history, nature, &c., &c., would prove of interest to many readers of the FARMER—Yours very respectfully, F. W. B.

Your letter and seeds came only to hand; one or two of the leaves, however, were crushed, and the larvae killed, although we succeeded in breeding the mature insects out of the remainder; but we came near being defeated, not because the insect itself was new to us, but we should have failed in their proper identification. When we removed the seeds from the envelope we placed them in a small pasteboard box, and on the night of the 20th of September the perfect insect escaped from the peas, cut a round hole through the wall of the box, and all but one escaped during the night. It is safely now, that one was captured immediately outside of the box. This insect belongs to the order COLEOPTERA (Beetles) and is commonly called the "Honey Locust seed-wevil," (Sperrynogus robinei) and is called the "Pea-wevil," more generally called "Pea-bug." There were nine seeds in the envelope, two of which were crushed and the peas therein killed. Three seeds are still intact, and therefore three of the weevils must have escaped. If the seeds of the Honey Locust were particularly valuable, fire out of eight or nine might be considered a proportionately great destruction, but even the remaining three may develop a beetle before next spring, which would be a further depreciation. They differ from the Pea-bug in that they devour the whole internal kernel of the seed, so that they could not possibly germinate, whereas the Pea-bug generally does not touch the germ, and most of the infested peas will still produce plants. This specimen before us is eight millimeters in length, and about four millimeters across the bases of the wing covers. The "horn" (antennae) is proportionally long, but none more than a very moderate size in the Pea-bug, and the entire insect is a light chestnut-brown in color, slightly motled with a darker and a lighter color near the ends of the wing covers. The "Honey Locust" (Gleditschia triacanthos) is not as common and not as accessible as the pea, and hence we have never had an opportunity to study the "history" of the insect experimentally, but we presume it is similar to that of the Pea-bug. The female Pea-weevil deposits her eggs on the outside of the young and tender peas in the spring, and in a short time the young grub is hatched and eaten through the pod and into a seed. More eggs are often deposited than there are seeds in the pod, hence the overplus very probably all perish. They are so exceedingly small when they are first excluded from the egg, that the aperture of entrance is soon healed up by the rapid development of the fruit. When peas are green, millions of these little pea-worms are eaten without any body being injured, or even knowing of it. After all, what is it but eating cleanly vegetable feeding animals, fattened too on delicate peas. The larvae of the honey-locust weevil does not need to make the provision for its egress from the seed that the pea-bug does, notwithstanding the shell is harder. In such a case provision would be necessary; for an insect that can cut a hole through a stiff pasteboard box in one night, can help itself through the world. Please send us some entire pods containing seeds.

LIMA-BEAN ENEMY.

On the 1st of September, S. P. E., Esq., brought us the pod of a Lima bean in its green state, containing an insect, which, through a want of time and proper opportunity, passed away without our being able to make the necessary record of its appearance and development. We, however, will state what we did observe and perhaps some other person may know something about it. The pod, as we have said, was still green, but on opening it all the seeds, except about the half of one, had been consumed by an insect or insects, and nothing remained but a number of yellowed coats, which had been removed and cut through one side of the pod. Within the cavity of the pod we found a short ventrally flattened larva, white beneath, and very pale green above, covered with short hairs leaning backward, but distinctly showing the sutures between the segments. The eyes were black, and it had six short, whitish anterior feet; but it had, instead of prolegs, wart-like concretions on the lower abdomen, arranged similarly to those in Lepidoptera. We took it at first to be a Limacodidae, but we subsequently observed that it did not spin a cocoon as the Limacodidae do. We placed the pod containing the larva in a covered glass jar. In two days thereafter, and after consuming nearly all of the remaining seed, the larva abandoned the twisted and shrinking pod, and then crawled up the side of the jar, fastened the caudal end of the body to the shoulder of the jar, and hung for three days with its head downward. It then threw off its larval skin, and suspended a blunt naked pupa of dull yellowish color, and about a fourth of an inch in length, with the pupal wings folded over the thorax and antennae and the legs very slightly protruded. Indeed, the process was similar to the transformations of the coccinellids, and the larva was not much unlike that of the "Northern Lady bird"—(Epilachna borealis). On our next observation we found it had fallen to the bottom of the jar, and was lying on its back. Knowing that the evolution of the imago would take place through the back we attempted to turn it over, and found it fastened, either from an injury received in the fall, or a glutinous substance on the bottom, and in a subsequent attempt to turn it over we fractured it, and in a day thereafter it turned black. On attempting to remove it, it was broken in pieces, and that ended our observations, made at a period when our head and our hands were almost entirely absorbed by our peculiar obligations and engagements.

On the 20th of September last, Mr. L. brought a dozen of larvae that he found crossing the road near Petersburg, Lancaster county. He did not observe any of them on the vegetation of the neighboring fields, but the dusty road had thousands of them. They are three quarters of an inch long, have the pectoral and prolegs arranged as in the Lecanidae, but they have a disproportionally larger number of lateral segments, which are very much lighter. The color is dark, swarthy on top and lighter on the underside; the segmental divisions are deep and distinct; there is a yellowish lateral line on each side, and dorsally they are spotted with black, from end to end. The thoracic segments are contracted, are of a darker color than the other parts of the back, and have the black spots closer together. As we had neither time nor food to feed them, we immersed them and have them still.

ENTOMOLOGICAL.

THE CORN-WORM. (Seliothis armigers) Hubner.

In many of the Western States the corn-crop is being considerably injured by a greenish worm which lives beneath the husks and devours the kernels. This same worm in the Southern States feeds upon the cotton bolls, and on this account is there known as the boll worm. It does not confine itself to these plants, but will eat cotton—bolls—also feeds upon tomatoes, peas, and beans. These worms vary in color from greenish to brownish, but are sometimes tinged with pink. This difference in color is due largely to a difference in the quality of their food, as those found in the green corn are usually green, while the darker colored ones are usually met with in corn that has become more mature. They are usually marked with darker stripes—the green worms with stripes and several dark-brown spots, but the brown worms with stripes of darker brown. In the latitude of Northern Illinois there appears to be but one annual breed, and these pass the winter in the chrysalis stage, when they burrow obliquely into the earth to the depth of five or six inches, and line their burrow with a thin layer of silk; in the bottom of this burrow the worm soon casts off its skin and assumes the chrysalis form.

As these worms live concealed from view beneath the husks, their presence is seldom noticed until after they have done the damage that they are capable of doing; and it seems almost impossible to devise any means for exterminating the creature.

After they have entered the earth and assumed the chrysalis form, however, they are more at our mercy. If the ground in which the chrysalis are sheltered is left undisturbed, or otherwise stirred so as to sift the loose dirt around them, the first rain-storm that comes will cause the dirt to adhere to them, and this, in connection with the subsequent heating, nearly always proves fatal to them; whereas if they had been allowed to remain in their burrows they could have withstood any amount of cold and freezing weather, or even slight injury. Where large areas are planted to corn this is seldom harvested early enough to permit the ground on which it is grown to be plowed. In cases of this kind a small triangular one-horse cultivator may be run between the rows, and this will keep a large number of the burrows of this insect sufficiently to cause the chrysalids to perish. It should sift the ground to a depth of at least six inches, and to make this more certain it would be well to cross-cultivate. This should be done as late in the season as possible, so as to give the worms sufficient time to assume the chrysalis form before their burrows of a Lima-bean in its green state, for else after the worm is unearthed it will form a new burrow and thus pass the winter in safety.

D. W. COQUILLET.

McHenry County, Ill.

The above we clip from the German Doctor, and would make the additional remark, that in the summer of 1880, we read:
THE ELM TREE WORM.

I read in the Ploughman of July, 30 that a serious injury has been done to the elm trees at West Point, and well nigh ruined them. I have an elm tree standing in front of my house three feet in diameter, almost denuded of leaves. I send you a sample of the twigs, the length of three, to one foot in length. They commenced felling six weeks ago, and now have ceased, the little books had; there are no worms about it, but it looks as though the twigs were sawed off, but I cannot see the insect. Three years ago they performed the same on the tree. Can you tell what I can do about it? I value the tree at $500. Yours truly, P. F. Southboro, Aug. 1, 1831.

The description given is not sufficient to enable me to recognize the insect, but always the truth of the twigs sent, we are inclined to think that they were not cut off by the little green worm, but that it was done by some other insect which attack the bark off in a ring around the twig. We have seen the ends of the twigs of currant bushes cut off in the same way, but never could detect the enemy for this reason. We have not suspected that the mischief was done by a perfect insect that had wings. No doubt the insects, whatever they may be, could be killed with kerosene, or by spraying with white oil soap; it is true a tree so large could not be easily reached, but its great value would warrant the expenditure of considerable time and money, to save it.

The above tree must have been infested by the "Elm Tree Beetle," Galerucia Xanthomalaena or the "Tree Girdlar," Oenecetia singulatus, or by both of them.

The larva of the first named skeletonizes the foliage and causes it to prematurely fall. The second named deposits its eggs in the branches and then girdles them outside and in time they break off and fall, but the leaves are not touched by this insect, as the larva is a borer.

A third insect a "Pruner," Elaphidion patator, girdles the branch from the inside, with similar results.

The first of these were very destructive to the Elm trees of Lancaster county.

BUGGY PEAS.

Please tell me how to keep peas for seed, and not have them get buggy, and oblige a subscriber.—B., Aug. 4, 1831.

The pea weevil (Brachus pipilis) is a very destructive enemy to the pea. As soon as the pods are formed and the little peas begin to grow, the female weevil punctures a hole in the pod, opposite each pea, into which an egg is deposited; as soon as hatched, the little worm buries itself in the pea, there to eat and grow; until cooked for the table, or if kept for seed until winter, when it changes to a bag, and eats its way out, and is ready when the next crop of peas begins to grow, to lay its eggs for another generation. As this enemy has its seasons, to avoid it peas must be planted late, so they will blossom after it has laid its eggs and died. Peas planted as late as the fifteenth of June will escape. If seed peas that are buggy be kept two years before planted there will be no danger of propagating the insects. It is said that if peas when gathered and shell be spread in the hot sun, it will kill the worms; not having tried this we cannot vouch for its truth.—Massachusetts Ploughman.

INSECTS ON FRUIT TREES.

To expiate these in the way that used to be practiced is a most tedious operation, as the old orthodox mixture of soot, lime, soft soap, tobacco water, etc., had to be put on with a brush, doubling the trees and often the walls to such an extent as to render both unsightly till covered with leaves; but now, thanks to paraffin, fir-tree oil, nicotine soap, Gishurst, Fowler's and other patent compounds, this painting and disfigurement, with its attendant labor, are quite unnecessary, as by diluting them a certain regulated strength that may be syringed or put on in the form of spray, and the bark and insects covered quicker and far better than could be done in the way already advertised.

The most troublesome pests to deal with are scale, of which there are several kinds, the most difficult of these to kill being the white, the appearance of which is something like a speck of lime wash, and although without means of locomotion, it is surprising how soon it spreads itself over the branches of a tree, waking after a visitation of such a minute, it is a minute kidney-shaped insect, having a hard brown skin. To make either of these kinds of scales leave its hold requires strong measures, which are best taken in the winter, as then any insecticide that is used may be applied stronger, than would be safe at any other period of the year.

An insect even more difficult to destroy than scale, is the house that affects apple trees and causes knotty excrecences to form on the bark. This blight spreads at a rapid rate, and if not dealt with soon injures the health of the trees, and which it has effected a judgment. Various remedies have been recommended, but I have found none more efficacious than paraffin oil, put into the crevices where the insects are, with a brush, as then it at once saturates them and appears to dissolve them.

Another way is to make a thick liquid with clay, paraffin and water, and dab the mixture over the injured parts and so stifle the life in their beds and stop others occupying the same positions again. The worst pest, however, that gardeners have to contend with during the season just opening is the aphia, the black form of which is very tenacious of life. These chiefly affect cherries, but may sometimes be found on peaches and nectarines, and if trees are to be saved from being crippled, these flies must be allowed no quarter, but battled with as soon as they put in an appearance.

The most economical way of dealing with them when on the young shoots of cherries is to steep some tobacco in water, using about half a pound to the gallon, and after straining the liquid the ends of the shoots can then be dipped in by simply bending them down and a tree may thus be cleaned at a rapid and very cheap rate, as there is but little loss of the juice. Before using it, however, the trees should be gone over and have all superfluous growth removed, and that on the spurs stopped back, which, by taking away the tender tops, will get rid of many of the insects, as they do not attack the older and more fully developed leaves.

Nicotine soap is also fatal to black fly, as it contains the active properties of tobacco, and does not hurt the delicate tissues of the foliage, which, when applied at such an early stage, most of the other insecticides do. Tobacco powder, puffed on by means of a distributor sold for the purpose, may likewise be used with great success against these troublesome aphias, as well as green fly, which latter it renders most uncomfortable at once, and sets him struggling from the intoxicating and paralyzing effect it has on them.

For peaches and nectarines at the time of the fruit setting; and till the skin gets somewhat thickened; a brisk spray of lime water, some liquid insecticides so early is unsafe, and after disbudding it often happens that only a few shoots are infested, and a puff of the dust on them prevents further spread. Later on, when the weather gets warm, the garden engine is the best eradicator, as by well-directed streams of water they may be washed off by its powerful force, and trees, by its aid, kept in most luxuriant health.

In cases where aphias may have got a hold previously, it is a good plan to apply a syringing of tobacco liquid, some of the insecticides also being well suited to follow up with the water, which will dislodge all stragglers, and then the work of keeping clean for the rest of the summer will be easy enough. In many gardens where there are old walls, red spider gives much trouble, and to cope with this pest at starting sulphur is the best remedy; and if this is mixed up as a paste, and then put into water and kept stirred, it may be syringed on and driven into any nail holes, mortar joints or other crevices in which the red spider lurks. By adding a handful of patent liquid insecticide to a gallon of sulphur and water, the mixture will stick better and be far more effectual.—Gardener's Chronicle.

REMEDIES AGAINST INJURIOUS INSECTS.

The relation of climatic influences on insect development—an absolutely necessary prerequisite to the art of insectpoisoning—is yet an almost unbroken field. A knowledge of this relation to a given species must be obtained before entomologists can predict changes in insect injuries. If a careful study of this relation entomologists can predict with reasonable certainty, a year in advance, the appearance of the various species of injurious field crops, farmers will then be enabled to plant such crops as will be likely to suffer least injury from this species. For example, if it is predicted that early in the season, crops that mature early will be the ones to plant, as oats, for instance, in the place of corn. If the coming of the army-worm can be predicted in time, the farmer can then plow up a portion, at least, of his meadow and sow it in oats, or plant it in corn, or some other crop. It may, I think, be safely assumed that a long and careful study of this
THE LANCASTER FARMER.

(October,

relation will ultimately enable entomologists to do this. Perhaps the end contemplated in the above will never be successfully accomplished until the government establishes a regular bureau of entomological observation with its stations and its paid officers all over the country. The signal service never amounted to much while it was conducted on the volunteer system (even now many people think it "costs more than it comes to,") and its present efficiency was only attained after a more thorough organization and a pay department. In these practical days no body can see it "pays," and as things are now socially and economically, no body expects they should. The redundant existence of insects has become such an important factor in agricultural and horticultural success, that a permanent department will have to be established, in order to counteract their harmful influences, that ultimately may become as important as that of State, of War, the Treasury, the Navy, the Interior, or the General Post Office, and apropos made for its support. The "old fool" are fast dying off, and that will not wear out pay, and why should they? seeing that without pay the earth presents no abiding place for them. The earth is becoming too populous, fortunes too monopolous, and opportunities too precarious to expect the masses to throw the results of their energies gratuitously into the lap of luxury. The idea of such observations as those alluded to above, is a good one, and it will also be an effective one, as soon as they are conducted according to system, and provisions made to lay a permanent foundation upon which to build such a useful superstructure.

CONTRIBUTIONS.

BONE SPAVIN.*

Spavin is of great frequency in the horse, and during the first stage, previous to the deposit of bone, the lameness resulting from the inflammatory action is attributed generally to the hip or whorlbone by unskilled persons, and as a consequence their treatment is unsatisfactory.

The osseous deposit or bunch is the result of disease of the small bones forming the hock, taras or ankle joint, (this articulation corresponding to the tarses or ankle in man.) It is defined as a bony enlargement, situated on the interosseous part of the hock and originating from inflammation of the bones, interosseous ligaments or other tissues of this joint. The enlargement or bunch is the result, not the cause of the disease; a horse may be very lame from spavin, without any visible enlargement. The disease is defined as an inflammation of the cartilages bones, leading to destruction by curies of their articular or gliding surfaces; whilst this is going on between the bones, a process of repair is going on on the outside, lymph is thrown out as an inflammatory product, which becomes converted into bone, binding together the small bones and sometimes including the large and small metatarsal bones. This process known as ankylosis being completed, ends the pain and lameness, provided those articular cartilages, forming the true joint, are not implicated in the inflammatory action. It will be seen from his explanation that quacks and so called spavin or bunch curers, endeavor to remove the effect (the bunch or enlargement,) but the cause or primary inflammation still exists. Those unscrupulous scoundrels, being of uncertain location, so long as they get their fees, are careless of the after results of their cruel treatment; the poordumb creatures, subjected to them, often dying from open joints, irritative fever, or are so badly blanished as to be worthless. The causes of spavin are chiefly hereditary taint, strain, starting heavy loads, concussion, overworking young animals, unevenly stocked, &c. &c. In the examination of young animals, on purchase, those with largely developed hocks are often rejected, as being spavin, but experience has convinced me that such hocks become finer as the animal matures, and as a rule correspond with other joints in their development. So long as the diseased surfaces of the bones are unrepaird, so long will the lameness remain, but when they take the place the lameness disappears and the reparative material or enlargement becomes part of the animal economy. The destruction of the slight gliding motion of the small articulations are of little consequence so long as the surfaces of the cartilage becomes not involved, in which case permanent and incurable lameness may be expected. It will be seen from these few observations that a spavin once formed, does not interfere with the animal's usefulness, but during an inflammatory process, the animal is lame, feverish, loss condition and assumes the recumbent position unwillingly. Some young horses whose frames have outgrown their strength, in fact, overgrown young animals too large for their age, seem predisposed to spavin, ringsbone, splints, &c. These should have additional care, feeding and attention, and should be excused from work until fully matured. The produce of spavined animals are so predisposed to become similarly affected that breeding from them frequently ends in a great disappointment, hereditary taint playing such an important role in the production of the disease.

LANCASTER, PA., OCT., 1881.

SELECTIONS.

REVISED FRUIT-LIST.

Since the last publication of our fruit-list, we have for satisfactory reasons changed our opinion with regard to a few of the fruits which it contained. But in regard to the list as a whole we can see no just grounds for disturbing it. Indeed we do not see how it can be improved for this section of country, or as a general list for all the Middle States. Some of each of the separate selections may not do well upon one premises that will succeed admirably on another. Each grower must find out for himself the particular apples, pears, &c., especially adapted to his soil and location. This can easily be done by inquiries of those who are successful fruit-growers, whose soil is somewhat similar to their own.

According to our present preferences, we should select the following for our own planting, and all of which we are now growing more or less successfully:


Peaches.—1. Crawford's Early; 2. Hale's Early; 3. York's Early; 4. Old Mixon; 5. Crawford's Late; 6. Ward's Late; 7. Smock's Late; 8. Susanachan. There is no solid reason to change this list so far as it goes. We suggested to peach-growers to favor us with a list of their own, and a few did, but where they differed from ours we did not deem an improvement.

Grapes.—1. Telegraph; 2. Concord; 3. Hart- ford; 4. Clinton; 5. Salem; 6. Rogers' No. 32; 7. Brighton. We have added to the list No. 32, which, should it maintain its present character, will be the very best out-door variety cultivated. It is a beautiful pink, or rather maroon colored grape, and at times is transparent. It bears regular crops yearly with us, Clinton, in the foregoing list, is only for wine, and is probably the very best for that purpose. We also add the Brighton, a maroon color, as promising well. It is, however, a small berry and rather straggling bunches, but almost pulpless, and of excellent quality. The Prentiss is another new grape, somewhat larger than the Delaware, of good quality and scarcely a perceptible pulp. It promises to take the lead of all the white varieties. The bunches are compact and of fair size. We have not tried it.


*By Dr. Treacy, member of the Royal College of Veterinary Surgeons, London, England.
It is written, not for the information of men who have bred or owned Jersey cows and are familiar with their superior excellence for milk and butter, but for the practical farmer, whose hands and head are too full to patiently figure out the actual value of different animals in his own herd from which he must raise the money necessary to procure the common comforts as well as the luxuries of life, for himself and his family.

In New England a pound of butter can be made for less money than a pound and a half of beef, taking the animals at birth or beginning with females two years old.

Taking any herd of Jersey cows, old and young, from the time the heifers first come in milk, and it will average to make two-thirds as many pounds of butter per annum, as any person in New England can make in pounds of beef, on any herd of any breed.

The beef is worth six to nine cents, and the butter from twenty to forty cents.

The objection raised is, that making butter causes too much work in the house. That

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<td>200 POUND COW.</td>
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<td><strong>Value and Cost.</strong></td>
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<td>1st list prices paid for,</td>
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speak of at distant points, but we prefer to wait another year before recommending it, in the meantime giving it a trial. We shall probably fruit it this year.

It is better that those who intend to cultivate fruit and have to make purchases, to take this list with them to the nursery, and adhere to it as far as possible.

In selecting fruit trees, or any other, be careful to choose those with smooth, healthy looking bark, have entirely shed their leaves, and have plenty of small fibrous roots. Trees on which the leaves remain after frost sets in, and stick to the branches in the spring, may be regarded as not healthy, and in some way lacking stamina.—"Germanstown Telegraph.

BREEDING AND VALUE OF BUTTER COWS.

BY J. H. WALKER, OF WORCESTER, MASS.

This paper is written in the hope that certain facts and principles connected with practical breeding and dairying will be seen in a clearer light than some, under whose eyes this will fall, have ever seen them in before.

It kills the women; but there is no more sense or decency in compelling a delicate woman to make the butter, than in compelling her to plough, to hoe, mow the grass or chop the wood. Making the butter is certainly as hard work as much of the outdoor labor. If men can make three times as much on their own labor devoting it to butter making, as on their labor expended on other farm work, it is passing strange they will sell their cows that will gain them twenty to forty cents a day, and go to making beef that will only make them from six to nine cents a day. It is probably because they do not carefully figure out the result as between beef making and butter making.

Furthermore, every farmer should know what the difference is in the actual value of the different cows he owns, rating their value upon the money he gets for their product.

An ordinary cow will make about 200 pounds of butter a year. The tables are intended to show what the difference is in the value of different cows for producing butter, taking as a basis the payment of thirty dol-

receiving it. If we did not think money paid us as well invested in the education of our children as when it is put at interest we should put it at interest. Whether this is so or not, as long as every business is done upon the basis of interest or investments, we must treat the question of values as applied to cows on that basis. This is the only way to accurately prove the difference in value between one cow and another.

Assuming that each cow cost at two years old, the price named in the tables, will die at twelve years old, the actual value of cows to practical farmers making annually the different amounts of butter named, is therein shown.

The columns in each table headed with the odd numbers, viz: 1, 3, 5, etc., show what the total value of the butter will be, that the cow will make each year, and also in the ten years; and also what a farmer can afford to pay for each cow considering the different amounts of butter named. The footing of those columns show the different amounts the farmer, who buys one of each of the cows
named, paying the prices named for each of the five, will make on each, provided no interest is reckoned on the price paid for the cow, or on the butter made from her, during ten years.

If the cow cost $30, the keeping per annum $25, and the butter sells for 25 cts. a pound, the profits on the cows will be as follows, viz.:

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<tr>
<th>Age</th>
<th>Payy’d for 200 lbs. cow, will get in 10 yrs.</th>
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<td>$49.39</td>
<td>$800</td>
<td>$405.29</td>
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respectively. Table A, columns 1, 3, 5 are d.o.

On first prices paid for cows.—Mass. Ploughman.

ON THE TIMBER LINE OF HIGH MOUNTAINS.*

On the tops of most high mountains we find a total absence of ligneous plants. The highest alpine vegetation consists for the most part of aculeaceous perennials. Lower down we may find some woody species, and often we come to dwarfed forms of trees of species which, still lower down, form forests of considerable height and which as timber make what is known to mountain travelers as the "Timber Line." Thus in the mountains of Colorado the forests commence at about 7,000 feet above the sea level, and continue up to about 11,000 feet, where they suddenly cease, and form at that elevation what is there known as the "Timber Line." On Gray's Peak he found Pius aristata, Pius flexilis, Abies concolor and Abies Engelmannii, with some willows forming the timber line. The Conifereous trees were probably 30 or 40 feet high, and it was interesting to note that this fall timber as suddenly ceased, as if a wood had been cut half away by a woodman’s axe. But at once commencing where the tall timber ceased, the same species exist as dwarf stunted shrubs, seldom exceeding three or four feet in height, and often but a foot, though trailing widely over the ground. In this stunted condition the species would often extend some fifteen hundred feet higher up, or half way from the recognize timber line to the top of the mountain.

Other observers have noted that the average of 11,000 feet marks the entire timber line of the Rocky Mountains.

So far as he knew, this peculiar timber line has been referred wholly to climatic conditions, of which temperature and moisture have been regarded as the chief elements in producing the results. That admirable botanist and energetic collector, Dr. C. C. Parry, in a paper on the Rocky Mountain alpine region, published in the "Proceedings of the American Association for the Advancement of Science" for 1869, p. 249, remarks that the most satisfactory explanation is that the so-called timber line marks the extreme point of minimum temperature below which no exposed phanogamous plant can exist. All that survives above this point does so by submitting to a winter burial of snow, beneath which protecting cover it is enabled to maintain its torpid existence.

The great objection which this purely meteorological view presented to Mr. Meacham’s mind was that the dwarfed and gnarled conifers extending so many hundred feet up the mountain sides, never produced seed, and we are reduced to the alternative of believing either that the seeds have been carried up the mountain sides in enormous quantities and to enormous distances from the fruitive trees below, or by winds, or else that there were seed-bearing progenitors of these scrubby pines, beneath the tall protecting branches of which they had their earliest stages of growth. He was satisfied from subsequent observations in the mountains of North Carolina, and in the White Mountains of New Hampshire, that this last view is the correct one—that large timber trees at no very remote period extended much further up the mountain sides than they do now, and that they have since disappeared for reasons presently to be stated, leaving only the younger trees to struggle on as best they may.

Roan Mountain in North Carolina is about 6,800 feet above the level of the sea. Timber extends to its summit on some parts of it, while in other parts it is destitute of timber for many hundreds of feet down its sides. The species involved in the timber line is Abies Fraxeri and Abies nigras. Oak and other trees come occasionally to near the top, and at about 6,000 feet he measured a black oak, Quercus tino- toria, that was five feet in circumference at three feet from the ground, and was perhaps 40 feet high. The places destitute of trees were the steep declivities,—where those on which the trees were growing were of a more level character. Further down the mountain sides the steep inclines would be clothed with forest growth, as well as those of a more gradual ascent. It is the summit only that the differences in inclination presented different forest aspects. But in the spaces clear of “Balsam,” as the Abies Fraxeri is popularly known, an occasional tree of good size would be seen. In the close Balsam woods, both on the summit and lower down the mountain sides, crops of young plants would be found under the mature trees, but that what was very remarkable, there had evidently been no young trees started till the parents were near maturity. A large area with trees 30 or 40 feet high had a uniform growth of young oak a foot or so high, while other areas of younger trees would have innumerable small seedlings growing among the damp moss beneath them, and it was further interesting to note that in most cases the crops of young plants in each area were about the same age in each case, as if the seeds in the several locations had all started to grow together in some one particular year, and probably at no other time. On the naked places, where few or no trees were now found, there was a sprouting growth of grass almost peculiar to that region, Dractonia compressa, but a close examination of the surface showed occasional tracts of deep vegetable mould which had been formed by ages of decaying Hygrocybe or sphagnum moss, and the evident remains of roots, just as we now find under the Balsam trees, and there is no doubt from these facts that these steep upper declivities were once clothed with trees and mosses, to which the grass previously named succeeded.

With these facts in mind, he examined the aleroal features of the White Mountains in New Hampshire. On Mount Washington, which is a little over 6,000 feet, the timber runs up to about 4,000 feet; while Mount Webster, a mountain forming the southern peak of the same chain, and about 4,000 feet high, has little timber above 3,000 feet. Clearly, climatic reasons will not account for these peculiarities. On Mount Washington there is much of the same character as distinguishes the forests of the Rocky Mountains. As already noted, the timber line becomes marked at about 4,000 feet. For at least another thousand feet we meet with scrubby bushes of Abies balsamica, Abies alba, with some Betula papyracea. Beyond this, and almost to the summit, an occasional specimen of one or another of the conifers may be seen. As noted in regard to the Colorado scrubby growth, none of these had ever produced seed; nor was it at all probable, from the careful survey of the locations, that many of the areas could have been seeded by the winds, however strong, bringing the seeds up these mountain heights. Moreover, there were many cases where there were intermediate areas of larger hardwoods—spruce plants, and where seeds could be brought by winds in these modern times much easier than to the heights above. Besides this, it was evident that many of these dwarfed specimens were of immense age. Some that he examined were certainly fifty years old, though the stumps at the ground were no thicker than his wrist, and, trailing on the ground, occupied but 10 or 20 square feet of space. There seemed to be but little doubt that at some time in the past Mount Washington had forest of coniferous at much higher elevations than at present, if not perhaps clear up to the summit; that these scrubby plants now there were seedlings that had sprung up under the elder ones, and that in time the older ones were destroyed, leaving the small ones beneath alone to their fate.

An examination of different parts of Mount Washington shows not only that this is the true explanation of the absence of good timber beyond what is known as the timber line, but that the same is true of many other mountains as in the state. Illustrations of this are abundant. There is now a railroad running straight up the mountain side from the base to the summit. Near the timber line, a cut had to be made through an area covered by mature Balsam Firs. This cut was about 8 to 10 feet deep. Under the trees moss and dead roots and old fir leaves had made an earthy strata of a foot, or in places more in depth. In this moss was still green from the rains, melting snows and fogs of this elevated region, and sustaining the various shrubbery common to these alpine heights. Young firs were springing up in great abundance. But all the larger trees were dead, though here and there might be seen a branch with a few lingering green leaves. This mass of dead standing timber occupies several acres. The reason for their death was evident. The railroad cut showed that the forest stood on a mass of large but loose granite rocks, through which the waters from the two thousand feet of loose rock above the summit seeped as the railroad cut made, carrying with it all the earthy matter on which the larger trees subsisted, but leaving the tough turfary matter at the surface, on which smaller trees of the same sort may live for many years, though the larger ones

*From the Proceedings of the Assembly of Natural Sciences of Philadelphia, by Professor Meacham.
cannot longer exist. With the death of the larger trees there is, of course, an increase of light, and then the Hierochloe, with other grasses and sedges, speedily take possession, holding together the loose soil, and even permitting in many cases an increase of the earthy layer, by holding much of the disintegrated rock which may be washed or blown on from above. Carefully examining patches of scrubbly spruce, above the timber line, it is not uncommon to find dark patches of vegetable mould, evidently the remains of large trees that have been growing where now only the masses of small scrubbly plants exist. In some places a sharp stick may be pushed down among the scrubbly firs and spruces, and the earth found to be a foot or so deep over the loose rock below, from which the earth has been wholly washed away. Again, there are some places, often nearly an acre in extent, where the scrubbly firs are still standing, dead, from the earth having been washed away from below upwards, not leaving enough for even the moderate demands of these little bushes.

In view of the facts detailed, we may conclude that at the elevation of these mountain chains the lowland vegetation was carried up at the same time. The summit, covered by luxuriant forests, would present a cooler surface to the moist clouds, and there would be less condensation than on bare sun-warmed rocks, and deep snows would be less frequent, and not sufficient to interfere much with arboreal growth. But the rain would of necessity carry down the earth and disintegrated rock to lower levels; and the melting snows, such as there were, would make this downward progress of the soil continuous. In some mountains where the rock was easily broken by frost, as in Colorado and the White Mountains, it would be very difficult for the soil to hold its own against these forces of gravitation; but on more solid rock the mass of tree roots protecting the rock, and retaining the earthy mantle, would longer hold its own. In the middle region, where the earthy surface, being more or less removed away of the earth, the larger trees will have to find a lower level; the summit condensing more moisture, and having a cooler atmosphere, would form heavier masses of longer-enduring snow, and thus keep down from till growth the younger trees left as the older and larger ones retired. They would have to be low bushes by the absence of earth for vigorous growth, and remain trailing bushes, through the superincumbent and long-continued mass of snow.

We thus see that though a long-continued mass of snow has much to do in marking a timber line, that line is precedent to the snowy mass. The primary cause is the gravitation of disintegrated rocks—the movement of the hill top towards the sea. From the moment the mountain reaches its highest point it commences its downward march. The entire reduction of the highest to a level with the plain is but a question of time. The frost and rain and melting snow will do it all, and the water will wash away not only the earth, but cold-loving plants to warnish away and must continually change the aspects of vegetation, as well as perpetually vary the timber line.

In low hills as well as in high mountains the forces of gravitation are also at work. But the sides are seldom so steep as in the loftier hills; the rains do not gather with such force, nor are the melting snows of near the same duration. There are sudden washes, but not the continuous roll of the earth to the bottom. In time they may exhibit the same phenomena of the disappearance of species from their summits as their lofty brethren; but the centuries here will gather much more slowly to present those conditions. In conclusion, he would say briefly that the "timber line" of high mountain tops results from the washing down of the earth from the higher elevations.

Mr. Redfield remarked that there could be no doubt that influences other than climatic (such, for instance, as the washing away of soil, mentioned by Mr. Mechan) do often modify and change the timber line upon mountains. But he was unable to accept Mr. Mechan's views as to the insignificant part played by climatic causes, and still held them to be the prevailing factor in the problem. Dr. Parry's explanation by the weight and depth of winter snows might not always be the correct one, but snow and ice must be very important agents, and Mr. R. thought that, in considering climate, we should have regard not merely to the present period, but to past great secular periods. He then referred to the glacial age, when not only the White Mountains, but all New England, was capped with a vast ice glacier, which under secular changes gradually retreated, leaving only the mountain tops covered. The slow retreat of the glacial covering was followed by the advance of fitting arboreal vegetation, until a point was reached when the present climatic conditions were such as to limit any higher advance of the trees.

DELICIOUS STRAWBERRIES.

Pleasant surprises greet us each year. One season it would seem as if perfection had almost been reached in some of the larger varieties of strawberries which we have already produced heretofore; and another season we might expect to see varieties so different and so superior in some respects to any preceding variety, that we begin to wonder at the capabilities of the strawberry, and to look forward with pleasure to what the future may develop. For some years there has been a decided advancement in the productivity of the strawberry, until at least it is not unusual to find some varieties producing at the rate of 10,000 and even 14,000 quarts of berries to the acre. Keeping pace with this advancement in productivity, there has also been a rapid increase in the size of the berries themselves, which are produced by some of the newer sorts, until at last some few specimen berries have been obtained that measure over a foot around their greatest circumference. Beautiful large berries indeed are some of them! Though weeks have elapsed since they were here, yet the mere thought of them almost makes one's mouth water! There is real satisfaction in raising these immense berries, as when heaped upon the fruit dish they make a fascinating appearance, and few can help admiring, while those who raise extra large berries for sale find it very pleasant to receive from twenty-five to fifty cents a quart for them. All persons will not meet with such success, though berries five and six inches around may very frequently be grown, and even specimens of that size will generally seem very large, and give real enjoyment.

Orient.—Fruit-growers will remember how enthusiastically the Monarch of the West strawberry was welcomed some years ago, and what vigor of plant, fine, large berries and productiveness it displayed when it first made its appearance. In some localities it has decimated, but the Orient, which is a new seeding of the Monarch, appears to combine all the good qualities that the Monarch had in its best days. The plants are productive, and yield many fine large berries, and all of the best quality.

Manchester.—This new variety has developed a merit that has given a pleasant surprise to nearly all who have seen the plants, and that is—their capability for producing large crops of fine berries on poor sandy soil, near the sea-coast, where but few other strawberries would thrive. This will undoubtedly make it a very valuable kind for such persons as have similar soil. Then, too, as varieties that succeed on poor sandy land almost invariably do better when placed on soils where they can get more nourishment, it should also prove a desirable sort for most other persons. Experiments thus far in more favorable localities confirm this in the more vigorous growth, and even finer crops that are obtained. The fruit is of a bright red color; of good quality; stands shipping well to distant markets, and keeps its fresh appearance much longer than most varieties. This variety certainly gives promise of becoming a great acquisition.

Bidwell.—This is a new strawberry, whose name is more familiar than the preceding variety from the prominence that has been given it at some of the Horticultural Exhibitions. It is difficult to say which will prove the more popular, whether this or the Manchester, though they will not conflict very much, as the Bidwell is an earlier ripening berry. The Bidwell has developed rare qualities for productivity, with young pot-grown plants, set out a year ago, having yielded over a hundred berries each this season; but what is still more noteworthy is, that the size of the fruit fruit has at times averaged as large as the Sharps. It is a fine variety, either for eating or for shipping to distant markets, while the plants are healthy and vigorous growers.

Mammoth Bush.—This has the peculiarity of making but very few runners. Mt. Vernon is becoming well known for its great productive-ness and beautiful large bright scarlet berries; President Lincoln and Standard are immense fruit—some few specimens measuring nine, ten, and even twelve inches round. Among some of the other prominent new kinds are Longfellow, Satin Gloss and Hark's Minnesota.

The strawberry will repay rich manuring and good cultivation, though it is surprising, sometimes, to see how well they will do when almost neglected. Pot-grown plants give the best results for planting in summer, but those easily procured may still obtain many fine plants the first year. If they are the ordinary layer plants through the nails, being careful to water and shade them well for a few days until growth commences. By hoing or raking the ground frequently they will make a
rapid growth during the fall, and by next summer should give many a delicious feast of fine large berries.—R. H. Haines, Moorestown, N. J.

THE ATLANTA COTTON EXPOSITION.

Above we give an accurate view of the World's Fair buildings in Oglethorpe Park, Atlanta, Georgia, which was fully described in a recent letter of our Home correspondent (J. J. S.) as a structure that will stand as a wonder before the world, embodying as it does features traceable to the similar structures at Sydenham, New York, Philadelphia and Paris, all of which was seen by our correspondent. The main building of the exposition stands on a depression under the elevation, while the space intervening is laid out in lots and decorated with fountains and flowers, forming a most pleasing and refreshing aspect. Beyond, to the left, is a beautiful pond or lake, from which the water by which the buildings and grounds are supplied is forced up into a reservoir for distribution. The main building is not gorgeous, but it is substantial, and, while not showing as much glass as the Centennial buildings, is just as well lighted and the interior protected against heat and cold, while nothing heavy or cumbersome obstructs the eye or obstructs the view. The longest wings form a continuous avenue of 312 feet, the cross wings 144 feet, both 96 feet wide; the grand center or transept is 96 feet square, provided with a gallery. The whole place, park as well as buildings, will be lighted by electricity. In the latter addition to its other great novelties and attractions the Atlanta Exposition will stand as the greatest achievement of modern times.

In the centre of the building is located the fountain and other ornamental devices; also four large steam engines, each of which drives the machinery in one wing. Each section for the display of exhibits is lettered; the columns are eight feet apart, from centre to centre, and numbered; the sections next the walls are eighteen feet wide, with an aisle on the side next the wall six feet wide, and the arena next the centre eight feet wide. The central sections are sixteen feet wide, and face the avenue. Double sections will be thirty-two feet wide, and face upon both avenues.

The exhibition will open on the 5th of Oct., and will continue three months. Its influence upon the industrial development of the South, and in cementing the bonds of unity between the sections, cannot be overrated.—New Era.

THE COMING TREE.

The eucalyptus, which is being introduced in California, has many qualities which recommend it to Eastern sylviculturists. It comes originally from Australia, where the tests of various soils and varying seasons have amply demonstrated the good qualities of the tree and its rapid growth even under adverse surroundings. Trials of late years in Southern Florida have further verified these claims and there is no reason why the tree will not flourish in every section of the United States. It is harder than the chestnut, and, like the latter, it will grow in the rockiest of soils. It is more independent of rain-food than any

ree known in the country, wet and dry seasons alike failing to affect its growth. Its wood is hard, somewhat of the nature of yellow pine, but firmer and stronger, and fit for use in ship timbers, while in Australia, cabinetmakers, wheelwrights and carpenters use it throughout their trades. The bark yields a fiber twice only in efficiency to quinine.

but superior in all medical qualities to cinchona. This quality alone must make the tree invaluable, and its culture here, to an appreciative extent, would settle forever the vexed question of quinine duties. The rapidity of its growth is its most wonderful feature. It grows four times as fast as the American pine, and for all ordinary purposes yields fragrance, but produces no fruit or nut. Its strength goes directly into trunk and bark. Its beauty of form and luxuriant evergreen foliage are additional qualities that must recommend it in country or city.

[We here give the two sides of the Eucalyp
tus globulus and admonish our readers to govern themselves accordingly. To us, the ex-
experience narrated in the second article is conclusive, because the writer has practically been there, and hence is fully qualified to testify. —End.

*The Coming Tree.*

A cotemporary contains an article under this heading, in which the eucalyptus globulus is referred to and which is spoken of as just introduced into portions of the United States, and that it is adapted to every part of the republic! The article says further that it is “hardier than the chestnut, and like the latter will grow in the rockiest soils.” Also that “for the Eastern and Middle States, where the lack of forest protection is not unfrequently felt, no tree has been offered the culturist that can present so many primary points of advantage as this Australian immigrant, and its general introduction and culture should be a matter of but little time.”

We have never seen an article of equal length contain so much ignorance and so many downright absurdities. In the first place, this tree was introduced into the southern parts of California about eight years ago, where it flourishes very well, and is regarded as a valuable tree in many respects. It will do also in most of our Southern States; but to say that it will do in the Eastern or Middle States proves that the writer of the article in question was totally ignorant of what he undertook to inform others. We might as well expect the banana, the orange, the lemon, the pineapple, the palm-tree, &c., to grow here. During the Centennial celebration, a gentleman from California passing in front of our premises saw an eucalyptus growing in our front yard and he was surprised at seeing it so far North, that he stopped to examine it, and said he had seen none so large since he had left California. It grew during the season about eight feet, but it fell a victim to the first frost in the latter part of October. The plant was presented to us by Messrs. D. Landreth & Sons, and was grown under glass. When frost-bitten, the stem could be crushed between the thumb and finger.

We would, therefore, respectfully suggest that this ought to dispose of the eucalyptus globulus, so far as it has anything to do with the “Eastern and Middle States.” —Germantown Telegraph.

**Pennsylvania's Untilled Acres.**

It is simply undeniable that for a quarter of a century emigration from Europe has found its way beyond the Alleghenies. The vast acres which have been the west has always had irresistible attractions for the people from the Old World as well as those of our older settled States. There is, of course, some cause for this. Those lands could be had from the government, without cost, in their natural state, and at very little more from those who, having settled upon and broken them up, were for some cause dissatisfied and longed for another change. Then, too, they were fresh and un worn, and gave maximum returns for a minimum amount of work. This in itself was no small item. However many labor may labor out of sheer love of work, they are nevertheless not indifferent to the result. The hardest worker looks for large returns. Now—where else does the soil yield such generous crops for so little labor. There were drawbacks to be sure; the comforts of civilization were, in a high degree, absent; the neighbors were few and far away; the roads were bad and the markets distant; fuel and timber were scarce; schools, churches and educational advantages generally were rarely attainable; the prices for farm products were very low, and there were besides scores of other drawbacks, which the pioneers were compelled to undergo. Still, the advantages seemed to be so largely in favor of the unsettled West, that the struggle was a profitable one. The East, both of the city and country, has swarmed westward until we have a mighty empire beyond the Mississippi, which is rapidly becoming the granary of the world. This is not to be regretted. It has developed our country with unexampled rapidity. In a few years it has rechaned millions of acres from a state of nature and made them subservient to the pressing needs of the human family, thereby aiding the onward march of progress. Then, too, this westward movement has removed the little aid from extraneous surroundings. As railroads were projected through these virgin lands, they speeded the country with attractively-written pamphlets and newspaper articles containing glowing descriptions of the climate, soil and other attractions of that country, and sounding the praises of the advantages possessed by those sections. Real estate speculators, land agents, farm brokers, all entered the field, and between them such an enthusiastic spirit was awakened and has not yet subsided, nor need have the efforts of them any at all abated in their persistence and fervency.

The result of all this has been to persuade a great majority of people that there are no lands worth having but those of the West; that although there are thousands of acres of timber and other unoccupied lands in Pennsylvania, Virginia, New York and New England, they were not worth looking up. Now, it is very certain, that the law of compensation is about as universal as that of gravity itself. No one seems to understand it himself, or the houses of nature. The blessings and good things of this life are very widely distributed. Some have their abiding places here and others elsewhere, and there are few places where some may not be found. If Kansas has a fruitful soil, rich and deep, she has also ague, fevers, grasshoppers and low prices. The good and the evil are blest even there, as they are elsewhere, and her settlers have often found that the skies grow dark there just as they do elsewhere. There have been again and again arguments about the limits of the Middle States have been neglected during recent years, and it seems strange that it should be so. The case with which sixty or more bushels of corn can be grown upon the unexhausted soil of Nebraska, has been too strong to be easily resisted.

Central and Northern Pennsylvania, as is well known, was once heavily timbered and much of the land in certain counties is still covered with pine forests. But the demands of civilization have made heavy drafts upon it. Baltimore and Washington have consumed many thousands of acres in Bradford, Tioga, Centre and other counties from which the pine woods have been cut and which are now lying uncultivated and idle. These lands are to be had at rates that compare favorably with those of the new states in the far West. They are susceptible of a high state of cultivation, and under judicious treatment can be made to grow good crops. The soil, it is true, is thin, but careful farming, such as the wide awake tillers of the soil in this and neighboring counties are accustomed to, would soon render them highly productive. Experiment, carefully made, have demonstrated that any labor bestowed upon them will yield a profit. The crops themselves, but in a rapid appreciation of the lands also, which almost invariably return a large percentage on the money invested.

But there are other advantages that must not be overlooked: Their nearness to market goes far to counterbalance the heavier crops of the West; they lie contiguous to the most advanced civilization of the country; the luxuries of life are as accessible as its necessities; the cultivation of special crops is rendered profitable from the ready access to great city markets; the climate is at least equal, perhaps we may be permitted to say better and healthier, than the settlers on the Missouri and the Platte find it to be there; the high elevation is conducive to health and longevity; the rain fall is more regular; grasshoppers are unknown, and so are the dreaded prairie fires; timber is still abundant and cheap; there are plenty of running streams, and although some portions are somewhat hilly and mountainous, the winds that sweep over them are not to be dreaded like those that at times come upon the dwellers in the timberless regions of our western domain.

These things are worth bringing before the public. There is a large field open to emigrants of the right kind right here among the pine lands of Pennsylvania. Farmers of limited means can do as well on them as they can in localities that have been more highly landed. Life on a freshly turned quarter section in Nebraska is not all sunshine and roses, but there is good land out. A settler with limited means can manage to himself more comfortably on our Pennsylvania lands than he can by traveling fifteen hundred miles westward. The money it costs to go there would go far to make him comfortable here. We are glad to learn that the State Board of Agriculture is directing the attention of immigrants in this direction. We hope their efforts will be successful, and that these idle lands will in a few years be made the pleasant homes of thousands of thrifty farmers from whom our native population may also turn their steps that way when the desire to migrate seizes them. —N. E.

**Our Local Organizations.**

*AGRICULTURE AND HORTICULTURE.*

The Lancaster County Agricultural and Horticultural Society met statedly in their room over the City Hall, at 2 o'clock in the afternoon, October 3, 1841.

The following members and visitors were present: William H. Brodhus, Drumore; H. M. Engle, Marietta; Henry Kutz, Mount Joy; C. L. Hansecker, Manheim; Joseph Armstrong, Martic; W. J. Bicknell, Fulton; Daniel Smycz, East, F. R. Dinsdale, p.p.; W. W. Grissel, c.y.; C. A. Gass, c.p.; Winsome Cooper, Bird-in-Hand; M. D. Kests, Creswell; Johnson Miller, Lititz; J. F. Landis, East Lampeter;
THE LANCASTER FARMER.

What is the Best Method of Keeping Apples for Winter and Spring Use?

Mr. Cooper, to whom was referred this question, answered that of two farmers he knew, both farmers should pick the best apples on the farm, pack them carefully in a sugar barrel, which should be headed up immediately, and, if for spring use, bury them in the ground.

Mr. Levi S. Reid picked his apples not too early, and always before the last frost, and, if a late frost should come until cold weather set in, after which he put them in a cellar. A gentleman having advocated the packing of apples in some foreign substance, Mr. Cooper responded by stating that it was impossible to pack them in anything which would not imbibe some of the substance of the fruit. He would also object to the close packing of the New York dealers.

Mr. Hunsicker was of the idea that the apples should be closely packed, as the handling of the barrel would bruise them.

On motion of Mr. Hunsicker the bills for premiums at the late fair ordered to be paid.

On motion a committee of three was appointed to visit the York fair. The chairman appointed John Miller, Cyrus Neff and M. D. Kendig.

Mr. Levi S. Reid, of A. G. (several) persimmons, raised from a graft from Mr. Samuel Miller's farm, in Blooming, Missouri.

H. M. Engle exhibited a number of very fine cultivated cabbages.

D. W. Graybill laid on the table some specimens of Kansas red plums.

F. E. Diffenderfer brought a basket of grapes purchased from George W. Schroyer, which he desired to find a name for.

On motion a committee of three was appointed to visit the Lebanon fair. The following were appointed: John H. Landis, Calvin Cooper and Levi S. Reid.

THE POULTRY ASSOCIATION.

The Poultry Association met statutorily in their rooms, in the City Hall, on Monday morning, October 8, 1881.

The following members were in attendance: H. H. Tahudy, Littitz; W. L. Hersey, Chicklets; W. A. Shoemaker, city; Charles Lippold, city; John A. Schum, city; John A. Geyer, Silver Spring; Frank E. Ritter, city; A. H. (several) persimons, raised from a graft from Mr. Samuel Miller's farm, in Blooming, Missouri.

H. M. Engle exhibited a number of very fine cultivated cabbages.

D. W. Graybill laid on the table some specimens of Kansas red plums.

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On motion a committee of three was appointed to visit the Lebanon fair. The following were appointed: John H. Landis, Calvin Cooper and Levi S. Reid.

PRIZE POINTS.

The Secretary stated that he had written to Prof. Hedges, but the latter's services were engaged for the time of the exhibition, and he will therefore not be here.

The Secretary also stated that some dissatisfaction having been expressed as to the judges selected for the next exhibition, he had written to several other persons, and gave the substance of their replies. It was also stated that it was thought advisable to pay part of the expense of securing additional judges.

Mr. Bruckhart said there were always some soreheads, and he was opposed to getting high-priced judges from New England, simply because some men want all the birds on exhibition scored.

The Secretary stated that if we secured the services of Mr. D. in addition to the two already secured, he believed we would have sufficient aid.

Mr. Evans thought an additional judge would be sufficient to fill the vacancy.

On motion of Mr. Lippold, the society resolved to secure Mr. D.'s services in addition to the other judges.

SCORING THE BIRDS.

F. R. Diffenderfer moved that the former resolution, ordering the scoring of every bird on exhibition be rescinded.

J. M. Johnston suggested that the scoring should be done as usual, and if any owners of unexcelled birds wished their birds scored it should be done upon the payment of a small fee.

J. B. Lighty offered an amendment, to Mr. Diffenderfer's motion, that only as many birds should be scored as could be between Tuesday, Friday, and Saturday.

Many members took part in the discussion, and a great many suggestions were made to cover the various points arising out of the general scoring of the birds.

C. H. Long offered another amendment that all premium birds be scored and as many more as the judges can during the time they are here. This amendment was adopted, and the original resolution altered.

J. W. Bruckhart stated that any one paying an additional fee of twenty-five cents as entrance fee can have his birds scored whether they be premium birds or not. Carried.

NEW MEMBER.

H. T. Shults, of Elizabethtown, was nominated and elected to membership.

SPECIAL PREMIUMS.

The Secretary asked whether special premiums should be solicited. The sentiment of the society was favorable to this step.

GENERAL REMARKS.

S. P. Eby, Esq., suggested that monies raised in the fowl tribe be admitted to the exhibition.

A motion so adjourned was made and carried.

LNNCEAN SOCIETY.

The society met in the ante-room of the museum on Saturday afternoon, September 24th, 1881. In the absence of the President, the Vice Presidents and the Secretary, Charles A. Hennub was called to the chair, and Mrs. L. M. Zell, Secretary, two terms. Owing to theicornal state of feeling caused by the great national bereavement, on motion, the usual routine of business was dispensed with, and nothing considered save a record of donations to the museum and library, and expressions of sentiment relating to the nation's and the society's dead.

DONATIONS TO MUSEUM.

A large specimen of Fungus (14 inches long, 9 inches broad) found adhering to a willow stump, in a continuation of the Dillerville Swamp, about a mile south of Lancaster city, in Manheim township. Upper surface light brown, lower surface white, with a narrow white margin on the upper side. This very probably is the Boletus ignarius commonly called "Touch-wood," "Funk" or "Spunk," and the specimen is interesting, Illus. 113, as it does, how rapid, and yet how slowly must have been its development. It is penetrated by several small twigs of willow, and by many delicate stems and blades of grass, some of which are yet green, showing that it is probably a growth of the present season, nowwathering it has been a dry one.

Portions of three stilectum Geoda, internally incrusted with quartz crystals; a fourth specimen of the same contains a variety of Spatulate Iron; also, a specimen of Gypus Jasper, all from Hance county, Pennsylvania. These are very similar in structure to the Geoda, but differ in being fine \\

Dr. G. M. Johnston, of Lancaster, has secured, and has been obtained by Miss Anna C. Rathvon, during a visit to that region the past summer, and donated to the society. These Geoda are tolerably abundant in that county, and are of various sizes, generally hollow and incrusted with quartz crystallizations, from a minute druse up to pyramidal faces of half an inch in length.Externally they are tolerably smooth—as if water-worn—and appear to be covered with a small species of fossilized lichen.
specimen Cinnamon Stone, East Indies; 4 specimens Opal, from Mexico and Columbus river; 3 specimens Silver and Galena, Nevada; 2 specimens Amaltheus from Italy and Massachusetts; 4 specimens Striped Agate, Nathedge Bluffs, Mississippi; 6 specimens Black Lignite (for fossils); 1 specimen of Smoky Topaz, and Cannel coal, Scotland; 1 specimen Gold bearing Quartz, South America; 1 specimen Smoky Topaz, South America; 1 specimen each Green Slate, Sul. Copper and Zircon; 1 specimen each Carb. of Lead, Alabama and Ky; 2 specimens Reddish and mummen Augite from "Glant's Causeway," Ireland; 1 specimen Britte Silver Glance, South America; 1 specimen Granite, 1 Moss Agate, 1 Green Feldspar; 1 specimen each Jade, Franklinite, and Sul. Barytes; 12 specimens of the following: Chlorite, 1 Goelite, 2 Cry. Carb. Lime; 2 specimens Quartz Crystals, 1 Black Mica; 6 specimens Hemitite in different varieties; 1 specimen Calc. incrustation of leaves, Tivoli, Italy; 4 specimens Tridobites; 1 specimen each of Alum, Iron, Silica, Zircon, and Mica; 4 specimens of Aragonite, Mica, and plant impressions, with some coralline.

Library.
Nos. 8, 9, 10 and 11, Vol. 20, of the Official Patent Office Gazette. Official Index to the Agricultural Reports by the Patent Office from 1857 to 1861, and by the Department of Agriculture from 1862 to 1876 inclusive. About 500 pages octavo, from the Department.

Lancaster Farmer for September, 1851.
Those containing fifty Biographical and Historical sketches.
Three catalogues of Scientific and Historical Literature.

New Business.
John S. Smith, D. D. S., of No. 48 N. Duke street, Lancaster, Pa., was proposed for membership. Special.
Here followed the reception of the subjoined papers and the adoption of the sentiments contained therein. A letter which the society adjourned to the last Saturday in October, (29th), at 2 o'clock p.m.
Mr. President: The Linnean Society, in common with the entire country—and not only in common with our own country, but the whole civilized world—recognizes the sad event of the instant, when the nation sustains in the untimely death of James A. Garfield, late President of the United States. It also "herein and hereon," records with emphasis, its exceeding horror at the distractly act by which a whole nation has been plunged into mourning, and a noble life has been snatched from us. It is a blow of a reckless, self-willed, and unscrupulous assassin.
And, whilst we would fain yield a becoming recollection to the overtures of that Allwise Providence, through which this sad calamity has been permitted, we cannot suppress the emotions we feel, nor any less deplore the moral obliquity which impels such an extreme chasteishment as a necessary element in the social and political purification of the people, the state, or the nation. We sympathize with the family of our late chief, and the friends who sympathize with the friends of social order, and we sympathize with the nation at large, in the great loss we have sustained in his premature death. We recall his early and unlettered boyhood; his struggles through secular and professional vicissitudes, until he had attained to national distinction, and was deemed worthy of the highest gift of the people; and we feel humiliated when we reflect that under the auspices of Republican institutions, and near the close of the nineteenth century, such intellectual culture, moral integrity, and public spirit, should have felt a victim to deliberate and concealing malice.
In his death by violence we recognize a blow aimed at official independence, co-ordinate purity, and political manhood; and if, under God, these virtues should be upheld and assiduously cultivated by the future progress of our government, James A. Garfield will not have died in vain, but will live emblazoned in the hearts of the nation.

Mr. President: Although the sad event to which I have referred has only recently been published in the newspapers of the country, I nevertheless feel it incumbent to officially announce to the members of the Linnean Society the death of Dr. Aplm. F. Garber, on the 25th of August last, at Florence, Pa., in the 45th year of his age.
Dr. Garber was one of the original members of this Society, having united himself with it whilst he was a student at the Normal Institute; and at his death, and for many years previous to that event, he was one of most distinguished and valued correspondents, and was about to enter upon the quiet and devoted life, which he and his co-member, the late John C. Seitz, entered upon the domain of their specialty in natural science, and how perseveringly and efficiently they served in the vegetable kingdom, sparing neither time, labor nor expense, both being botanical students under Dr. T. C. Porter, then of Franklin and Marshall College. They both brought to the altar of science their earliest and most unselfish affections, and both were struck down in the midst of their usefulness by the fell destroyer, consumption; although the doctor survived his early companion many years. Whiles they had health and resided in proximity to the Society, none were more punctual in attendance than they. Before the field meetings from their original design, they accompanied it in its usual summer rural excursions, and participated in its scientific explorations. But they seemed to present a too "shining mark" for death to avoid, and with their other members, they were among the active/scientists among our correspondents, and Stuaffer and Bruckart among our active members, they one by one have yielded to its unerring arrows. But they have made records that will live in the annals of science, or the memories of friends. Dr. Garber was a member of the country school of Lancaster county, and then entered as a student in the Millersville Normal School, where he graduated. Afterwards, for several winters, he taught public schools in different parts of Lancaster county, and then received an appointment as teacher in the Cilwagus Seminary, where he had four or five subordinates, as teachers under him. His genial nature and quiet, pleasant disposition made him many attached friends, and hence wherever he taught the respect and confidence of his pupils. He was also diligent in something beyond the curriculum of the common school, and hence he entered Lafayette College at Easton, Pa. Here he was soon appointed assistant chemist, and also at the same time he studied medicine with Dr. Gray, who was then graduating at the College, he attended medical courses for three winters at the University of Pennsylvania, and after obtaining his diploma he was appointed one of the physicians in the Pennsylvania Institution for the Insane at Harrisburg. Here he had charge of over two hundred patients, and remained in the discharge of his onerous duties for three years. Finding his health impaired, and being overworked, he felt himself compelled to resign his position; after which he located in the practice of his profession at Philadelphia, and in his practice, he had an account of the coal dust, carbon, and smoke irritating his lungs, thus compelling him to leave that locality.
Dr. Turl Green advised him to locate in a warmer and healthier climate, and he remained for some time in Southern Florida, pursuing his botanical studies, and collecting a large number of plants, many of them exceedingly rare, and several unknown to the botanical world. Here he "roughed it" among the chapparals, the islands, and fields with unflinching zeal, and devotedly special in natural science. It was during these explorations, made in the years 1878 and 1879, that he discovered the rare plant which was dedicated to him by Dr. A. Gray and will be henceforth known as Garberia frigida. The conservator of the Botanic Sections of the Academy of Natural Sciences, in his report for 1879, states that Dr. Garber, during his sojourn in Florida, donated to the Herbarium of the Academy, 623 species of rare and new plants from that State, and all the result of his own unending industry. At his death, Mr. G. W. Beltz, from his great respect for Mr. Saint Thomas in the West Indies, where he again commenced an active exploration in his favorite pursuit. In 1889 he returned to Florida, and located in Manatee, from whence on several occasions he sent plants to the Academy. He was the first of the Linnean Society. He also passed the winter of 1881 in South Florida, and returned to Lancaster county in June last. Struggling all the while against the encroachments of the disease that was making sure inroads upon his vital system, he sought to evade the effects of the intensely warm weather, by a removal to the mountainous regions of Pennsylvania, locating above Lock-Haven, in Clinton county. But all to no purpose—the climatic effect was increased irritation of the lungs; and he contemplated a return to his home in Moultrie; but only had strength enough to reach Renova, where in a few days, his feeble lamp of life was extinguished by the cold hand of death. But such a pure, indolent and useful life cannot end here, it is merely transferred to a higher and a nearer place.
About the outbreak of the rebellion, Dr. Garber enlisted in the service of his country—one campaign with the Three Month's Men in Maryland and Virginia, and one in Schuykill county, to suppress a conspiracy of slaves. He was at the battle of Gettysburg, and remained with the Army of the Potomac until the close of the war, and all his spare moments on these occasions were devoted to his scientific pursuits, and he collected many specimens of plants and minerals, and also improved his health. Dr. Garber was a member, or at least, a corresponding member of the "Association for the Advance of Science," a national organization. But his earthly labors are now ended.

May he rest in peace.

Agriculture.
Blount's White Prolific Corn.
Prof. Blomme recently gave the following history to the above variety of corn through the columns of the Rural New Yorker:
"In 1871 I raised my second crop of corn—ten acres—the seed of which I obtained from a very nice and particular farmer on the Tennessee River. It was a good corn which did not have time to ripen. While this crop was tasseling I found several stalks ripe enough to cut up. Acting on the idea that an earlier corn was desirable, I saved from these a few ears and planted the grain the next season. This crop ripened earlier than the preceding one, and the kernel was smaller, but of at least importance, I selected the top ear on those stalks that had two or more of good size. In 1873 the result of my labor was so satisfactory that I gave my corn the name B. Now bears. All my theories were then confirmed by actual facts. I found improvement in every direction. My corn ripened earlier by 10 to 15 days the third year; the ears were larger, the corn smaller, the grain finer and harder, the stalks thinner and more perfect in every way.

Secure Good Seed.
So far as possible, farmers should save their own seeds and not only avoid the expense of buying, but secure seed of good quality and true to name. The seed which ripens earliest should be secured, as the flowers and vegetables and flowers when seeding should not be neglected and allowed to be blown about upon the
THE LANCASTER FARMER.

Horticulture.

Care of Fruit Trees.

S. M. Mahon, in a letter to the Dowagiac, Mich., Republican, says: Many farmers are in the habit of buying trees every season, and taking them out in so-called vacant places in their orchard. Often they are never trimmed, never receive any mulch, and the result the tree becomes unhealthy and worthless. We believe that six-tenths of the peach trees that die with the so-called yellows are as an argument of the disease, yes, far more so, than may be due to trees gone to seed from that disease we call blues. No doubt many peach trees do die with that disease, but if we have a tree in our yard that has stood there for fifteen years, and it dies, it has the yellows; if planted the tree should multiply, of course it had the same disease. The peach has another enemy as fatal or more so to the trees than yellows. It is grub in the root; and if no remedy is applied after their appearance, they are sure death to the tree. The preventative, as well as the remedy, to a great extent, is in the ashes. When trees are planted, put among the roots two or three quarts of leached ashes, and the first of June wash in very strong soap sulds or weak lye. In the following spring dig away the earth from the roots of your trees and put in more ashes, and they will multiply or thrive, and you will be surprised to see the rapid growth they will make; as a rule they will be healthy. Also put ashes around the tree after planting. You will find that ashes will benefit any variety of fruit trees, when applied on the surface of the soil. If you buy young and thrifty trees, and care for them as you do for your corn, they will amply reward you, and there will be no occasion to find fault with nurserymen.

A Giant Grape Vine.

Many of our readers will remember an item we published about a year ago in regard to a monster grapevine of the Mission variety growing on the ranch of William E. Flynn, several miles from the Cajon. At that time the root of this grapevine measured 12 inches around at the base. A curious foot of half rotten manure weighs about 56 lbs., coarse, dry manure about 45 lbs. A load of manure about 36 cubic feet; hence a load of half rotten manure will weigh a little over a ton (206 lbs.); if coarse and dry, it will weigh 1738 lbs. There are 43 grapevines in one yard of the same size. A curious foot of half rotten manure weighs about 56 lbs., coarse, dry manure about 45 lbs. A load of manure about 36 cubic feet; hence a load of half rotten manure will weigh a little over a ton (206 lbs.).

Shade in Pastures.

There are intelligent farmers who insist that shade in pastures is a positive disadvantage to stock, hogs excepted. The argument usually advanced is that the animals, especially cattle, will form the habit of standing or lying in the shade and will not eat enough, whereas, if they had no shade, they would spend the day in eating. The answer is two-fold, Animals need time to digest their food as well as to eat it; and where the pastures are in condition they should be spared, a considerable part in each day should be open, by the animal in rest, giving time to ruminate and digest the food eaten in the cool of the day. Secondly, during the extremely hot weather, stock eat but little in the middle of the day, even when they have no shelter.

Frost and snow. The question of prejudice against shade in the prairie regions has arisen from the fact that often where there is some shade in such regions, it is made by a thicket of low-growing trees and bushes a long the borders of a slough, or some low, wet land, which is such a place is a very different thing from that furnished by a group of trees in a high, dry land, where the breeze has full play and flies, gats, etc., are found in no greater numbers than in any other dry place. True there are some disadvantages accompanying shade trees—there is loss of grass, and some difficulty in cultivating the ground in front of them, partly wasted—but we never see animals standing in a shelterless field during such days as have characterized July and August in much of the west during the past season without a feeling of pity for them.

Remove the Dead Limbs.

Our readers must remember that only recently it has been clearly demonstrated that a dead branch on a tree makes almost no deposit of phosphoric acid on the main plant for moisture as does a living one. It is one of the most important discoveries of modern botanical science to the practical horticulturist, as by this knowledge he can save many a valuable tree. When a branch is trampled upon and gets injured and the supply of moisture in the best causes of the tree a less efficient or less deficient. Any dead branch or any weak one should, therefore, at once be cut away.—Gardener's Monthly.

DOMESTIC ECONOMY.

Household Hints.

To take ink spots out of carpets, wash with milk, and clean up afterwards with warm soapsuds. Grease may be absorbed from a carpet by frequent applications of magnesia or buckwheat flour. It should be sprinkled on the spot, allowed to remain a while and then brushed off.

A preparation of equal quantities of cream and brown sugar, and half as much black pepper, will, it is said, drive flies from the room in which it is allowed to stand.

To take wood stains out of marble: An equal quantity of fresh spirits of vitriol and lemon juice being mixed in a bottle, shake well, wet the spots, and in a few minutes rub with linen till they disappear.

“A careful housekeeper” says: Do not throw a red tablecloth at all: wash it carefully in warm soapsuds (not hot), rinse well, and when ready to hang it up, line, take great pains to pull it so that it will keep the proper shape. It will retain its color much longer than if firmed.

REMOVING TAN AND PRECIOUS.—Take a half tea-

spoonful of flour of sulphur and mix with a cup of milk. Wash the face in it, allowing it to remain all night.

Coal Ashes.

It pays well to pass coal ashes through a fine sieve—a flour sieve for instance. This sifted ashes when perfectly dry, as it should be kept, is one of the best substances with which to mix London purple, Paris green or heliobre for the destruction of certain kinds of insects and worms, and lice. Being lighter than plaster or flour it does not fall so quickly, but settles upon every part of the plant—the stem, the under part of the leaf as well as the upper part. It may be said also that it adheres to leaves for a longer time, and is not so readily washed off as ashes.

Glucose.

The use of glucose as an adulterant seems to be unlimited. It is used in large quantities in cheap confectionery, in beer and in various grades of sugars. In London recently large quantities of imitation honey-comb, with glucose instead of honey, were found exposed for sale. The boxes bore the stamp of the New York custom-house, and were labelled “Sweet Clover Honey.” The honey-comb had been made from a mixture of glucose and invert sugar, and after the cells were filled with glucose, a botulin had been passed over the wax tops, thus closing them. The glucose had been made to resemble honey in both its taste and appearance. It is said that from a box of commercial syrup, cognat, a dollop would mix with water, but though great profits are made from its manufacture, glucose is never advertised, nor does its name appear on the bogushead in which it is transported.—Brooklyn Eagle.

Weather Wisdom.

When you wish to know what the weather is to be, go out and select the smallest cloud you see. Keep your eye upon it, and if it increases and disappears it shows a state of the air which is sure to be followed by the weather; but if it increases in size, take your great coat with you if you are going from

October,
How to Make Beefeater Tender.

The best and most thoroughly certain way to make your beef tender is to stand in with the boy who drives the butcher’s wagon. I discovered this while living next door to a millionaire who dealt with the meat man who supplied me. The boy at the end of the wagon was corruptable, like the steaks he served, and 15 cents or so would transfer the tenderness of the millionnaire’s 40 cents-a-pound porter house to my bundle of 6 cent round. Then I would whet my appetite listening to the millionaire’s hired girl palimping the other cut with rolling-pins, etc., as advised by Mrs. Leale. By changing butchers as often as the millionnaire did I secured tender beef until my lease expired. Two weeks before this, however, the milltop, aired with locoweed, induced the doctor, said, by attempts to chew tough meat.

LIVE STOCK.

About Pigs.

The American Rural Home says: Paralysis of the hind quarter in pigs is sometimes caused by inflammation and consequent effusion upon the animal mamma. The inflammation of small quantity of infection, Sensation and power of motion may often be restored by the application of a mild irritant to the loins. Turpentine or a thin paste of mustard rubbed upon the loins over the spine generally leads to a cure, but should not be left in contact with the skin for more than 24 hours, or exposure to cold rains, and is more frequent on young pigs than old ones. A chill will sometimes produce a sudden death. The thoroughbred pig, in starting a herd, is chiefly valuable in breeding to common stock. By using a thoroughbred boar upon common sow, a half blood is obtained that does very well for breeding purposes, which can be further improved by selecting the best sow pigs, feeding them liberal, and again getting a thoroughbred boar to use with them. If this is practiced a year or two it will produce pigs equal, if not superior, to those we now raise, and grade or impure males should never be used, as then tendency is to run back to the swine family won’t answer. Always use new males.

Calves.

Young calves will thrive well if kept in a shed together and well fed. The shed may be littered liberally, but it will be necessary to feed them well. Brake and oats, with a little corn, will be the best food for them. Give one pint a day for those under a year, and a quart or two a day for yearlings. Carelessness in cold weather should be carefully guarded against, as calves have a pliable raw lined navel, or a pint of lined meat should be given with the food as a remedy. Flaxed ground and mixed with corn or oats, ground or unground, is a good appetizer and keeps the calves in good condition. Whole milk, when accessible, should be used, as being on the pall, let it suffice for drink. No cold water in cold weather. — Breeders’ Live Stock Journal.

Working Brood Mares.

Brood mares while suckling their foals may safely be worked and milked; but the little foals, being objec- tions they must be generously fed, and care should be exercised to prevent the foals from suckling while the mares are overate. It will usually be found more convenient to leave the foal in the stable while working the mare; and in such cases she should be permitted to stand until thoroughly cooled off before the foal has access to her. Care must be taken when the foal is left alone that they do not cripple or injure themselves in their efforts to get out and follow the dam, but they will soon learn to take it quietly, and then there is no danger.

Brittle Hoofs.

Among causes which produce brittle hoofs in horses and cattle the North Stock Journal mentions the frequent standing in nonting dung heaps or in pools of decomposing liquid manure. In the dung heap there is not only the moisture and steam soaking and softening the hoof, but there is abundance of ammonia, which, being increased, dissolves and destroys the horn. Standing in such decomposing organic matter is still more injurious when the animal is confined to a box stall, for here the injurious effect of inactivity is added to the other conditions.

POULTRY.

Large Flocks of Fowls.

The poultry man of the Country Gentleman says: “There are those who believe that the poultry business pays alone, and no doubt it does; but much depends on the breeders. By breeding, discretion has always been a fair, and there I do know it is an important branch, and brings in a large profit. The farmer can make a pound of chicken meat easier than he can make a pound of beef, and the price per pound averages higher. Fowls should be colonized to the highest possible extent, and be the envy of each other more than 25 in a place. Where herded together in large numbers the weaker ones suffer and are unprofitable from being crowded. The stronger birds consume the larger proportion of the food, running to several pounds a day, and the smaller ones cannot come in an unsatisfactory state to the weaker ones of the flock. Five hundred hens, even of the smaller breeds, would require a run of from 15 to 20 acres at the lowest calculation; but 500 hens in one flock never could be profitable. To breed such birds in small, separate flocks. They are thus easier tended; the sick or failing ones can be nursed, and the weaker members have their share.

“The cost of a house to accommodate 50 hens of the small laying breeds would be something on the tastes or ideas of the builder. Much depends on breed. Where a large number of hens are to be kept, separate houses or apartments should be erected, with separate runs or yards attached. The larger the number of fowls congregated, the greater the liability to disease. Hence the necessity of keeping the quarters thoroughly cleaned and in purity. This requires care and labor. Without cleanliness there can be no profit, and the food is expended in vain. A bushel of hay (kind of staple) is allowed to a fowl for a year. A single bird of any breed will consume that quantity during the year, and more will be required by the larger breeds. If one hen requires a bushel of corn, 500 fowls would take 500 bushels.”

Poutry Notes.

Fowls seldom tire of milk. They may eat much grain or meat for health, but milk in any form is palatable and healthy.

Probably 60 per cent. of the chickens hatched would be somewhat misshapen, or are destroyed by animals or carried off by hawks. Chickens have many enemies as well as friends and admirers.

The Poultry World says: To utilize the feathers of ducks, chickens and turkeys generally thrown aside as refuse, trim the quills from the stump, embalm them in a mixture which will make them white as if washing clothes, and you will secure a perfectly uniform and light down, excellent for quilting coverlets and not a few other purposes.

Turkey raising is carried on extensively in Tennessee County, Cal. One man in addition to raising and tending a large flock of sheep, raised nearly 700 tur- keys last year. Large flocks of from 1,000 to 1,500 are frequently met with, tended by women and children.

The application of sugar sprinkled upon fowls, while roosting or otherwise, with a pepper box, will decrease the commodity. Cook a little in small quantities will also kill parasites. Two or three drops of whale oil, dropped occasionally on the back of a hen, or any other bird, will kill lice. As soon as he has his poultry house cleaned, Mr. W. C. Howard, of the Ohio Farmer, sprays it over his wheat field, or a poor spot in his meadow, and you can take his word that a man with one eye can see where he puts it. To put hen manure in a box or barrel and keep it one year before it is put to a crop, he thinks is a way wrong.

LITERARY AND PERSONAL.

The Dentaphone Quarterly—Published by the “American Dentaphone Company,” Cincinnati, Ohio. Volume 1, No. 5, (a large 8 page quarto) of this imposing publication has reached our table, accompanied by a perfect avalanche of 8 vo. circulars, cards, posters, programmes, announcements, &c., and hundreds of testimonial cards, allulatory of the Dentaphone. Never since we have been able to read the English language—nearly sixty years, where we once strove for stronger testimonials in support of any instrument, principle or thing, than those now before us; nor any claims more boldly and conti- dently asserted. It looks, “for all the world,” as if the leading object was to build up a profitable base for the Dentaphone. The testimony of an honest and disinterested yeoman or peasant, would have as much weight with us as the same number of generals, judges, reverends, doctors, or professionals and officials of any kind whatsoever—but we are constrained to believe that the right hand considers very too slight experience, and on insufficient data. Twenty years ago, we testified in behalf of a nostrum, after about ten days experience, which we subsequently found to be worthless, so far as it related to us individually, but that was a few years ago. We have not tasted the nostrum for nineteen years, and have little or no confidence in it.

We admit the theory of the Dentaphone, or principles analogous to it, and have often had practical demonstrations of it, but when we say something of the concerns communication between the natural teeth and the brain, or the ears, we do not pretend to say; (and also to some extent where the teeth are artificial) but some of these testimonial read like that of the man who testified to the superior qualities of a pair of spectacles, who made a subject of them, "just as well as it was before it was." For instance, that a deaf man by the aid of a dentaphone can hear and understand what is spoken to him in an ordinary tone of voice, by a person forty yards distant, while he who thus understands what was said at a distance of only twenty yards, may well challenge our credulity.

But, admitting that these time should confirm all that these people, after a day, or a week or a month’s ex- perience, testify to,—what then? The dexterity of an expert prestiglist, or a Swiss Bell-Ringer, to manipulate a Dentaphone in a social circle, at a family table, or during secular occupations. It would be of little account with those compelled to labor from six to six with their hands; but where we have no habits of nursing families meet together, and where social intercourse is almost essential to health and good cheer as the food that is provided, it seems to us it would altogether impracticable.

We deem its highest, and perhaps its only use would be at the church, in the lecture room, the concert, the opera, or the theatre — which would
certainly be a relief—and to some persons a very great relief—especially if they had not had the pleasure to be sure to hear at any of these places for a quarter of a century. It may well be supposed after reading all these positive, or affirmative testimonials, that we should have looked forward to the advent of the Dentaphones anxiously and hopefully, and so it was at the Dentaphone of Cincinnati. Nothing could impress the patient more with confidence, not without some marginal misgivings; and by marginal misgivings, we mean the possibilities of disappointment. We had tried an instrument called a dentaphone, or adamant, about a year ago, with a decided success, and though we were quite satisfied with the original publication we have in our possession, we did not wish to commit ourselves by an enthusiastic endorsement of the instrument. However, when, however, we had devoted nearly a whole week to the careful perusal of the circulars and testimonial letter-press from the Dentaphone Company of Cincinnati, and were informed that communication with the seat of hearing was effected by the "boney structure of the head," and that artificial teeth were no barrier to the "connection," we became more hopeful; but, as we have intimated, by no means definite in our convictions. The nearest to the Martville, of whom we had made inquiry, exhibited a perfectly healthy pair. They were well described, and the instrument was kindly loaned us one of them for several days; but the result was not as satisfactory as it had previously been thought. We had no teeth, and the artificial ones made no improvement in our hearing whatever, but pressing it against the teeth, made only a barely appreciable difference; but the continued pressure pushed our teeth out of place, and the influence was immediately lost. Subsequently a gentleman of Lancaster, who had been with his fortune to Canada, but now had returned, and was living in a quiet retired way, again, who would not repeat them a year hence. Impulsive gratitude for temporary relief, may induce those of a sanguine temperament, to make affidavit to that which time and experience fails to realize.

Tenth Report of the State Entomologist, on the Noxious and Beneficial Insects of the State of Illinois. Being the Fifth annual report, by Cyrus Thomas, Ph. D. A royal octavo of 240 pages, and eighty-two characteristic illustrations, with many figures, including a copious index, and an alphabetically arranged list of plants, trees, shrubbery, and the nomenclature of several hundred insects and their salient characteristics, respectively. Also a "chronological table of Hessian fly years, so far as recorded. Issued by the State Board of Agriculture, Springfield, Ill., 1881.

It is claimed that this communication is entirely in- dependent and original; and the following is taken from an instance cited in which a woman who was born without much wisdom and who was always a very dull person, was however, able to distinguish all her friends from others, even hear distinctly by the aid of the Den- taphone.

We thankfully acknowledge the receipt of a copy of this excellent work, "Agriculture," published by the State Board of Agriculture, Springfield, Ill., 1881.

Again, the Martville patient, alluded to in these re- ports, had been cured of his disability by the use of the Dentaphone than he could before he commenced using it. We have been informed that a gentleman from the East who commenced his use by an excitation of evil humor from his ears which have for a long time been kept in a fever condition. After the commencement of the use he became calmer and expirated from his ears. Several such persons have been cured by the use of the Dentaphone, but we have not heard of any one who has been cured before the commencement of the use. The instrument was also relieved from the offensive, and hissing noises that had previously accompanied his distress. Now, do we not wish to mention any of these peculiarities, but we entirely fail to apprehend how the Dentaphone can possibly exert such an influence on the ears, if, in its operation, it is entirely independent of them.
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RAISING THE PRICE OF SOUR KROUT

An insidious little creature known as the cabbage worm is causing the farmers and the house-wife considerable annoyance. His habit is the mortgage of crops, where his activity from observation gives him opportunity to do the most mischief without detection. The strangest study of this latest plague in the rural districts is the way in which the worm gets into the cabbage. There is no hole visible through which he could have worked his way, and the first intimation had of his presence is when the vegetable begins to decay; a knife is applied, and the destructive little worm is laid bare, surrounded by the ruin he has caused.

There are many reasons assigned for the presence of the worm, the most potent of which seems to be that the dry, hot weather depriving the cabbage of moisture, the heart is drawn to the leaves, and the decay of decay is developed in the worm. There is never but one found in a cabbage, and the whole heart is eaten away before the evidences of decay are manifested upon the outer leaves. There are no firm heads of cabbage this season, and the kind offered are small, and hardly fitted to domestic use. Philadelphia draws her supply of cabbage from Bucks, Montgomery, Chester and Delaware counties, and the garden spot across the water known as the state of New Jersey.

It has been estimated that in a prosperous season for cabbage not less than 12,000,000 heads of this succulent vegetable find sale in Philadelphia markets, and at least 3,000,000 of these are made into sour krout.

Our reflections on the above paragraph relate mainly to the "reasons assigned" for the presence of the worms in the cabbage-heads, and especially the one which is regarded as the "most potent," which we are disposed to consider no reason at all, not because it involves spontaneous generation, but because there is no reason to doubt that an egg may have been deposited in or on the head of cabbage, and a young worm has worked its way into the heart, notwithstanding no hole could be seen on the outside. The holes through which the young larvae of the different species of curculios enter the seeds of peas, beans, chestnuts, and many other kinds of seeds and nuts are not visible to the naked eye either, especially after the fruit is fully developed, and yet, it is quite certain they are there, and must have been bred from eggs deposited there by the female parents of the worms. The reason the holes cannot be seen is, because the young worms are very small when first excluded from the eggs and make an aperture of entrance into the nut or fruit when it is immature, and its subsequent development entirely obliterates the aperture.

The Pea-eweevil (Bruchus pisi) has been observed by different authors depositing her eggs on the outside of the young pea-pod; the eggs have been seen and described, and so have also the infant larve; and by the aid of the microscope the apertures into the pods are visible. In this species the eggs themselves have frequently seen the Chestnut-eweevil (Balaninus nasicus) depositing her eggs in the embryo chestnuts, by first making an aperture with her long nasal appendage, or proboscis; and then and there is where the necessity for such a long nasal process first flashed upon our mind—namely, to enable the insect to penetrate the head of the nut, between the bars or spines which compose the burr. If the young chestnut is examined immediately after oviposition the aperture can be seen in the base of the young nut, but after it is matured and ripened, nothing of it can be detected; but Stow such chestnuts away, and look after them about Christmas time, and in many of them will be found a big fat worm, from which, in the following spring, will evolve a very long-nosed "chestnut weevil" of which we have, on several occasions, had excellent demonstration.

The case is the same with the Honey-bucket weevil (Spermophaga robiae). See page 108 number of the Farmer, and approximations to it, in the common "Curculio," (Conotrachelus neumeyer) especially when it attacks the apple, the pear, or the quince. There doubtless must have been spontaneous generation at some period, or periods, or no living organism could have been brought from chaos into visible existence; and there probably is now, and may be in all time to come, but there is no occasion of attributing such phenomena as those above alluded to, to such a cause, because they are all expliable on other and more rational grounds. It is a very convenient process for people to refer such phenomena to spontaneous generation, who are too indifferent, too indifferent, or too much occupied otherwise, to investigate, or examine for themselves. Spontaneous generations are doubtless effects depending upon pre-existing causes, culminating in ulterior ends, and hence are governed by other laws, and not disorderly and irresponsible in their outward manifestations. If the writer of the foregoing paragraph, or the person who furnished the information upon which it was written, had taken the trouble to collect some of the worms, and had sent them to an entomologist, he might have done more for the advance of popular science, than by indulging in such guess-work speculations as decayed cabbage "developing in worms."

It is a grave mistake to say that "there are no firm heads of cabbage this season." We saw thousands of heads of fine solid cabbage sold at the northern market house in Lancaster city, within the past week. It is true, it was not Lancaster county, nor yet Pennsylvania cabbage, but it was nevertheless there, of excellent quality, and sold readily for more than its intrinsic value.

It would be interesting to us to possess some of the cabbage-worms aforesaid; we would like to know what they are—their size, color, structure, and general appearance. We have no observations, but the common worm (Lambriene) and a white thread-worm (Gordius or Philadrye) very far within the solid head of a cabbage, but they were not affected with decay, but on the contrary, were as solid and as sound as those heads that were free from worms. The common cabbage worm (Plereis rape) has been found penetrating the cabbage heads, but these, of course, cut a hole which can be easily seen. In conclusion, we would like to see those spontaneous cabbage-worms.

COTTON MANUFACTURERS AT THE PENNSYLVANIA COTTON MILL

A telegram from Atlanta says that Edward Atkinson and fifteen other gentlemen connected with cotton industries that employ 45,000,000 capital and run 15,000,000 spindles arrived there on Sunday, and will remain South about three weeks. On Wednesday next Commissioner Loring, of the Agricultural Department, will meet the cotton growers represented by the men who are going to work in connection on that day. He will address the convention on the subject of Southern agriculture, and Prof. Riley, the cotton渐者, is to give the new method of destroying the cotton worm, which causes an average annual loss to planters of $15,000,000. Thursday next will be set apart for the exhibition of the new machines, and Mr. Atkinson will deliver an address. A display of blomed cattle and mules will be given from Monday until Saturday.

Although it might possibly be inferred from our editorial commencing on the first page of the Farmer for October last, that the International Exposition, now being held at Atlanta, Georgia, is limited to the sole exhibition of cotton, in its various forms and combinations, we would here beg leave to state that this is by no means the case. It is true, that cotton is the great factor in the make up of the Exposition, but it also includes a multitude of other objects and industrial productions.

For that matter, however, so conspicuous a part does cotton now play in the role of human industry, that if everything were excluded from an exposition that contained, or was in any way related to cotton, the exposition might be a mere gallery one indeed, unless enriched by the products of the mineral kingdom.

From the above quoted paragraph, and from various others that have appeared in the public press, it will be perceived that the various departments of industry have their set times successively, during which certain specialties will be brought prominently and attractively before the people, and these times will be adapted to the advancing season.

Since the date of our last issue we have received a copy of the Southern World, a journal of industry for the farm, home and workshop, issued, at Atlanta, Georgia, October 15, 1881, in which is portrayed the history and origin of this International Cotton Exposition, with illustrations of the Main building; Department of Minerals and Wood; Judges Hall; and portraits of President Colgnet, Director-Gen. Kinball, Secretary Ryeckman and Executive Chairman Cranes; all very respectable in subject, and altogether "captivating," as the world goes, on matters of local birth. The Southern World may be called a semi-monthly, at the very low price of one dollar a year, and the Agricultural and In-
THE LANCASTER FARMER.

[November]

The above figures are slightly misleading. The experience of two thousand farmers in Maine, Massachusetts and Delaware was an average of 7.5 tons of beets per acre. Fifteen tons were obtained in some cases, but the lower figure was the average. Now, the results obtained at the Portland, Maine, fair show that 7,000 tons of beets; this gives us just 120 pounds per ton, as the Dispatch can easily as-
certain by a very simple arithmetical calcula-
tion. Between 1500 pounds and 1200 pounds there is a slight difference. Ten tons of beets to the acre would yield 1,200 pounds of sugar and this is the quantity evidently meant, instead of 1,500 pounds for every four. Such a yield as this would be just 75 per cent, of sugar, instead of six per cent, as the Dispatch says. What the Dispatch meant to say was that the beets contain six per cent of saccharine matter. The average cost of growing beets in this country, as demonstrated by the Delaware Beet Sugar Company, which grew 300 acres on its own account, was 250 per acre. Here is the whole trouble so far. We must grow more tons to the acre be-ore more sugar can be made, and this will be
when our farmers understand the business. But meanwhile it is well enough that any statements that are given to the public shall have a basis. The Dispatch might be a little careful hereafter.—New Era.

That’s right, Master Era; give them “Jesse.”

It is just such exaggerations that damn any enterprise. The expectations that are stimu-
lated under them never being realizable, the cul-
vicultor abandons them with disgust, when a little perseverance, and contentment with a fair and reasonable yield, would ultimately build up a business. It is a pity that so few things standing in the way of profitable beet culture in Pennsylvania, but these cannot be displaced by theoretical misrepresentation.

Farmers want facts, such facts as will serve as a foundation upon which a safe superstructure can be built with some degree of confidence, by those who intend to go into the business of beet culture for the manufacture of beet sugar. No cause can be permanently helped by promising such great expectations, Take counsel of “Old Morus Malvaceus.”

SUGAR BEETS.

Thirty tons of sugar beets are raised to an acre, worth five dollars a ton; one ton makes 1500 pounds of sugar in France, a yield of about seven per cent. The beet is said to be richer in saccharine matter in this country, as ours is yet virgin soil.—York Dis-
patch.

The Coal Bug.

The Professor (Hechtelger) said that some dealers had become aware of the exist-
ence of the bug, and intended to advance the price of coal to large figures this winter.”

Somebody sent us a copy of the Phila-
delphia Daily Record containing two articles with imposing headings (sensational and un-
less intended to “draw”) descriptive of certain organisms that are invisible to the naked eye, and therefore only interesting to microscopists, but which are represented as “dangerous.”

These two paragraphs are reproduced to prove the theory; but as we have seen, the conditions in this case are the reverse of those with soil and plant, which are both warmer than the air at night, while the ice-pickler is colder. Further in-
vestigations were made in the study of this question. A tin-box, without top or bottom, with holes in the top for holding grass; the next morning the grass was loaded with dew, but not a trace appeared on the tin-box. The temperature was up to fifty-six degrees, and of the air sixty degrees. This experiment was repeated many times with the same results. Then a loose tin cover was placed upon the tin-box, with the bottom of the cover was dry, but the under side was thickly studded with drops of water—dew.
We clip the foregoing from the Northwestern Farmer and Dairyman (Oregon). Perhaps a more proper question would be, "Where does dew come from?" We have long been taught that it comes from moisture, whether that moisture is in the earth or the air; and that moisture is vaporized water. The experiment of the "tin cover" had incidentally been observed hundreds of times, even under inverted cups, baskets and boxes, and especially metallic ones. From this it would appear that dew does not fall from above, but that it is condensed vapor, rising from the earth; according to which—

"When twilight dews are falling fast
Upon the rosy lea,
As a scientific fact, is most dreadfully worsted, however poetical it may be.

We have said, it would appear, because this experiment is by no means conclusive. For instance, you go out into your garden, especially towards the end of the summer, early in the morning, and you find the leaves all heavily covered with dew, and this is particularly conspicuous on the large leaves of the low vegetation, such as Egg-plants, Rhubarb, Cabbages, Red-beets, Turnips, &c., but this dew is always on the upper surfaces of the leaves, and some on the lower surfaces, whilst around the bases of the plants, as far as overshadowed by the leaves, the earth is as dry as powder. This looks very much as if the dew falls from above, and in one sense it really does fall. And this dew will be found on the leaves of the tallest shrubbery and the still taller trees; yea, even on high house tops. Every morning when we arise the first outdoor object that meets our view is a hoar-frost, and the meteorological character of the weather is indicated by its appearance in relation to dew. As long as said roof is covered with dew it bodes no rain that day, at least not in the early part of it, but when it is perfectly dry, a rain is surely brewing. We never witnessed a wet roof for a longer period of consecutive days than we did the past summer. Although we have no ideas that this dew fell down from the upper air, from whence rain falls, yet the condensation of vapor into dew occurs at a sufficient altitude to lead to the superficial notion that it falls from above. Of course, when the vapor-charged heat arises from the earth, it is not condensed until it comes in contact with a colder medium; medium sufficiently cold to condense it—and this it does not encounter immediately at the surface. Condensation, however, will take place, under favorable circumstances, at the distance of an inch, or perhaps less, above, as may be seen on the underside of a metal lid, or even a slab of tin or sheet iron lying on the earth.

Steam itself is said to be invisible, and only becomes visible when it comes in contact with the colder the air the more dense it becomes, and yet this condensation commences immediately after, it passes the nozzle of the steam pipe. We may hence infer that heated vapor exhaling from the earth is governed by a similar law, and that it condenses under metal at a very low altitude, because of its conducting properties—of cold as well as heat.

The moisture on the ice-pitcher, or on the outside of a bottle or jar filled with ice-water, has very little to do with the phenomenon of dew. That merely illustrates that the atmosphere is always charged with more or less vapor, which is condensed where it comes in contact with a medium sufficiently cold to effect it. But, any one who has ever camped out at night, in summer, must be convinced that dew "fails" from whatever height—at least, we have often felt it falling on us; but, whether high or low, does not affect the question "where the dew comes from." The principle of rain and rainfall, is somewhat different from that of dew and dew-fall. The source of rain is the evaporation of moisture by the sun's heat, during the day—carried into the upper strata of the atmosphere, and held there, until the globules are of sufficient specific gravity to be affected by the earth's attraction of gravitation; the drops being first individually enlarged by the attraction of cohesion.

Pennsylvania Fruit Growers' Society.

The annual meeting of this veteran society will be held in the rooms of the State Board of Agriculture, at Harrisburg, Pa., beginning on the third Wednesday of January, next (21st), and continuing until Saturday, the 23d. The programme and general details will be announced in our December number.

Our readers will remember that this association was organized at the Cooper House, in Lancaster city, more than a score of years ago, and has maintained its organization intact down to the present time; and that its meetings are always looked forward to with interest, not only by the fruit-growers of our own State, but also by many in neighboring States. Whether fruit, and fruit-growing, is a failure or a success, there is none the less need of such an association, because it is just as much importance to know how and why we fail in any enterprise, as it is to know how and why we succeed; the object of the society being the development and diffusion of knowledge, relating to the "art and science" of fruit-growing and fruit-improving.

POULTRY EXHIBITION.

From the proceedings of our local society in another column of this number of the Farmer, it will be observed that it will hold its Third Poultry Show in Excelsior Hall, East King street, Lancaster, in January, 1882. Further particulars of which will be given in our next.

They have secured competent judges from abroad, and every thing seems to promise a successful exhibition.

EXCERPTS.

One of the beauties of rapid communication is seen in the importation of a cargo of cabbage from Oldenburg, Germany. No sooner was it known that the cabbage crop would be short in this country than an enterprising firm at once ordered a cargo from Europe, and on Saturday it reached Baltimore. This is the first time this vegetable has ever been imported into this country, although it often crosses the ocean in the acceptable form of sauer kraut.

Never iron a calico dress on the right side.

If ironed smoothly on the wrong side there will be no danger of white spots and gloss, which give the new dress, done up for the first time, the appearance of a time-worn garment.

Nitrothin is better to clean silver than alcohol and ammonia. After rubbing with this little whitening on a soft cloth and polish in this way. Even frosted silver which is so difficult to clean, may be easily made clear and bright.

Professor Riley says that Kerosene oil is sure death to insects in all stages, and the only substance with which we may hope to destroy their eggs.

To prevent blistering the palm of your hand while ironing, make a holder of many thicknesses of paper. You can use another holder over this, and so prevent the soreness sure to follow when one accustomed to it is obliged to iron. It is a good plan some rainy day when nothing presses to make up a year's supply of holders. Bits of clean carpet or pieces of "comforts" are good for the foundation. Cover with new calico, and sew a brass curtain ring to one corner to hang them by.

You will not regret an hour or two given to this work.

Grease are easily kept. Grass and water form their chief requirements. These with a fair supply of corn, oats and boiled potatoes, make up their bill of fare. In testing eggs, the fresher the egg the smaller the air chamber. This can be seen at the broad end of the egg if it be held against a strong light in a dark room. State eggs have a mottled, grayish look about them. A new-laid egg will always give a feeling of warmth if the tongue is pressed to the large end.

By keeping your poultry yard tidy, it will go a great way toward making sales and increasing the reputation of the breeder.

Shorn fine wool contains the largest proportion of fat. Pure wool hair contains about sixteen per cent. of nitrogen.

Five hundred thousand tons is said to be the annual production of coffee.

Clove's have been brought into the European market for more than 2,000 years.

Select the earliest and best ears of corn for seed.

An agreeable flavor in cattle food stimulates appetite and probably promotes digestion.

The tops of onions should be broken ever coming to the ground to prevent their running to scallions.

Seeding for wheat with the drill most commonly effects a saving of grain and a gain of one-tenth on the crop.

The word toad expresses in several of the languages of Europe its habit of swelling.

Newfoundland dogs have been kept by the city, in Paris, to save human life in the Seine.

The soot of soft coal doused upon onions will keep them dry. Soft coal is said to be a remedy for the onion maggot. The mother fly from which the maggot comes closely resembles the house fly. As the soot is a good fertilizer nothing is lost in its application.

The food of the Greenland whale is a small crustacean animal not so large as a common shrimp.
Fowls naturally require a little stimulating food in cold weather. A judicious system of feeding stimulants is not to excite undue action in the system, but merely to tone it up when it is about to flag. It has been proved by experiments that if young turkeys be fed on soft food mixed with milk, instead of water, much superior and more tender meat will be produced.

Professor J. F. W. Johnston says: "It is certain that common salt has in very many cases been advantageous to the growing crops." He then quotes the result of experiments in which wheat dressed with salt gave an average of eight bushels more than the same kind of soil produces without salt; barley gives an increase of twenty-one bushels to the acre.

Nearly as many reams of paper in the United States, are made into collars as are used to write upon.

Never allow a mudhole to remain about a well. If your water is muddy and impure throw in a peck of lime to purify it. If animal scum appear in the water throw in a half gallon of salt to make them settle to the bottom.

Mere sheep, found in the Arctic regions, are said to have a whine somewhat like the snorting of a walrus, entirely unlike the bellowing of a sheep.

The sense of touch in eyeless fishes is shown by experimenting to be extraordinarily developed.

In selecting your seed-wheat, or seed for a rye crop, weigh a pint from the bin or sack, and purchase that which weighs the heavier.

"Waldo" sends the following novel experiment to the Practical Farmer: I cut a barrel of blue grass and soil with a spade chopped it into pieces about two inches square. I took these in a basket and dropped them where we had sown oats, putting them about two feet apart and stepping on each piece. I find they are all growing, and I shall watch closely to see how long it will be in spreading to cover the ground. If this plan was carried out on a large scale I think the chopped sods could be scattered with a shovel or forked from the wagon and a roller passed over it, and if this was done early in the spring it would all grow.

It is said that one of the best remedies for the cabbage worm is to sprinkle air-dried lime on the plant in the morning on the dew till the plants are white with it. One who has tried it for several years says that at most two applications are sufficient.

It should be remembered that it is easier to deteriorate a crop by choosing bad seed, or even by carelessly neglecting the selection of good seed, than it is to improve upon a variety already acknowledged to be good. The down hill road is the easiest traveled. All is said to say that "of the large quantity of food a man swallows, one-fourth supports him, and the rest he keeps at his risk."

A New York farmer, who is also a practical sheep grower, gives the following as a sure cure for grub in sheep: Turn into each nostril of the animal affected half a teaspoonful of kerosene oil.

Paper belting is now being used in Japan, and is said to have been stronger than leather belting.

English farmers have been very successful in growing wheat by the aid of peat charcoal as a fertilizer, using at the rate of 500 pounds to the acre.

Sir W. L. Lubbock estimated that 2,000,000 animal species have existed on our globe, of which only about 25,000 are as yet on record. He places the number of recent species at 700,000.

One need not be much of an epicure to be able to distinguish readily the difference between a fowl that has been shut up and delicately fed for a time before killing, and that which has been forced to scratch for a living. Confine fowls intended for the table in a darkened place, give them plenty of milk, either fresh, thick, or sour, with grain and table scraps, and you will have a delicate article of food, with no strong "chicken" flavor about it.

Transfusino blood from a living animal to an unhealthy one has been practiced for three hundred years.

The famous system of rotation, now extended quite generally throughout England and Scotland, with occasional modification, is as follows: The first year, clover and mixed grass seed; the second year wheat; the third year, turnips or rutabagas; the fourth year, barley; and then the same course again.

An innovation on this is to add another grain crop, oats, to the shift, making a five years' course; and so efficient has this course been that it has been calculated that the grain crops have increased one-fourth.

Fanny, an ancient carp in the pond at Fontainebleau, has just died. She is said to have been hatched in the time of Francis I., and had become gray.

Soort, dried blood and woolen refuse are all purely nitrogenous manures. Soort owes its value to the presence of a small and variable quantity of ammonium salts. Dried blood is an excellent manure, containing from ten to thirteen per cent. of nitrogen. Shoddy and other horse, wool, and hair are variable in composition, owing to admixture of dirt, grease and other foreign matter. The nitrogen they contain will range from five to ten per cent.

In several years the sickness of pneumonia has increased slightly in September, decreased in October and increased again with the Indian summer.

The bot, the inhabitant of the stomach of the horse, is produced from the eggs of the gad-fly, which are deposited in the hair of the horse; from these eggs are hatched a little grub which is licked off by the horse and swallowed. Sometimes several hundreds are thus deposited in the stomach. Formerly they were considered very injurious, but now it is conceded that they cannot do as much injury as the nostrums used for destroying them.

The American Dairyman says that wild peppermint scattered around in corn cribs, etc., will keep the rats away.

In keeping poultry for the sake of the eggs they lay, a correspondent writes that no hens should be kept over after their second laying season. Hens, as a rule, lay about an equal number of eggs in their first and second seasons, after which the produce rapidly decreases.

For small hen-houses the roosts are generally too high. Fowls cannot turn their wings to advantage in such confined places.

The melon has been cultivated from time immemorial, and yet there is no other plant known that is so wonderfully variable in its character. In the same hill and from the same seed there will be produced some of the finest, as well as some of the poorest, specimens.

The corn crop of the United States averages nearly 1,500,000,000 bushels, or 47,000,000 tons, enough to load 5,000,000 rail cars, making 30,000 trains each a half a mile long, requiring at least 60,000 locomotives to draw them.

It is thirty per cent. more profitable to pre-mature and dispose of fattening cattle at two years old than to keep them up to three years.

Some way or other, mules for work on the farm are not appreciated by the agricultural community. Why it is no one can tell. It does not cost but little over half as much to feed grain to mules, as it does horses, as they require so much less and remain in good order, and as far as work is concerned a span of mules will do as much and probably more work than a span of horses can. They are as gentle and as easily handled as horses. It is true they are not as handsome, and a few years ago they were not as gentle, but the American mule is a great improvement in every particular on his Spanish brother. They are found to be so profitable by the farmers in the South that it is seldom a span of horses can be found on a farm, but all the teams are composed of mules. There should be more of them in the North.

Selections.

ADDRESS OF WM. SAUNDERS.
To the members of the Entomological Society of Ontario.

GENTLEMEN: While Entomology may be said to deal with small things, the abundance or scarcity of the tiny creatures called insects is of great consequence. The truth of this statement has been illustrated forcibly in several directions this year, notably in the case of the Angoumois wheat moth which has played sad havoc among the stores of corn and wheat in granaries in the Southwestern States. It is said to have destroyed many thousand bushels of grain and so widespread has the evil become that it is the opinion of the New York Sen that if the Government or the farmers of America could at this time arrest the progress of this insect by expending five millions of dollars it would be the best investment ever made by the people.

The Angoumois grain moth, Botula cerealda Oll, is a small moth, the larva of which is very destructive to all sorts of grain. The female lays her eggs on the grain sometimes in the field before it is fully ripened, but more frequently in the bins of the granary. The eggs are of a bright, orange, red color, and in a few days there issue from them very minute whitish colored worms, scarcely thicker...
than a hair, which bore into the grain and occupy it, one larva in each kernel. Each kernel contains sufficient food to support one occupant until it reaches maturity, when it changes to a chrysalis within the grain, which, although hollowed and almost entirely consumed within, appears outwardly sound and plump. On pressing between the fingers, the grain is found to be soft and yielding, and when dropped into water it floats on the surface.

When the larva is full grown, it spins a white silken cocoon, which occupies one end of the cavity within the grain, the other end being filled with the castings of the worm. The moth makes its escape through a small round hole in the side of the grain, which the larva cuts with its jaws before spinning its cocoon. When preparing this orifice for the escape of the future moth the larva is careful not to cut entirely through, but leaves a thin tissue-like skin unbroken, which the moth finally ruptures when it makes its escape.

The body of the moth is about one-third of an inch long, and its wings when spread measure about two-thirds of an inch across; the fore wings are of a plain brownish buff color, with a satiny-like lustre. The hind wings above and below, as also under the side of the fore wings, are blackish grey.

This insect is a native of the warmer parts of Europe, and has long been very destructive in France. It was introduced into the southern portion of the United States more than 100 years ago, where it has become fully naturalized. It is often brought into New York in cargoes of grain, but the climate of the Northern United States and Canada appears to be too cold to permit it to thrive amongst us, or to permanently establish itself. It has never yet, to my knowledge, been found within the limits of our Province.

The chinch bug, which, although always present in the West, has happily never yet proved a serious trouble, with us, has been very destructive to the corn crop in Missouri and Kansas, and combined with the drought, has seriously affected the yield of this cereal in those States.

The army worm has appeared during the season in some portions of the West, and infested much damage, and there were good reasons for anticipating trouble from this source in our own Province next year, unless the exceptional drought we have lately experienced, and which has been generally looked upon as an unmitigated evil, should check their natural increase. The army worm, in common with many other of our night-flying moths, is double brooded, but whether the later brood pass the winter in the larval or chrysalis state has never been fully settled. It is probable that with us the bulk of the brood pass the inimical season in the larval condition, the young larva burrowing into the ground for protection during the extreme cold of winter, but in the West it is known that the winter brood hibernates in nature. Unlike the army worm, the caterpillars were seldom seen, and never observed actively feeding, and it was believed by the farmers that they fed at night, or, by drawing the blades of grass into their subterranean retreats. In two instances the larvae were observed in immense numbers collected on the trunks of trees so that they could have been swept up by handfulls. The cause of their congregating at these points could not be conjectured; it was not for feeding on the foliage, for the grasses alone are their natural food. The caterpillars were slender, cylindrical worms, about three-quarters of an inch long; of an obscure, greenish color, and appeared for the most part destitute of lines or other ornamentation excepting some small warty spots on their upper side. Early in August the moths began to appear, when they were identified as specimens of Crambus clypuncus, the new enemy proving to be an inconspicuous and hitherto inoffensive little Crambus. It is quite probable that several accounts of injuries to pasture lands in the New England States during the last three or four years by some unknown destructor, are to be credited to this species.

At a late meeting of our Entomological Society, held in London, one of our members, Mr. J. M. Denton, referred to the injuries which were at that time being inflicted on some pasture lands within a few miles of London by the larva of the common May bug, Lachnus fasc., and exhibited specimens of their work. He had found whole fields of pasture land with the roots of the grass so eaten that the turf could be readily lifted with the hand by the yard, and under which he had found nothing but the remains of the grape roots, and the destructive attacks of these larvae, hitherto thought to be only injurious at the base of trees, being now seen on the remaining fragments of roots. In one instance, near the village of Delaware, a field had been so completely destroyed that the farmer had set fire to the withered grass with the hope of scourging the enemy to death. As these larvae readily burrow in the ground when disturbed, he was advised to adopt a different method and turn his hogs into the field to root amongst the grass and devour the larva, which greedily consume in immense numbers. Such wholesale destruction by this insect is not common, but when it does occur it is very alarming.

In the tenth annual report of the State Entomologist of Illinois just received, mention is made of a new insect injurious to corn. This is a small beetle closely allied to the common striped cucumber beetle, and known to entomologists under the name of Diabrotica longicornis. In Illinois the damage caused by the larva of this insect has been considerable. They are small white worms about half an inch long and very slender, which attack the filous roots of the corn, and so destroy the plant, and then that the plants may be pulled up very easily with the hand. After a time the plants begin to wither and the grain fails to mature. In some instances it is believed that the injury would result in the loss of fully one-third of the crop. The perfect beetle is about one-fifth of an inch long, with a width scarcely equal to half its length, and of a pale, dull greenish yellow color without spots or stripes. The general alarm which prevailed several years ago in Colorado on account of the Colorado potato beetle now have to a great extent subsided, and notwithstanding that the insect has been very abundant in some sections it has not been so generally injurious, and where it has appeared in abundance prompt remedial measures have been successfully employed. It has been claimed, and, I suppose, correctly so, that this pest originally came from the canons in the Rocky Mountains, in the State of Colorado, where it is said to have
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[November, 1881]

fed on some wild species of Solanum growing there. It was my privilege during the latter part of this year to spend a week in this district, and while there I traveled fully one hundred miles through those canons. Several species of wild Solanum grew in abundance almost everywhere in the adjoining plains as well as in the canons, and every opportunity was availed of examining them, but in no instance could I detect any evidence of the presence of the Colorado potato beetle in any of its stages. Besides, I saw several potato patches, and these also seemed quite free from insect trouble. This seemed to me not a little singular in view of the extremely prolific nature of the insect. Can it be that it has migrated so completely as to leave over large areas no representatives behind, or has its natural enemies so increased as to almost annihilate the pest. Our farmers here would, I am sure, gladly hail the advent of either of these agencies should it free them from this troublesome insect.

The question of the use of the most suitable and economical poisons for the destruction of injurious insects still attracts much attention, and Paris green continues to head the list as the most generally useful, notwithstanding the efforts which have been made by interested parties to replace it by London Purple. London Purple is an arsenical mixture, a waste product which accumulates during the manufacture of aniline dyes. Before its introduction as an insect destroyer it had no commercial value; on the contrary, the dye makers were at considerable expense and trouble in getting rid of it. London Purple, which is the active ingredient in this compound, is present in very variable proportions, which is just what one might expect in a waste product. Sometimes it forms less than twenty per cent. of the mixture, while other samples will contain more than forty per cent. It is associated chiefly with lime and coloring matter. The arsenic present is in a very fine state of division, and intimately mixed with the lime and other ingredients, forming a very fine powder. It is much more soluble than Paris Green, and hence more liable to injure foliage, while its very variable strength makes it an uncertain compound in its effects. For these reasons London Purple is not likely to take the place of Paris Green as an insecticide, which, when unadulterated, is nearly uniform in its composition and effects. An artificial mixture of arsenic and lime of uniform strength and color could be supplied at about the same price, and would be more reliable than London Purple, but owing to the more ready solubility of the arsenic in this form and its elastic character it is not, unless used with much care, to destroy portions of the leaves on the plants to which it is applied, making them appear as if scorched or burnt.

Experiments have been carried on for the past two seasons at the Agricultural College at Lansing, Michigan, by Prof. A. J. Cook, on the use of London Purple as a remedy for the codling moth. Early in the summer while the fruit was quite small some crab apple trees were sprayed thoroughly with London Purple mixed with water, and it is claimed that the poison which, when the water has evaporated forms a thin coating on the fruit either prevents the coding moth depositing her eggs or else poisons the young larve as soon as they are hatchet, the result being the saving of a very large proportion of the crop from injury, while other trees near by not similarly treated bore very wormy fruit. It is also said that, as the fruit approaches maturity, the most delicate chemical tests fail to show a trace of the poison. I scarcely think that the experiments yet tried in this direction have been sufficiently extended to warrant positive general conclusions being arrived on them, and, provided it was proven that this remedy was a certain and safe one, the popular prejudice against applying such virulent poisons directly to the fruit we are to eat would be so strong as to prevent the general use of any such means. Indeed, were it generally known that the apple growers of any district were in the habit of applying arsenic in any form directly to their fruit it would interfere very seriously with their sales, and it is doubtful if apples so treated would find a ready market.

It is well known that the seeds of certain noxious weeds will sometimes lie dormant in soil for almost any number of years awaiting a favorable opportunity for germinating, but it is not so generally known that the development of insect life is sometimes similarly retarded. It has many times been observed that a few individuals out of a large brood of moths will remain in the chrysalis state over one season and produce the perfect insect the following year, thus remaining a full year more in the dormant condition than usual, and instances are on record where the perfect insects have escaped after three years spent in this condition of torpor. Recently Prof. Riley, of Washington, has called attention to a very remarkable case of retarded development in the eggs of the destructive Rocky Mountain locust, Colopodopus spretus. These eggs were laid in 1876 on the grounds of the Agricultural College at Manhattan, Kansas. While grading the ground around the chemical laboratory in the campus a quantity of the soil was removed several inches below the surface, the covering material being clay, old mortar and bits of stone, and above this a plank sidewalk. On removing and regrading the soil last spring a number of these eggs were disinterred quite sound and fresh-looking, and when exposed to normal influences they readily hatched, so that these locust's eggs actually remained nearly four years and a half in the ground unhatched, or four years longer than is their wont. How much longer they would have remained their fate under favorable conditions of temperature and dryness is unknown. This point has a very practical bearing and deserves further investigation, not only in reference to the eggs of this insect, but to those of all injurious species whose eggs are deposited on or under the soil.

The subsecion of Entomology of the American Association for the Advancement of Science met this year at Cincinnati, Ohio, where I had the honor of representing our Society. A large number of distinguished entomologists were present, and many useful papers read and discussions held at the meetings. An account of the proceedings will appear in our annual report. It has been decided to hold the next meeting of the American Association in Montreal, I trust that our representative men in all departments of science will be present to greet with a hearty welcome the distinguished scientists from the United States and abroad, who will on that occasion honor the Dominion with their presence. I have strong hopes that the entomologists of Canada will turn out in good force.

If the progress of a science is to be indicated by the increase of interest and the number of its devotees, then entomology has made very rapid progress within the last two or three years. There are on this continent now nearly 500 hundred persons pursuing the study of this important branch of natural history, and during the past year a large number of original papers have been published on the subject. The Canadian Entomologist, the monthly organ of our Society, continues to hold its place in the front rank among the most useful periodicals in this connection, while classes in entomology are being opened in various institutions. The annual report of the entomologist of the Department of Agriculture at Washington, those of the several State entomologists, the annual report of our own Society, as well as a large number of papers on the subject to be found in the transactions and proceedings of all Natural History Societies. There has also appeared in the "Canadian Sportsman and Naturalist," edited by William Couper, of Montreal, some entomological items of special interest to Canada entomologists.

In my last annual address referred to the appointment by the Government of a Special Commission to enquire into the agricultural resources of the Province, and the progress and condition of agriculture therein. In view of the important bearing of entomology on successful agriculture, the Government were pleased to appoint me President as one of the Commissioners. The report of the Commission has since been compiled and published, in which the insects injurious to the farmer and fruit grower have been fully dealt with; also the remedies suggested for their destruction, and the beneficial insects which prey upon them. The evidence relating to the subject of insects and insectivorous birds occupies 104 pages in the full report, and 61 pages in the condensed report, both of which are adorned with many excellent illustrations. The eagerness with which these publications have been sought after is indicative of the estimation in which they are held by the public. It would, I think, meet a strongly felt want, if some arrangement were made whereby this valuable work, so helpful to every farmer, might become accessible by purchase to all who are seeking for it through out the length and breadth of our Dominion.

- Sept. 26, 1881.
EXPERIMENTS in sowing wheat at different depths, show the following results. The first column shows the depth seed was sown; second column, the number of days that elapsed before the plants appeared above the ground; third column, proportion of plants that came up:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Days Elapsed</th>
<th>Proportion</th>
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<tr>
<td>1 inch</td>
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<td>2 inches</td>
<td>12 days</td>
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<td>4 inches</td>
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<td>5 inches</td>
<td>18 days</td>
<td>75%</td>
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<tr>
<td>6 inches</td>
<td>20 days</td>
<td>70%</td>
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</tbody>
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WHEAT.

Wheat straw, 0.8 38.0 36.5
Rye straw, 0.8 36.9 37.0
Corn stalks, 1.1 37.3 36.9
Pea straw, 2.2 33.0 41.0
Oat straw, 1.4 40.7 45.0
Green corn fodder, 0.7 7.6 11.1
Green clover, 1.5 8.5 13.6
Clover in blossom, 1.7 9.3 17.3
Peas in blossom, 2.2 10.8 19.3
Clover before blossom, 2.1 13.2 23.0
Green sorghum, 1.6 12.2 20.8
Harvest grass, 1.5 11.4 20.9
Green rye fodder, 0.4 10.1 20.1
Grass before blossom, 2.0 17.4 23.4
Grass in blossom, 2.9 9.0 31.4
Italian rye grass, 2.3 11.0 33.1
Orchard grass, 3.4 11.5 27.8
Timothy grass, 2.1 13.5 29.4

THE SOURCES OF SUGAR.

Mr. Lewis S. Ware has written, and the well-known publisher, Henry Carey Baird, has issued, a little book of sixty-six pages, 'A Study of the Various Sources of Sugar, which is valuable in being an intelligent review of all that is known on this subject and as containing many valuable hints on a question that is to-day pressing its claims upon the people of this country as no other agricultural interest has done before. It is simply undeniable that the sources of our sugar supply is a question of more importance than people are prepared to admit. They have never given it half the attention it deserves; the fact is, but a few have ever given it a thought; they have been content that we should import nearly all we need for our wants, and send many millions of money out of the country to pay for it.

The object of this little book is to direct public attention upon the question. It is hardly necessary for us to say that our author looks to the sugar beet as the only means at our command whereby we may produce sugar enough for our own needs and render us independent of foreign sources of supply. The cane, sorghums, sugar beet, maple, cornstalks and watermelons are all taken up in turn and considered, their availability discussed, and judgment upon several merits pronounced.

Sorghum as one of the sources of our sugar supply, does, we think, find fair treatment at the hands of our author. He gives, briefly, a history of the long series of experiments that have been made to produce a valuable source of sugar supply. He ridicules the idea that sorghum can ever become valuable to us for this purpose, even while he admits the experiments made with it in Southern Europe are very promising; he also declares sorghum to be a variety of sugar cane, but in the same breath he says that while this French writer has tried to make the sugar beet pay with success, there has been yet no trial with the sugar beet, what has been tried with it are nothing but 100 foolish experiments," and remarks that "it seems strange that we Americans are not willing to avail ourselves of what these people have done, but must continue for nearly in the same paths, for more than thirty years." To ask Americans to forego the attempt to make sugar out of sorghum simply because others have failed of success, and to ridicule them for not giving up the attempt, is simply uncalled for. The sugar is there, as our author admits, and because Europeans have failed to extract it profitably is no reason why we should give up over the attempt. It is freely admitted we have thus far not done so, but there is the more reason we should continue our experiments until they are crowned with success. Following the same line of argument, we might as well demand that the best sugar experimenters and manufacturers shall quit their unprofitable experiments, as we believe nothing but patience has hitherto attended their efforts in the United States. The sugar in the beet is just as it is in the sorghum, but we have not been able to extract it profitably for all that, nobody wants the experiment discontinued. We would be sorry to see the numerous experiments that have been made to utilize sorghum as a source of sugar supply discontinued, and we are not yet ready to admit that the partial failures that have attended them must be accepted as a final settlement of the question.

Cane sugar made from cornstalks, finds still less favor from Mr. Ware than the sorghum article, although he admits the sugar is there and can be extracted. Still the experiments so far made have shown that as a sugar producer corn-stalks are even less to be relied on than sorghum, and therefore may be dismissed for the present, at least, from our calculations in supplying the sugar needs of the country. Sugar from watermelons, from sweet and from white potatoes is also considered; but, reasonably enough, they are not regarded of sufficient importance to merit extended discussion.

When we come down to maple sugar our author is compelled to admit the inexcusable evidence of facts and acknowledge that large amounts have been produced. Nevertheless, the amount is of necessity limited and can never supply the needs of the country. The production has never reached fifty millions of pounds in a single year, and seems to be on a decline; at all events it must always prove an insignificant factor in supplying the needs of the country. It is to some extent profitable, but all will admit there is no great future before it.

Mr. Ware will find few to agree with him in relation to the capacity of the Southern States to grow sugar. In his effort to hold up the sugar beet he is led to undervalue the cane sugar possibility quite as much as ex-Commissioner Le Duc overrated the sorghum and corn-stalk business. Although it is shown by his own tables that 319,905,006 pounds were produced in 1879, he is betrayed into saying that while wonders have been expected the results have thus far been so insignificant, compared with our total consumption, that we may be safe in expecting the sugar beet to take the place of cane sugar. Now, as it was about one-fifth of the total amount consumed in the United States in 1879, we think the above statement at once loose and misleading. He doubts "if the lands, for example, of Louisiana will be in a proper state for cane cultivation for hundreds of years to come." We do not care to characterize such a statement as it deserves. There is improper cultivation, he alleges; more labor is needed; the cane seed should be imported from other latitudes, and, to complete the whole, he raises the question "whether the temperature of the Southern States is sufficiently high or constant for the proper maturity of the sugar cane." This, too, after sugar has been largely and profitably grown there for more than a hundred years.

While fully appreciating all that has ever been said in favor of the introduction of beet sugar growing in this country, and often as we have advocated the new industry, we cannot see the propriety of discouraging a policy of honest, faithful effort in other directions. We believe the time will come when we will grow all the sugar we require, and that beet sugar will play a very important part in the sun total; but we neither believe in the wisdom of belittling all other products of which sugar is made, nor that the sugar beet is going to send sugar cane, sorghum, and maple trees to the right about so soon as is predicted in this little book, especially as every effort but one made in this country has proved an unprofitable investment. In the light of the above, and that sugar growing from cane in Louisiana has long been a profitable industry, we are not prepared to agree, and fail to be convinced "of the impossibility of the cane, under the best of circumstances in the South, competing with the sugar beet in the North even by present methods." The only success—and the facts compel us to say it hardly deserves that name—that has attended beet sugar growing in this country has resulted from compelling the farmers to grow
VEGETABLE ANIMALS.

What is an animal, and what a vegetable? Most persons are in the habit of thinking them entirely different, but who can draw the line of distinction between them? Cuvier, the celebrated naturalist, thought that motion, the power of moving about at will, was a faculty which animals had and which vegetables had not; yet the sponge and corals of the ocean are composed of innumerable animals which cannot change their places any more than cabbages can.

There are animals that have not muscles, or nerves, or mouths, or stomachs, yet they move, they eat and they digest. There are in pond plants so small that a teaspoon would hold thousands of them, which move almost with the speed of lightening. Our microscopes are not powerful enough to show us their organs of locomotion, but they undoubtedly have them.

Animals feel. So do plants; and it may be that their sensibility is owing to their having a nervous system. Look at the Mimosa pudica, or sensitive plant. Touch its leaves and they will immediately close; at night they close of their own accord. The poet says:

"Weak with dree sense the chaste mimosa stands,
From each rude touch withdraws her tender bands;
Oh, as light clouds o'errase the summer glad,
Alarmed, she trembles at the morning shade,
And feels alive through all her tender form
The whispered murmurs of the gathering storm;
Shuts her sweet eyelids to approaching night
And basks with freshened charms the rising light."

Animals sleep. So do plants. Many plants sleep at night, and there are some of nocturnal habits, like the owl of the animal kingdom. The plant commonly known as the evening primrose puts forth its yellow flowers at nightfall.

"A tuft of evening primroses,
O'er which the wind may hover till it dozes,
O'er which it well might take a pleasant sleep
But is ever startled by the leap
Of tawny insect flowers."

Animals eat and drink. Plants eat and drink, too, and some are exceedingly fond of animal food. The "sundew," a small plant that grows in low, marshy land, has small round leaves with a hairy fringe. At the end of each hair is a drop, apparently of water, of really extremely sticky secretion. An insect comes along and alights on the leaf. If but one of its toes touches the shining drop his doom is sealed. He becomes the sundew's dinner.

In marshy places in North Carolina grows the sundew trap. Every leaf has a row of spikes so arranged that when the lobes of the leaf are closed the spikes interlock so that nothing can pass them. If a fly alights on the leaf he gets a pressing invitation to dinner, which he is always compelled to accept. The strongest thing about the plant is that its leaves will not close upon a piece of wood, or a button, or anything else that is not food.

The nepenthis, or pitcher-plants, of India, also catch and digest insects. The leaves are shaped like pitchers. The rim of each pitcher is smeared with something which looks and tastes like honey, and which continues some distance into the pitcher. Then the surface becomes as smooth as the smoothest glass. The insect slides down this inclined plane to the bottom of the pitcher and plunges into an acid which kills it. These pitchers are in reality stomachs, and they digest a fly or a bit of beef or mutton exactly as a human stomach digests its food.

There grows in stagnant water a plant having minute translucent bladders attached to its leaves. Each of these bladders is full of water and has a little trap door which can be opened only from the outside. If the larve, which are so abundant in stagnant water, touch the trap door it opens hospitably and lets them in. As soon as they get in it shuts with a click which kills them. Fortunately, life in that cell does not last long.

It is said that animals have instinct, at least, if not reason, and vegetables have not. Do not be too sure of that. Mr. Darwin saw the tendril of a climbing plant voluntarily withdraw from a hole in a wall after it had chosen it and remained fixed in it for thirty-six hours; and it is a fact that the tentacles and leaf of the sundew will move a little distance upward after a fly—and catch him, too.

Perhaps some wise person will ask if animals can be propagated as slips, as plants can, and, while he asks, certainly, that's the easiest thing in the world. The common hydra, abounding in ponds, can be cut into twenty pieces and each piece will become a perfect hydra. If the body be cut in two, lengthwise, the parts will grow together again, and if the two parts be kept separate, each will become a hydra. The same is true with jelly fishes.

Professor Huxley says: "The difference between an animal and a plant is one of degree rather than of kind, and the problem whether, in a given case, an organism is an animal or a plant may be essentially insoluble."

So, to be on the safe side, I shall call such things as the sundew, Venus' flytrap, and so forth, vegetable animals.—Christian Union.

AMERICAN CHEESE AND ITS EXPORTS.

Our population is now fifty millions, and we ought to consume the entire cheese product of the country. It amounts annually to 400,000,000 pounds, and of this about 125,- 000,000 are exported. England has a population of about 25,000,000 and her annual cheese consumption is over 500,000,000 pounds or 30 pounds per capita. If we consumed annually our whole product, it would be only at the rate of 8 pounds per capita, but as we use no more than 275,000,000 pounds, the actual consumption would be 15 pounds per capita. If we used cheese as freely here as in England, our annual consumption would require one thousand million pounds. There is not the proper effort made to promote home consumption.

The bulk of our finest cheese goes abroad, the poorer sorts are left for home use, and the influence of all our cheese monopoly is to check the rate of consumption. Outside, the chief cities it is seldom more than one variety is offered in market, and that is a second or third class Cheddar. There is pressing demand for fine, small cheeses, of 6 to 10 pounds weight, but our dairymen seem to make but little effort to get out of the regular exportation size and—and so long as they have an annual surplus of 175,000,000 pounds of this kind, they must expect to have prices on our whey products regulated by a foreign market. Prices fluctuate from week to week and from season to season, according to foreign demand and cable quotations from Liverpool and London. In 1879 the finest cheese made in this country sold in the interior markets at 6 cents per pound. Because cheese sells high this season there is no certainty that it will sell equally well next year. The recent developing of cheese dairying in Russia and other parts of Northern Europe, in Australia and New Zealand, will, in a few years have more or less influence on our export trade. Our dairy interest ought to be independent of foreign shipments. Our population is rapidly increasing, and the entire cheese product of the country ought to be consumed at home; but to effect this desirable result, a change must be made in our running all goods into Cheddars. We must have more varieties and different styles to suit home wants. When this shall be fairly inaugurated, we may look forward to less fluctuation in our dairy markets, and to a very steady demand at remunerative prices.—Hon. A. K. Willard, in American Agriculturist for November.
THE LANCASTER FARMER.

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The lecture was illustrated in such a manner as to only be properly understood by an explanation of the diagrams. Mr. Hazard explained that the escutcheon consists of hair growing upwards, forming different shapes, while all the rest grow downwards. A number of questions which were proposed were cheerfully answered, and the Jersey and Guernsey is the coming cow, although he is also a strong advocate of the Jersey. He concluded his lecture by some remarks in reference to farming on the channel islands, and displayed some large colored lithographs of scenery on the islands of Jersey and Guernsey. He also exhibited specimens of shells used on the islands in milking, in order to keep impurities out of the milk.

On the origin of the Jersey by Col. J. L. Stiltscher, a vote of thanks to Mr. Hazard was passed for his admirable lecture. A number of copies of his work "How to Select a Cow," just from the press were sold, and Mr. Hazard presented the Agricultural Society with a handsome volume, bound in cloth for their library, for which kind action another vote of thanks was extended to him.

SWINE RAISING—A DIFFERENT SYSTEM DESIRABLE.

The American Agriculturist has so long recommended improved pigs to its readers, with Essex as its model, that we apprehend a different doctrine may be considered as swine heresy. We shall write of pigs from a practical standpoint, which embraces not only raising them for breeding but for slaughter. We do not consider the little chubby breeds to be the most profitable. There are two decided objections to them; want of growth and unsuitableness for food. There are too many pig pens or pig prisons. A warm clean and roomy pig pen in winter is wise. During the season of cold weather pigs want a home where they can burrow and keep out of the cold, as this is their nature; and when they are kept warm it makes a decided saving in the amount of feed required. In summer the circumstances are all different, as this is the season for growth. Pig raisers have generally adopted a system to make the most rapid increase.

They acted upon the principle that the more food which could be stuffed into a pig the better, and breeders have been governed by the same idea, and have endeavored to condense pigs as far as possible, reducing the bone, muscles and other parts to fat, so that the modern improved pig has become little else than a mass of animated lard. Such pigs are not fit to eat, and people show their good sense by not eating them. Improvement has reduced the demand for pig meat in the cities more than one-half, and in the country it has nearly banished the pork barrels from farmers’ cellars. Why? Because the American stomach has not kept pace with the so-called improvement in the feeding and the breeding of pigs. If our stomachs could be made to digest hard four inches thick, then we might continue this improvement, but since they will not, we had better reduce the four inches of fat somewhat, and grow meat, instead of lard, and try to produce feed which will be more palatable, digestible, and salable. There must be more muscle and less fat, more length of body and less chunkiness. In order to produce this condition, there must be more exercise and less stuffing. The rich food must be kept from the pigs, or fed in very moderate quantities, until the “rounding up” time just before slaughtering. If in good health and losing fat, will not be killed for five weeks, during which time they may be given all they will eat. The body should be made first, and then what fat is desired should be added afterwards. This plan will make healthy meat, while a system which produces a condition of over-fatness, kept up for months, does not make healthy food. There is too much fever to be healthy, which is proved by the fact that pigs often become feverish and helpless, and are speedily slaughtered before they recover by judicious treatment. Pigs should be put into a pasture with their mothers, and when they require more food than the mothers can furnish them to keep them growing, they should be taught, which is very little trouble, to go into an inclosure by themselves, where they can be fed and return again to the mothers at will. Our swine run in the orchard, which is the most natural pig pasture, where they eat the fallen apples and the orchard grass, which is constantly improving by being fertilized with the manures of the clover field; the next best pasture, and green corn stalks or sugar cane (sorghum) is the best substitute for either. Roots fed raw in the field are excellent. Wheat middlings is the best supplementary food in the grain line to give either to the sows or pigs; and they should have enough to keep them in good growing condition; it should not be a question with the farmer how heavy and fat he can make his pigs, but how much the growth costs. If a pound of pork worth seven cents, costs seven cents, then there is no profit, but if it only costs half as much there is just so much profit. The benefit to a pasture in which the pigs run in enriching the soil should be taken into the account, while the advantage of always breathing pure air instead of the fumes of a reeking pig-pen, is of vast importance. Pure air helps to make pure blood, which in the course of nature, builds up healthful bodies. These out-of-door pigs would not show so well at the fairs, and would probably be passed over by the judges, but people who have been taught to admire only the fat and helpless things which get the prizes. Such pigs are well adapted to fill lard kegs, whereas the standard of perfection should be a pig which will make the most ham with the least waste of fat; the longest and deepest sides, with the most lean meat; it should have been enough to allow it to stand up and help itself to food, and carry with it the evidence of health and natural development in all its parts. Pigs which run in a range or pasture have good appetites—the fresh air and exercise give them this—hence they will eat a good variety of food and much coarser than when confined in pens. Nothing need go to waste on the farm for the lack of a market. They will consume all the refuse fruit, roots, pumpkins and all kinds of vegetables, which will make them grow. By extending the root patch, and planting the fodder corn thinner, so that stubbins will form on it, and by putting in a sweet variety, the
number of pigs may be increased in propor-
tion. A few bales of corn at the end of the
season will finish off the pig. The pig
pasture will be ready the next year for any
crop, and ten times the advantage accrue to
the farm than if the pigs are confined in a
close pens, for, as pigs are usually managed
on the farm, but little manure is ever made from
them.

Canker Worms.
After the first heavy frost measures should
be taken to guard against canker worms.
For it is then that the grubs begin to go up.
Nail a piece of tattered paper a foot wide
around the trunk of the tree near the ground.
On this put a coat of the residuum of kero-
sene, which can be bought very cheaply at
any refinery. This is better than any other
material for this purpose, as it is more sticky
and does not dry so quickly. This residuum
should be applied as often as is necessary,
to keep a sticky coat on the paper until the
ground freezes up for the winter. One ad-
antage of putting the tattered paper low down is
that it is then below the reach of cattle
that may rub against the trees. Another is
that it should not be too low or too high, and
the result, which are millers, fly higher up
than these, and so miss them.

Selecting Seed Corn.
The drouth has made an immense loss in the
corn crop this year, but in some sections
poor seed has been almost as damaging.
Planting and over replanting, a poor stand
and a late start has caused the loss of mil-
lions of bushels throughout the State. This
fact shows the great importance of selecting
and carefully storing seed corn in the fall.
We call attention to this subject now, for
the season has arrived when this matter must
be attended to, if it has not already been
done. If more than one variety of corn is
raised on the farm, and it is desirable to save seed
of both, or all, select that field, or that part of
the field that is farthest removed from the
other varieties, in order to escape the danger
of cross-fertilization. Fix in the mind a model
corn-stalk, and then proceed to search for
such stalks. Of course your model will
be large rather than tall, and will bear at
least two ears. The upper one of these
should be selected, as a general rule, for it is
usually the most perfect—however, if both
should be equally large and perfect, both may
be taken. If a large field is found where
there are very large one, we would not
hesitate to take it, but as a rule we pre-
tend two medium sized ears to one over-grown
one. Early ripening is also a quality that
should not be lost sight of. The seed ears
when gathered should be kept in a dry, airy
place, where the temperature will not fall be-
low zero, and where rats or mice cannot find
it.

AGRICULTURAL AND HORTICUL-
TURAL SOCIETY.
The regular monthly meeting of the Lancaster
County Agricultural and Horticultural Society
was held on Monday afternoon, November 7th,
in their room over the City Hall.
The meeting was called to order by Joseph F.
Wittmer, president, and the following members
and visitors were present: Joseph F. Wittmer, Paradise;
E. H. Kurtz, Mount Joy; A. G. Landis, John
Miller, Warwick; J. H. Landis, Manor; Daniel
Smechey, City; J. M. Johnston, City; Thos. F.
McElligott, City; W. W. Grisct, City; C. A. Gast,
City; J. Frank Landis, East Lampeter; Casper Hil-
er, Conestoga; Walter E. Enslen, City; F. F.
Ehle, City; E. W. Grisct, Peterstown; Cyrus Neul,
Manor; A. F. Hostetler, Exq., City; Wm. H. Brosius,
Drumore; C. L. Huuskeker, Manheim; Washington
L. Hershey, Chiclets.
In the absence of the secretary, C. A. Gast was
elected secretary pro tem.
On motion, the reading of the minutes of the
preceeding meeting was dispensed with.

Reports of Special Committees.
Johnson Miller, one of the committee appointed
to visit the York Fair, said he had intended to present
a report of his visit but had not yet prepared it. He
would, however, state that the committee found
a fine display of stock, fruit and machinery, and that
the fair was a grand success for York county. He
had been shown an improved drill made by Mr.
Helges, living near York, and that gentleman
also showed the committee his plan of sowing wheat.
He showed fourteen inches of grain, leaving a space
between the rows of twelve inches, and his yield was
an average of from 45 to 55 bushels to the acre. He
had by this plan raised as high as seventy-one bushels
to the acre. He sows three pecks to the acre. If
the plans of Mr. Helges is successful in York county,
it could be made equally as successful in this county.

John H. Landis reported that he had been unable
to attend the Lebanon Fair, on account of being
at the same time as the Yorktown celebration. He
sent tickets to the other members of the committee,
and he understood they had visited the fair, but none
of them were present to report.

Mr. Kurtz, of Mount Joy, reported the growing
crops as looking exceedingly well. In his
district there would not be more than a half crop of
corn. Mr. Neff, of Manor township, reported the
crops as looking well; grass has improved within the
past week. The corn crop will be about three fourths
of an average one.

Mr. John H. Landis said he could report the same
for the eastern end of Manor township and also for
Lancaster township.
Mr. Kurtz said there was no change from his
report of a month ago. Since then the rain fell was
2 1/2 inches.

Johnson Miller, of Warwick, reported the grass
fields as improved since the late rains; in his district
there would be three fourths of a crop of corn.
Farmers have already commenced digging taking down
their tobacco. Wheat, clover and timothy look well.

Mr. Casper Hiller, of Conestoga, reported that
the early sow wheat fields don't look as well as they
should, but he did not think there was any need of
applying any sort of blue. There was a famous crop
from one half to three fourths of an average one.

J. Frank Landis, of East Lampeter, said the corn
crop in his district would turn out better than had
been expected and would be fully three fourths of
an average crop. He found no fly in the wheat. The
rain fell for the month was three inches.

Reading of Essays.
Dr. Greene read two essays, one on insects
and the other on the use of foreign languages by
farmers in the naming of their fruits.

The Doctor was taken to task by Mr. Eby for ad-
vancing such narrow-minded ideas. He ought to
know that the Latin is the universal language of
scientists.

Mr. Hiller said the ordinary plants have one name
in one township and a different one in another, and
in the United States the same plant may be called
by fifty different names. He agreed with Mr. Eby
in the use of scientific names. It has also been said
by Prof. Rathvon, and did not think Dr. Greene's
statement that the cold killed insects was correct.

Mr. Hiller said a book should be published by
some competent person, in which the scientific name
and common name of plants, trees, etc. should
appear together.

Mr. Eby said he had purchased such a book in this
city but a short time ago.

Refused Questions.
What is the best method of keeping our stock over
winter? was answered by D. W. Graybill, of Peters,
burg; He would in the first place work off all sur-
plus cattle, those that a farmer could not do without.
For second, he would save the wheat, mix with feed,
and in addition cut corn-stover short for cattle.
Mr. Neff said scattering cut feed was not of much
use. He used a little warm water in very cold weather
for his animals in his sections where snowed stopping
the feed.

Mr. Egle said there was a wide difference of opin-
ion as to whether feed should be scalded or steamed.
Some abandon steam feeding on account of danger
by fire, while others said it was much more trouble.
Cattle will be brought out in better condition by
using steamed or scalded feed. Cattle relish it more than when their feed is dry. They do not object to it as a regular food, and one great danger is in giving cattle water when it is too cold. Col. Young, of Middletown, was a great believer in steamed feed, and fed all the cattle on his farm of 1,000 acres with steamed food. He says it pays, and he ought to know.

President Witmer said he was also a believer in warm feed for cattle. He did not think it should be too warm, but the chill should be taken off.

J. F. Lambs had experimented with dry and scalded feed and found a decided advantage in the use of scalded feed.

Mr. Neff said the question was, whether feed should be steamed or merely hot water poured over the feed. He favored the latter plan.

Mr. Engle said root growing is neglected in this part of the State. If carrots, sugar beets or beets are fed to the cattle, they will drink less water and can be got in good condition without using any scalded feed if roots are fed.

New Business.

D. W. Graybill reported having a pear from a dwree tree on his premises, 13 inches in circumference, that weighs one pound and six ounces.

Casper Miller exhibited a Chaco moon potato from potatoes planted May 31. The yield on one-fourth of an acre was 36 bushels. He also exhibited three large persimmons.

Dr. Greese exhibited several stalks of Russian oats, all grown from seed, and one sample, completely from Western New York. The Russian oats are claimed to produce from 60 to 90 bushels to the acre, and from 15 to 20 percent more straw than the common oats.

Mr. Engle presented to the society ten numbers of the Lancaster Farmer, the Thirteenth Quarterly Report of the Pennsylvania State Board of Agriculture, and one volume of the Secretary's report of the Pomological Society of Michigan. He also exhibited some choice pears of the Lawrence variety, and some very large chestnuts.

Essayist Appointed.

Mr. Engle suggested that the society adopt competitive essays, with first, second, and third prizes, according to merit, as they may be decided by a committee appointed for that purpose.

Considerable discussion followed this proposition, participated in by nearly all present. It was finally decided to appoint a committee to appoint an essayist for the next meeting. John H. Sandis was selected. His subject was not announced.

Referred Question.

What is the best time to apply manure? Referred to William H. Bross.

On motion, adjourned.

LINNEAN SOCIETY.

The society met at 2 o'clock p.m., on Saturday, October 29th, 1881, in the afternoon of the museum.

Presid. Prof. J. S. Stahl, in the chair, and M. L. Davis, M. D., Secretary.

After the usual preliminary business, the following donations were announced to the Museum and Library.

Museum.

A valuable collection of Insects made by a lady friend of the society, from the far off region of Montana, and donated through Mr. John B. Albright.

Also a specimen of the "Horned Frog" (Phrynocercus rhynchocephalus), a common toad (a species of Bufo differing from ours) and a number of Archenlids inclusing a scorpion. This collection is interesting and valuable on account of the locality in which it was collected, as it contains forms of the fauna of Texas, New Mexico, and California, and other localities to the south, which we might as naturally expect to find in New York and Pennsylvania as in Montana, and yet they do not exist in those States. The collection consists of Coleoptera, Hemiptera, Hemiptera, Orthoptera, Hemiptera, Neuroptera and Lepidoptera. The horned frog -- Phrynocercus rhynchocephalus -- the mole cricket -- Stenopelmatus talpa -- the Scorpion -- Buthus spinigerus -- soil in the genera Cleomis, Cassia and Poctates, are stippled forms and should be found as far south as the United States, New Mexico and contiguous regions.

A very large specimen of the speckle insect, or walking-stick (Diapheromera femorata) and a brown striped Salamander, (Salamandra erhythrones) are from Lancaster county, and were presented by friends.

Two fossils (referred to the committee on Palaeontology for future identification) from along the little Junius River, Huntington co., Pa., were donated by Dr. M. L. Davis, of Millersville.

A specimen of Graphite Granite, from the Seven Hills, Cheyenne Canon, Colorado, donated by Mr. Cha. A. Heinitz.

Library.


The Lancaster Farmer for October, 1881.

Numbers 12, 13, 14 and 15 of the Official Patent Office Gazette.

Also, decisions and index of contents, from January 4th to June 28th, 1881, Department of the Interior.

Five Catalogues of Historical and Scientific publications, foreign and domestic.

Historical.

Five envelopes containing fifty local and foreign Biographical and Historical scraps.

New Business.

John S. Smith, D. D. s., was unanimously elected an active member.

Standing committees made no reports, but special committees reported progress.

On motion, the committee appointed at a former meeting to consider the propriety of changing the hours of the meetings from afternoon to evening, was instructed to include the question of determining the number of meetings from monthly to bi-monthly or quarterly, and to report at the November meeting, to be held on Saturday afternoon, the 29th.

The hope was entertained that there would be a good and pleasant attendance at such a meeting, and also that all those who have been recently elected members be in attendance and comply with the forms of the constitution.

The object is to make the meetings more interesting and useful at the same time to interlace as little as possible with the secular occupations of members. Also to allow more time and opportunity to prepare subjects to be brought before the meetings.

After a pleasant hour or so, with an increased attendance over the summer meetings, the society adjourned to the time above stated.

AGRICULTURE.

The Short Wheat Crop.

The total wheat crop of the United States is now put at 362,062,000 bushels, against 445,756,630 bushels for 1879, and 468,845,725 bushels for 1880, according to the United States Department of Agriculture.

This shortage of more than 100,000,000 bushels is pretty evenly distributed over the whole country. In every section some cause has appeared to partially disappoint the expectations of the farmers.

The New England States show a regular and constant decline in production; the Middle States note a falling off of 12 per cent. from last year's yield; the Western States also show a decline of 10 per cent., in the important region of Kansas, which is a exceedingly short. It is not easy to secure authentic reports from the Pacific Coast, but that there will be a decrease is evident, while Colorado and the Territory of Utah are considerably below the figures of 1879. The only States which chiefly mind the crop returns for 1880 are Nebraska, Wisconsin, and Kansas. The Territory of Dakota makes a great leap forward of over six million bushels in two years, but when the rapidity with which the acreage has increased is compared to the increase the decrease is scarcely extraordinary. Illinois, Indiana, and Michigan have suffered most severely, the yield in the first-mentioned being considerably less than half that for either of the two years immediately preceding.

That which has caused this uniform effect are curiously diverse. In California it is a drought, and in some sections lack of rain. From Illinois east and south the drouth of this year has been something terrible, while in Minnesota continued heavy rains delayed harvesting and did much damages to grain. In the States lying north and west of the Missouri there has been enough rain to do more than moisten the surface of the ground for fifteen weeks. Wells are dry, rivers have disappeared, and already, some years ago, vegetation appeared as if a heavy frost had passed over it. Some of the prairies have been burned by the long drouth. in Minnesota more rain fell in the month of September than in any previous year on record. A gentleman largely interested in wheat farming in the Red River Valley, who boasts this year of an average crop of forty-eight bushels to the acre, declares that the decrease is largely owing to the carelessness of the farmers themselves. He attributes his own success to the fact that his grain was put in stack as soon as cut; while wheat lost in shock, waiting for the thrasher, were overtaken by the expected rains and suffered severe loss. It is probable, however, that the shortage will not inflict serious damage upon the farmers as a class. No cases where the crop was a total failure, to be left standing or plowed under, as in previous years, are reported from any section. The decrease comes from a general limitation in the yield per acre, and thus a part of what the farmers lose in quantity is made up to him in price. The point to which wheat has already reached in the north is the probable price of prices during the months that must elapse before a new crop can be fairly on the way, insure as a fair return, up to a certain limit, as the lower rate of profit given by the prices of preceding years upon a much larger supply.

Value of Tobacco Stalks.

We have gathered the following testimony in regard to the munificence of tobacco stalks. An exchange says: 'Tobacco stalks lend on the grass land over winter loam, some of the richness to the soil and improve the grass. The stalks can be gathered up again in the spring, cut in short pieces with the potato hills or plowed under promiscuously on the land, and incured to become the sown to rye or other crops. The stalks have the manorial value of an equal amount of the best animal excrement.'

Connecticut farmer says: 'I use tobacco stalks on grass lands in the fall and sometimes worth more than a coat of manure; but I do not like the picking them off from two acres every spring. I have also used them for potatoes in the hill by cutting them and dropping about four pieces in each hill and heaping the extraneous brown refuse around the hill rot and furnish food for the tubers as fast as it is manufactured and when fully rotted the ground is loose for the potato to grow in. But the best results from the least work I have had in spreading them on land in the spring; put them through the plow and they do the work about every fourth year and stocked with redtop, as clever and timothy seed would not take it, being
so run out that it would produce only about ten bushels of rye per acre. I have planted two acres cash to corn and sowed rye and stock with clover and timothy seed, and spread my tobacco stalks on.

The result is that I have a good crop of rye, and the stock growing is about equal on the two acres that I had thus treated I pastured two cows and one horse seventeen weeks till I turned them into my fall field. I never turn my cattle on to new stocked land till the clover is in full blossom.  

Another writer says his favorite way is to cut them up short, and either to put them under his cows and let them go out with the manure, or else plow them on potato ground in spring.

Fall Pasturing.
The duryman who pastures ordinary meadows in the fall rolls his next crop to an extent that he does not realize. The writer was conversant with a case where seventy-five acres averaged about one hundred and thirty tons of excellent hay when no pasturage was allowed; and the owner, having a tenant who had been rather unfortunate, allowed him to pasture some twenty-five cows upon the aftermath of the meadows for a single fall, and the consequence was a reduction of the yield from 150 tons down to sixty tons a season, and the yield was never recovered until reseeding. It was estimated that the whole value of the twenty-five cows in the fall was not equal to the injury of the next crop on the seventy-five acres of meadow. This practice of pasturing meadows is one of the most ruinous of all the wasteful uses of land, and causes them often to be so short of hay as to injure the yield of their herds in the spring. Good feeding through the winter lays the foundation for a good yield of milk the following season with good cows. Good meadows are very essential to success in dairying, and therefore this subject should be most carefully considered.—National Live Stock Journal.

Useful Hints for Measuring Lands.
Almost every farmer has some way of measuring lands, but the most common is to step off five paces for a rod, and call sixty by sixty-five paces an acre. For ordinary purposes this mode will answer, but when the exact measurement of a piece of land is desired it cannot be depended upon as being accurate.

A light pole six and a half feet long is a cheaper and more accurate instrument, four rods and tape is still more accurate. A plot of ground eighty yards wide by eighty and one-half yards long contains one acre. A plot of ground seventy yards wide by sixty-one and one-seventh yards long, contains one acre. A plot of land can be found by the following table of distances:

<table>
<thead>
<tr>
<th>Distance</th>
<th>Acres Contained</th>
</tr>
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<tbody>
<tr>
<td>50 yards</td>
<td>0.25</td>
</tr>
<tr>
<td>100 yards</td>
<td>1.00</td>
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<tr>
<td>150 yards</td>
<td>1.50</td>
</tr>
<tr>
<td>200 yards</td>
<td>2.00</td>
</tr>
</tbody>
</table>

How to Grow Clover.
Mr. Joseph Harris, in his "Talks on Manures," says that we can make our lands poor by growing clover and selling it, or we can make them rich by growing clover and feeding it out on the farm. Drain where needed, cultivate thoroughly, so as to develop the latent plant food in the soil, and then grow clover to take up and organize this plant food. Blackberries should be 6 to 8 feet apart in rows, and the clover does not compete, but in the best shape for other crops. The clover does not create plant food, but merely saves it.

Horticulture.
Farmers' Gardens.
We have had occasion to observe the great increase in cultivation of flowers throughout the country within a few years. Hilgard, in his "Flora of the United States," large villages the absence of blooming plants in pots in the windows has been the exception and not the rule. There has not been an equal improvement in 'farmers' kitchen gardens. It is very rare to find entire rows of flowers or other products of the garden positively as many weeds as vegetables. The trouble is that too many plants have been alloted to them than the owner has found time to take proper care of. One square rod, made with manure and kept clean and mellow by cultivation, will produce results in the most delicious vegetables than an acre overgrown with weeds. Now, let every farmer who has a weedy garden reduced its size one-half and see if he can do any better. If not, reduce it again to half and try once more, and if still unsuccessful he can gradually bring it down to nothing, which would be better than slapshod and profitless culture. We recommend such a course only as a choice of evils; for a good-sized, well-nourished, well kept, well cultivated kitchen garden is one of the most valuable investments a man can make.—Country Gentleman.

The Fruit Garden.
The advantages of a fruit garden are many, and all farmers should have one. Now is a good time to choose a place and prepare it for raising fruit of the smaller sorts. The soil should be well drained, and rich strawberry plants may be set out until the ground is too wet to plant. The beds should be covered with litter, putting it slightly over the plants. There is no great gain, as to the fruit, in planting strawberries late; but the soil is in better condition now than in spring, and work is not so pressing. One crop can be expected the next season unless the ground is badly turned under the brown leaves may cover the rows will be the distance most suitable for working a small cultivator among the plants. Blackberry and Raspberry plants had better be set out in the fall, as they start growing so early in the spring. Blackberrys should be 6 to 8 feet apart in rows, and the raspberries about 4 by 4 feet. In picking the grapes for market it is best to use the grape scissors, which allow the bush to be removed without handling and defacing the bloom. The thin-skinned varieties, like those called "Vaccas," will not keep long, but the tough-skinned kinds, as the Catawba, Louis and Diana, may be preserved in good shape until the holidays. To keep them the grapes must be well ripened, picked with care, and left in a cool room for a few days until the skin gets tough. Stack them afterwards in small boxes (5 to 10 lbs.), putting the fruit in from the bottom, and putting on the cover (bottom), with some pressure, and tacking flat. Label the other side, which is the one to be opened. Keep in a dry and cool place until sent to market.—American Agriculturist for October.

Grapevine Treatment.
Whether you raise vines from grafts or young vines, let only one or two sprouts grow the first year or two; nip off all suckers that sprout out at the leaves or joints, but never nip the end of the main stem or vine. Be on your guard for caterpillars, or they will nip them for you. It is folly to let any more than one or two sprouts grow on a young vine the first year or two, as you will have a grape bush, and not a fruit-bearing vine, if you do. Spare not the pruning knife; the old wood produces no fruit. Raise strong, thriving vines, until they are ready to bear, which will take three years if the proper attention has been bestowed upon them; let them have as many sprouts as their strength will warrant, and an abundant supply of fine grapes will be your reward. Grapevines are strong feeders, and any small animals that may die can be utilized as a fertilizer by being buried in with the roots.  

Flower Farming.
All the natural scents now used in this country are imported at high prices, but within a year the cultivation of flowers for perfume has been started in Santa Barbara and Alameda counties, California, and as the climate of that State is well adapted to the raising of flowers, there is a good prospect that a large share of the scents consumed in this country will soon be produced at home. In Europe 150,000 gallons of handkerchief perfume are annually distilled. The profits of flower farming in some portions of the Old World are shown in the following figures: An acre of jasmine plants, 80,000 in number, will produce 5,000 pounds of flowers, valued at $1250; an acre of roses, 10,000 in number, will yield 2,500 pounds of flowers, worth $750; 500 orange trees growing on an acre will yield 1,000 pounds of flowers, worth $150; 500 clover plants will yield something over $2,000 ounces of distilled attar, worth $400; an acre of lavender, giving over 3,500 pounds of flowers for distillation, will yield a value of $1,500.

Fruit Trees.
Orchard trees thrive best where the roots are kept cold. A writer in the Germantown Telegraph gives his experience, showing the great benefit his apple orchard received from a mulehing of salt hay. He states that a Mr. More, who has been manuring his pear orchard for some time, has now concluded to try low mulehing. He has found that the peaches and apples begin to grow in deep, cool soil, hence it is that nurserymen in States having hot, dry summers cannot raise pear seedlings as well as those living where the summers are cooler. A good mulch is excellent for trees; it keeps the ground cool, moist and rich. These cold conditions are especially required for the best fruiting. The pear, which requires more attention than any other kinds of fruit trees, especially likes this treatment.

A Shoe-Black Plant.
The "shoe-black plant" is the name popularly given to a species of hibiscus, growing with such profusion and remarkable for the showy appearance of its scarlet flowers. Growing freely in almost any kind of soil, the plant is frequently cultivated for the flowers, which, when dry, are used as a substitute for shoe blacking.

These flowers contain a large proportion of mucilaginous juice, which when evenly applied gives a glossy, varnish-like appearance, which perfectly replaces ordinary blacking, with the advantage that it is perfectly clean in use, and can be applied in a precise manner. They can be grown in flower pots and pollen removed, are required for each boot, and a polishing brush may be applied afterwards if desired.

Grape Vines on Stakes.
Grapevines can be trained to stakes as well on trellises, and wherever a man has room enough to grow a currant bush he has enough for a grapevine. Of course you cannot expect a vine confined to such circumscribed limits to bear as much fruit as one spread out on a trellis; still, what it does produce will be as good as the vine was allowed more space to thrive.
THE LANCASTER FARMER.

HOUSEHOLD RECIPES.

FLANNEL CAKES.—To two ounces of butter add one pint of hot milk to melt it, one pint of cold milk, five eggs, four to make a stiff batter, one teaspoon of nutmeg; stir in; put into a greased tin and bake it in a warm place three hours. Fry on a griddle and serve hot.

ROLLS.—Take a piece of bough dough a little larger than a pint cup, and knead into it one or two ounces of the cold house; hard, or work-along; roll up and cut off pieces the size you wish, roll thin in the hand and place in the pan, let rise and bake. The crust will be nicer if they are rubbed with butter before baking.

MEAT ROLL.—Take up the pieces of good tender raw beef or mutton, with pepper, salt, and, if liked, one finely-minced onion; boil a half dozen good-meal sized potatoes, mash smooth and wet, with milk enough to form a dough to make the crust, salt to taste the paste, roll out half an inch thick, and line a buttered dish large enough to hold the meat; lay in the meat, add a teacup of water, or less, if the pie is to be for a small family, then roll out a thick crust of the potato, covering the top of the piece at least an inch thick, and bake about an hour.

HORSE RATION SAUCE.—Two teaspoonsful of made mustard, two of white sugar, half a teaspoonful of salt, and a gill of vinegar; mix and pour over grated horse rathash. Excellent with beef.

ONE POUND—Four to five pounds of ground rice or half a pound of pounded sugar and the grated rind of a half a lemon, whirled thoroughly by two large eggs, whites and yolks together; mix these with the other ingredients and bake in buttered tin. This cake is best eaten fresh; after about three days it is very dry, a little hard, but not bitter; but for use at once it is clean and inexpensive.

POTATO PUDDING.—One pound of mealy potatoes; mash them in perfectly smooth, avoiding too heavy a pressure; mix while hot four ounces of butter, five ounces of sugar, six eggs, a little salt, and a liberal allowance of grated lemon peel. Put in a buttered dish and bake in a moderate oven for forty minutes. It should be turned out and served with a layer of sifted sugar. When cold it eats like cake and may be served as such.

MUTTON HARicot.—Take a loin of mutton, cut it into small chops, season with ground pepper, allspice and salt; let it stand a night and then fry it. Have good gravy, well seasoned with flour, butter, catsup and pepper, if necessary. Bold turnips and boiled cabbage, with a little vinegar will give it a good dish. A jezpin of ground mace stowed in the gravy, with the yolks of hard-boiled eggs, and forcemeat balls. Some green pickles will be an improvement.

RICE CHICKEN PIE.—Cover the bottom of a pudding dish with slices of baked ham; cut up a broiled chicken and nearly fill the dish; add chopped onion if you like, or a little curry powder, which is better, then add boiled rice to fill all interstices and to cover the top thick. Bake it for one-half or three-quarters of an hour.

CHEAP SPONGE CAKE.—Three eggs, two tablespoonsful of water and a teaspoonful of sugar mixed together; a teaspoonful and a half of flour, two teaspoonfuls of browning powder, and a pinch of salt stirred thickly in season with a teaspoonful of essence of vanilla, or half a lemon; bake in a quick oven. It can be baked in jelly-cake pans, and have pastry cooks' cream, lemon, iced, or chocolate between.

ONE POUND—A five-pound piece of tender, juicy beef, without fat, from the rump or tender side of the round. One pint of cold water, half a pint of vinegar, two teaspoonfuls of ground cloves, one teaspoonful of pepper, two teaspoonfuls of salt, two or three onions; mix the salt and spices well into the vinegar and pour it over the meat; let it stand twenty-four hours in a cool place, turn it occasionally. If it absorbs all the vinegar add more; put it in a stew pan with the water and onions, and let it simmer slowly three or
Big Head in Horses.

The so-called big head is a disease of the horse's structure. It is not always confined to the head, but may develop in any part of the skeleton. It consists in a gradual softening and enlargement of the bones, which become spongy and porous from want of proper nutrition. It is a disease of young animals, and being mainly due to the malnutrition, such animals should be kept on liberal, wholesome and very nutritious food, such as oats, barley and bran, mixed or steamed, as chewing is often slow, painful and difficult. During the summer season pastureage is the best remedy. Local applications, such as blistering, fering, etc., generally prove useless, because the disease is of a constitutional nature, affecting the whole system. For internal use tonic remedies may be employed, such as a draught of peroxide of iron and two or three spoonfuls of powdered burnt sugar, and this should be repeated every morning and evening during every other week. Such animals should not be used for breeding purposes.

Prairie Farmer.

The Shropshire Sheep.

The development of great industries in iron and coal in the districts of Shropshire, at the beginning of the century, has decreased the demand for mutton. To meet this demand, the farmers of that part of the country turned their attention to the raising of mutton sheep. Breeding ewes were sought for from the midland and southern counties, and the time Shropshire become not only a leading sheep-rearing region, but also the home of an important breed, the parentage of which is difficult to state, for the reason that it is derived from and combines a number of the best mutton breeds.

The Shropshire is more strictly a cross-bred, in which Cotswold, Hereford, Southdown, and later the Leicester and Southdown have been combined. On account of this complex admixture of blood, the Shropshire breed is one that varies somewhat in character. The original sheep was horned, black or brown-faced, rarely and from disease, producing 44 to 56 pounds of mutton to a carcass, and a fleece of two pounds of moderate- ly fine wool. The present Shropshires are without horns, the legs and face dark or spotted with gray, the neck thick, the head well shaped, ears large, and the wool long and of high grade. They are easy keepers, hearty, fat, and at the age of two years give 100 to 120 pounds of excellent flesh. The fleece is longer, heavier, averaging 7 pounds, and more glossy than that of the Southdown. The Shropshire is a valuable sheep for American farmers.

—Dr. Byron D. Halsted, in American Agriculturist for November.

American Horses Again.

It is settled that next year a great many of our most promising blooded horses are to be sent to England to compete for the rich prizes offered at the various race tracks. It is the belief of horse fanciers here, that the American horse is an improvement upon his English prototype, being more durable, larger, stronger, florer, and having better staying powers. Next year Hindoo Maid, Crickmore, and the crack two-year-olds, at the end of this season, will be sent abroad to show the great superiority of American horses. If they succeed, it will gratify our national vanity, and make racing more popular than ever.

Feeding Caives.

While the calf is the best food the milk is the cow, and the easiest way to give it is for the calf to suck, which should be done at regular periods, without variation as to time, as the calf's appetite is a pretty fair criterion, as it will be satisfied more promptly causes fretfulness and a want of flesh. The cow will of course be entirely excluded except at feeding time. If desired to keep the calf away entirely from the cow, it may be fed on the necessary quantity of new milk. In the course of several weeks (no very definite time can be named) the calf should in about three weeks be taken to avoid sudden changes in food. The warm new milk may be gradually changed in a few weeks to cold milk, by adding a little more of the latter at each time of feeding; and in the same way meal of oats, barley, peas or corn, may be gradually added. This gradual change will prevent danger, and keep up a steady, gradual growth. By autumn the calf will gradually begin to eat clover or grass, and the milk will as gradually disappear in the food. The quantity of food will depend on the size and age of the calf; the amount of food should be small, and whatever food is given should be just sufficient to satisfy the appetite in regular rations, which may be judged by the owner, and this will keep it in good growing and not in very fat condition.

Country Gentleman.

Notes on Farm Stock.

It is nearly time to consider the winter feeding of farm stock; at least this is the month to make all the plans and get everything in order for the cold season that will soon be at hand. The question of winter feeding in all its bearings is an important one.

There is a constant outgo of fodder, and the problem is to so govern the expenses that the best returns may be obtained. Not only must the animals be "kept," but they must be kept well, that the opening of the new year of pastureage may not find them run down, or as it is termed, "spring poor." Aside from bringing the stock through a healthy winter, which can be done with care, there is the manure to be considered.

This should be a good dividend upon the winter's outlay, and therefore it should have a place in the plans for winter feeding. It cannot be too strongly urged that the best manure is made under cover. The same system which gives the best protection and care to the animals will insure the most satisfactory returns in the manure from them. Feeding for mar- nure is more and more to be a leading factor in the winter keeping of farm animals. A plenty of the best feed, a free supply of pure water, and warm quarters, are three essentials in profitable winter farming. This does not mean that the animals shall be in the stalls and stables all the time, but it does preclude that out-of-door, straw-stack feeding when the animals must stand in unprotected, shivering while the grain which is given is the very best and good ones—will pay for themselves in the better manure that will be made in them—not to mention the economy in food for the animals thus produced.

—American Agriculturist for November.

Lambs.

A correspondent says that lambs will soon learn to eat oats; it left before them about three weeks of age, and that it will cause them to grow and fatten rapidly—more so than by any feeding to the dams. Two boards are nailed together for a trough, and short boards nailed on the end so as to raise them about six inches high; in these oases are placed. The troughs are in a yard or barn, to which openings are made just large enough for the lambs to pass, but too small for the sheep.

Quitter.

Quitter is caused by pricking with a nail, or by the horse resting with the toe of one foot and bearing with the heel of the shoe of that foot (especially should the shoe be called up) upon the contact of the hoof against the horn with difficulty get quitter. Neither do they. An unshod horse "feels his foot" and knows what he is doing with them, so he scarcely knows what it is to over- reach himself, and even if he does such a thing, no evil consequences are ever noticed, because the horn cannot inflict injury like iron.
POULTRY.

Causes of Roup in Fowls.

In the treatment of fowls one disease must not be mistaken for another. For instance, the name of “chicken cholera” is applied quite frequently to many ailments that are simple, or merely disregards of the internal organs that may be easily removed, and the disease cured at once by the diet. But the chief affliction of the poultry yard. It may be pronounced the root of all disease. It proceeds from the simplest causes, as a sudden cold contracted from a current of air or undue exposure. On one hand, the writer held a cold for breeding purposes in April. He had been kept under cover with a southern glass exposure, and was not accustomed to the outside atmosphere. The consequence was a sudden cold, proceeding from the change and neglect received. A few days later on a note was received by the customer conveying the information of the fowl’s illness, further remarking that he was unfit for use, as he was diseased. All animals suffer greatly from change of home, not only from the difference of treatment and feed as well, but also from extreme changes in seasons. Bowls suffer from the same cause. But this was a case of downfall. Cruel. The fowl had not been hardened.

When shipping fowls, or selling them, without having been seen by the purchaser, every precaution should be taken to prevent the birds should previously been forwarded, so that accidents and sickness may be avoided. This is only just and honorable, more especially in the spring of the year before the fowls are accustomed to the outside atmosphere. When purchasers are the fowls this unnecessary, as they are able to take notes of all the procedures, and act accordingly. No censure, when such is the case, can be attached to the seller, in case of failure in the purchaser. Fowls also suffer greatly from change of home, because of the unnatural position, and irregulateity of feeding, largely serves to disturb the equilibrium, and they fall a ready prey to colds, which, if neglected, run into ripu, which in the advanced stage is incurable. It assumes many forms, and is oftentimes, no doubt, termed cholera. It should be avoided, as the worst distemper that afflicts our domestic birds. It may be advancing by slow stages and unobserved, until the victim is much reduced. At other times it puts on a more acute, but not so dangerous appearance. One of the most prevalent complaints of the disease is, that the bird, when first entered into their quarters, pass through a period of weakness, and the birds are frequently killed, where the fowls may be kept in especially more profitable than any class of stock, or any crop on the farm.

This is the best way to keep fowls, provided they can be induced to lay where their eggs can be found. This is not a very difficult matter, if proper care is taken that nothing is kept and that the fowls run to the road in convenient places. If fowls can roost in the trees, lay all over the farm and “dust” themselves in the road, they will almost surely be healthy, lay a great many eggs and keep in good condition. Besides, every now and then a hen will unexpectedly appear with a brood of ten or a dozen chicks, hatched under some bush where she had "stolen" her host and done her hatching. That is all right if the hatching is done, but there is a great deal of trouble in the hatcheries. Where fowls are confined in small compass, some absorbent should be used to neutralize the dropings, otherwise the flesh will become tainted from the disagreeable odor arising therefrom. For this purpose there is nothing better than air-skinned lime or unleached wood ashes, where there is sufficient ventilation.

Feeding Chicks for Rapid Growth.

In order to secure rapid growth in the young chick it is necessary to plan the diet. All good breeders to feed them often, say every two or three hours until they are three or four weeks old, and at longer intervals as they grow older. Very young chicks cannot consume enough at one time to last them half a day, as their crops are small; their capacity can do only very small quantities of flesh, bone and feathers, and habitual exercise demand material proportionately nourishing and active to develop a vigorous constitution. The food should be of the very best, but not necessarily strong enough to induce dyspepsia that might injure them, but a diet that will cause a healthy growth. Some breeders fed chopped meat to their chicks very profusely from the shell upward. But this practice has its attendant evils. A little fresh meat a few times a week is quite sufficient. The fresh meat should be well mixed with the ordinary diet, and given to the tender birds when young often brings on weakness of the limbs, etc. In addition to their regular diet of grain, green onion tops chopped fine and mixed with their food is highly relished, and will be found conducive to their development.

Onions for Chicken Cholera.

A correspondent of the Poultry Yard thus describes his remedy for chicken cholera: “While our neighbors for several miles around us, have lost nearly all their chickens from the so-called cholera, ours are in fine condition. They were attacked with cholera, as we suppose, by feeding them with the regular mash, which require a change of food; especially laying hens, which are large consumers. Giving the best care daily will keep them from eating feathers, and promote health and activity. If the weather be cool, a little pepper may be given, but do not give too much to the young ones, for it will cause them to run.” In some cases they are apt to be unfeathered. Before doctoring fowls be certain of the difficulty, as much damage is done by administering doses for a disease that may not exist at the time.
**Poultry Notes.**

Fowls seldom tire of milk. They may eat too much grain or meat for health, but milk in any form is more palatable and healthy. Probably 80 per cent. of the chickens hatched do not live to a year, and often are destroyed by animals or carried off by hawks. Chickens have many enemies as well as friends and admirers.

The Poultry World says: To utilize the feathers of ducks, chickens and turkeys generally thrown aside as refuse, trim the plumage from the stump, inclose them in a tight bag, rub the whole as if washing clothes, render them perfectly clean and light down, excellent for stuffing coverlets and not a few other purposes.

Turkey raising is carried on extensively in Tehama county, Cal. One man, in addition to raising and tending a large flock of sheep, raised nearly 700 turkeys last year. Large flocks of from 1,000 to 15,000 are frequently met with, tended by women and children.

The application of sulphur sprinkled upon fowls, while roosting or otherwise, with a pepper box, will destroy vermin. Coal oil applied to their roots in small quantities will kill parasites. Two or three drops of whale oil, dropped occasionally on the back of a hen, or any other bird, will kill lice.

Fowls fed on one kind of food will very soon get eluded and lose their appetite for it. Stick to your breeding through the first, second or third years bring you no prospective profits. In any case the fowls will more than pay for their staple food.

A proper selection of eggs for a setting is the first point to be attended to in raising poultry.

Where the grass plot is very limited, the fowls should only have access to it for a short time each day.

Nest to the ground floor or placed down quite low are much handier and safer for the large birds. Badly-fed and ill-careed for poultry will never do well, no matter how well or how true they be bred.

One of the most requisite concomitants in producing eggs is a liberal supply of green food.

Fowls half kept will soon become demoralized and not so productive. The same applies to the sheep.

A little cane sprout occasionally dropped into fresh water is a good tonic for young or old fowls.

Too much wheat and buckwheat fed to fowls will invariably cause leesness.

Early feeding is the most desirable for fowls. The morning meal is important and is also best relished if not too early.

A sickly fowl should never be allowed to roost or run with the rest of the flock, because the disease may be contagious.

Eggs from hens well fed on nutrition and whole-some food will paste in a great degree the flavor and quality of the food.

Sunflower or hempseed promopts a smooth glossy plumage, and is a great desideratum in the making up of exhibition fowls.

Fowls having unlimited range may be kept in flocks, if they are well cared for, but when restricted or shut up, large flocks soon become diseased and cease to be productive. If you commence with fowls in place of eggs for a start, buy of reliable breeders, who breed none but the best.

Carcass bone or oyster shells is needed in every hen house where the fowls cannot have access to calcareous matter.

Milk in any form is good for poultry. Mixing it with ground feed is very nutritious and healthy for young stock. See the best articles for fattening or the production of eggs.

Many Eastern fruit-growers say they are vastly benefited by allowing their poultry among the fruit trees and shrubbery, as they eat all the worms and curculio within their reach—even the canker worms. —*Poultry Monthly.*

**THE LANCASTER FARMER.**

In testing eggs, the fresher the egg the smaller the air chamber. This can be seen at the broad end of the egg if it be held up against a strong light in a dark room. If you have a motion picture about them. A new-laid egg will always give a feeling of warmth if the tongue is pressed to the large end.

The thick scales which appear on the legs and feet of fowls, more particularly those of the large Asiatic breeds, are caused by a parasitic scale mite which burrows in the skin. It is similar to the sheep scale mite, and acts in a precisely similar manner. It can be destroyed by putting the feet and legs into a mixture of alcohol and oil and keeping them in the oil for a minute, until it penetrates under the scales and kills the insect.

A writer in the *Poultry World* recommends bones, baked in an oven until they are brown, as a valuable contribution to the food of laying hens.

On the other hand the American Institute says: "Some of the best results of raising the best laying stock for laying before feeding them to poultry. It is true that after being burned they are much easier broken up, but the raw bones contain a large amount of gelatine, which is a most excellent food for making hens lay, and gelatine also contains a large amount of Weeds. The gelatine which is driven into the atmosphere by the heat. When the bones are fed raw this ugestion is retained, and having done duty as food for the poultry and constituting part of their systems, it is still capable of again doing duty. Great care should be taken to see that the bones are broken up before being admitted to the atmosphere, it is not so easy a matter to combine it in such a manner that it shall be rendered available as plant food. In pounding raw bone it is not necessary to make it so fine as people suppose, for a hen will swallow a much larger piece than she would think possible, and when once in her crop it will be digested and properly economized.

**LITERARY AND PERSONAL.**

The American Agriculturist for November 1st, contains more than its usual choice selection of valuable practical articles. Among the leading contributors are: Prof. C. E. Bessey—"Cut-words; Remedies, etc.;" Dr. M. Miles—"Rotation of Crop;" Prof. S. A. Knapp—"Barbed Wire for Fencing;" Prof. C. V. Riley—"The Chitche Bugg;" Col. M. C. Weld—"Common Sense in the Poultry Yard;" Tim Bunker—"Do Agricultural Fairs Pay?" L. B. Arnold—"Feckles in Cream;" Prof. W. J. Beal—"Notes on Indian Corn;" Hon. F. D. Colburn—"The Canine Coast, or Penn'ly, Chub, and Water Worms;" Prof. J. M. McIlroy—"Seeding of Wheat;" Hon. X. A. Willard—"American Cheese and its Exports;" Prof. F. H. Storer—"Artificial Milks;" Mrs. E. H. Leland—"Bearing and Training of Children."

Others of the wide range of subjects, including "Working Out the Road Tax;" Farm and Garden Notes; Shropshire Sheep; Common Crow; Salmamander; Lump Fish; Hints and Helps for Farmers; Stanchions; Cow Stables; Fruit Ladders; Double Gate; Two Troublesome Chicks—Fowl Troublesome;QS --of Household matter, and the Boys' and Girls' columns are crowded with valuable juvenile reading. Terms $1.50 a year, 10 cents a copy. Orange Judd Co., Publishers, New York. The Lancaster Farmer and American Agriculturist will be furnished for 1881 at $2.00.

The Farm and Workshop, a "journal for the Farms, Firesides, and Workshops of the United States." Published by the Association at Peoria, Illinois, at $1 a year, monthly, the first 16 pages is a royal 8vo, published in 1875, and is a journal of more than ordinary interest, containing as it does, diversified matter both of local and general interest, and practical utility. (0 yes, we will X.)

North-Western Farmer and Dairyman, devoted to improved methods in Agriculture and Dairy-farming. Portland, Oregon, 1881. 16 pages quarto, monthly, at 75 cents a year. No. 7, vol. 1, for September, has reached our table, and although

unpretentious, it is practical, its selections well made, and we like it; it is worth more than larger journals.

We have received a circular of the Spring Garden Institute, corner of Broad and Spring Garden streets, Philadelphia, a technical school in which boys receive class instruction in filing, turning, drilling, forging, and other mechanical handiwork, accompanied by a graphic illustration of the "new quar- tile method" of institute. This institute is under the supervision of a committee of practical and mechanical mechanics, members of some of the most solid and intelligent firms, boards and business establishments in Pennsylvania. Without the translation of time hind it God-speed. "Give boys an opportunity of earning an honest living with their hands, and do not drive them to getting it by their wits, and thus become drones on society," which is one of its adopted mottoes, has the "right ring" in it, and the preparatory instruction that boys and young men of the generation will be by the hands of those who originated it with a halo of practical glory.

Resources of New Mexico, prepared under the auspices of the Territorial Bureau of Immigration, containing also the premium lists for the Agricultural Fair, held at Santa Fe and Las Vegas, October 7 to 17, 1881. A beautifully printed pamphlet of 74 pages octavo, and is a creditable illustration of the quality of "job printing" done in Santa Fe and New Mexico.

An introductory sketch of the history and review of the resources of the country by Hon. W. G. Ritch, contains the ancient boundaries, political divisions, chief towns and population, topography, altitudes, and rivers, minerals and precious stones, agriculture, horticulture and vines, pastoral ranges, forests a- and wild animal—flora, fauna, agriculture—economic and social interests; Considerations of 1850 : Eppig's expeditions, first settlement, public insurrection, restoration of 1804, first merchandise, Mexican republic, American occupation, war of the rebellion, battles of the western line, overland trade, railroad system, general summary, and some of its great events. Will be published at Santa Fe, and is a most complete institute, in point that will crown the heads of those who originated it with a halo of practical glory.

**Zoon, the Sunny Mount, a neat little 9 page octavo, published monthly by Isaac M. See, M. D., 105 South Elliott place, Brooklyn, N. Y., at 25 cents per annum. This is a religious publication of advanced theological views and endeavors to illustrate that "all religion has relation to life, and the life of relig- ion is to do good."**

The Matrimonial Review, devoted to love, courtship and marriage. A 10 page semi-monthly, published by Weber & Buckwalter, Farmersville, Pa., for the good of man and woman. Just. Not that there is no occasion for some sort of help to- wards elevating the popular views on marriage, in its legitimate relation to the sexes, but we fail to see anything in this journal to "fill the bill," and the whole is really recondite. It is the product of a higher sphere of general and social than that of "help- mate" merely, because of the proneness of that at- titude to degenerate into social and domestic slavery. According to the oracles of Divine Truth, she was created as a helper fit for him, and not a helper to be a suitable help—such an help as he needs spiritually, morally, physically, socially, domestical- ly and congenially. Not a system that roots about among merely worldly rubbish, can be of much ben- efit in the end to those who need it most.
OF THE KING FORTUNE-MAKER.
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No article is ever thrown away, mutton, veal, pork, poultry, game, fish, &c., preserved by this method, can be shipped to Europe, subjected to climatic changes, and yet arrive in the best order. Elastic can be consigned to us at less than one dollar a thousand, and be kept in an ordinary room six months or more, thoroughly preserved; the young peaches are kept in a normal condition, and the eggs as fresh and perfect as on the day they were laid. We will preserve any "very choice." The advantage in preserving eggs is readily seen; there are seasons when they can be bought for 8 or 10 cents a dozen, and kept by this process; they can be sold for an advance of from one to two cents a dozen, and, with this method, can preserve 5,000 doz. a day.

There is no greater benefit to the human than to have a natural preservative, and this is what Ozone is.

The care of the human body is beyond that of the animal, and, as we know, in the human body the processes of decomposition are far greater and more rapid.

Dead human bodies, treated before decomposition sets in, can be held in a natural condition for weeks, without changing the skin or making it the least objectionable to the eye. Hence the great value of Ozone to undertakers.

There is no change in the slightest particular in the appearance of any article thus preserved, and no trace of any foreign or disagreeable odor.

The process is so simple that a child can operate as well and as successfully as a man. There is no expensive apparatus or machinery required.

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A FORTUNE Awaits any Man who Seeks Control of OZONE in any Township or County.

A. C. Bowren, Marlin, Ohio, has cleared $2,000 in two months. $2 for a test package was his first investment. Woods Brothers, Lebanon, Warren County, Ohio, made $6,000 on eggs purchased in August and sold November 1st. First investment $50.

P. K. Raymond, Morristown, Belmont Co., Ohio, is clearing $2,000 a month in handling and selling Ozone. $2 for a test package was his first investment.

D. F. Webster, Charleston, Easton Co., Mich., has cleared $1,050 a month since August. $2 for a test package was his first investment.

J. B. Gaylord, 50 La Salle St., Chicago, is preserving eggs, fruit, &c., for the commission men of Chicago, charging 50 cents a dozen for eggs. He is preserving 5,000 eggs per day, and on his business is making $2,000 a month clear. $2 for a test package was his first investment.

The street, making $5,000 a month in handling brewers' malt, preserving and shipping it as feed to all parts of the country. Mail unsold preserves in 24 hours. Preserved by Ozone it keeps perfectly fresh.

There are instances which we have asked in the privilege of publishing. There are scores of others. Write to us or visit us, and find our methods.

Now, to prove the absolute truth of everything we have said in this paper, we propose to place in your hands the means of proving for yourself that we have not claimed half enough. To any one who doubles any of these statements, we assure you that delay may be held to his account for all the time and labor and expense that we have been saving to the public who have inquired how to secure this preservative.

How to Secure a Fortune with Ozone.

A test package of Ozone, containing a sufficient quantity to preserve one thousand dozen eggs, or other articles in proportion, will be sent to any applicant on receipt of $2. This package will enable the applicant to pursue his line of business, and thus satisfy himself as to the extraordinary merits of Ozone as a Preservative. After having thus satisfied himself, and had time to look over and determine what he wishes to do, or whether to sell the articles to others or to confine it to his own use, or any other line of business which is best suited to him and to his township or county, we will introduce an arrangement with him that will make a fortune of him and give him as good a profit on his time as he now makes. We will send to the applicant who orders a test package and desires to control the business in his locality. The man who secures control of Ozone for any special territory, will enjoy a monopoly which will surely enrich his friends.

Do not let a day pass until you have ordered your test Package, and if you desire to secure an exclusive privilege we assure you that delay may be held to his account for all the time and labor and expense that we have been saving to the public who have inquired how to secure this preservative.

REFERENCES.
We desire to call your attention to a class of references which no enterprise or firm based on any thing but the simplest principle could possibly make.

We refer, by permission, to our integrity and to the value of the Patent Preservative, to the following gentlemen of the Public Works: E. O. Eschbey, City Comptroller; Amos Smith, City Marshal; Collector Internal Revenue, Wm. & Wwington, Attorneys; Martin H. Herrell and B. F. Hopkins, County Commissioners of Cincinnati, Hamilton County, Ohio. These gentlemen are each familiar with the merits of our Preservative, and know from actual observation that we have without question the Most Valuable Article in the World.

The $2 you invest in a test package, will surely lead you to secure a township or county, and then your way is absolutely clear to make from $2,000 to $10,000 a year.

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To Spontaneous Nutritive Excerpts,

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J. JENKINS' NURSERY.

3-8-19

WINONA, OHIO.
Pennsylvania Railroad Schedule.
Trains leave the Depot in this city, as follows:

<table>
<thead>
<tr>
<th>Departure</th>
<th>Arrive</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE TOWARD.</td>
<td></td>
</tr>
<tr>
<td>Pacific Express...</td>
<td>Lancaster, 5:40 a.m.</td>
</tr>
<tr>
<td>Way Passenger...</td>
<td>5:40 a.m.</td>
</tr>
<tr>
<td>N. Am. Express...</td>
<td>Hanover, 6:30 a.m.</td>
</tr>
<tr>
<td>Hanover Accommodation...</td>
<td>6:30 a.m.</td>
</tr>
<tr>
<td>N.J. via Mt. Joy...</td>
<td>6:40 a.m.</td>
</tr>
<tr>
<td>No. 2 via Columbia...</td>
<td>7:40 a.m.</td>
</tr>
<tr>
<td>Sunday Mail...</td>
<td>8:00 a.m.</td>
</tr>
<tr>
<td>Fast Line...</td>
<td>8:10 a.m.</td>
</tr>
<tr>
<td>Frederick Accommodation...</td>
<td>8:10 a.m.</td>
</tr>
<tr>
<td>Harrisburg Accommodation...</td>
<td>9:00 a.m.</td>
</tr>
<tr>
<td>Columbia Accommodation...</td>
<td>9:00 a.m.</td>
</tr>
<tr>
<td>Harrisburg Express...</td>
<td>9:15 a.m.</td>
</tr>
<tr>
<td>Pottsville Express...</td>
<td>9:30 a.m.</td>
</tr>
<tr>
<td>Cincinnati Express...</td>
<td>11:40 a.m.</td>
</tr>
<tr>
<td>EASTWARD.</td>
<td></td>
</tr>
<tr>
<td>Lancaster...</td>
<td></td>
</tr>
<tr>
<td>Cincinnati Express...</td>
<td>6:15 a.m.</td>
</tr>
<tr>
<td>East Line...</td>
<td>6:20 a.m.</td>
</tr>
<tr>
<td>Harrisburg Express...</td>
<td>8:20 a.m.</td>
</tr>
<tr>
<td>Columbia Accommodation...</td>
<td>8:20 a.m.</td>
</tr>
<tr>
<td>Pacific Express...</td>
<td>9:30 a.m.</td>
</tr>
<tr>
<td>Sunday Mail...</td>
<td>9:30 a.m.</td>
</tr>
<tr>
<td>Johnstown Express...</td>
<td>10:30 a.m.</td>
</tr>
<tr>
<td>Day Express...</td>
<td>10:40 a.m.</td>
</tr>
<tr>
<td>Harrisburg Express...</td>
<td>11:45 a.m.</td>
</tr>
</tbody>
</table>

The Hanover Accommodation, west, connects at Lancaster with N. J. Express, west, at 8:30 a.m., and will run through to Hanover.

The Frederick Accommodation, west, connects Lancaster with East Line, west, at 10:00 a.m., and runs to Frederick.

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TO OUR PATRONS AND THE PEOPLE.

With this number we complete the Thirtieth Consecutive Volume of The Lancaster Farmer; and, if we have not succeeded, it is not because we have not persevered, yea, improved in its behalf; and we have examples inculcated by way of "holy writ," that through impertinence we may attain success—unless there is greater moral callosity now than there was nineteen hundred years ago. Every succeeding year during the whole thirteen, has more and more convinced us that there ought to be an agricultural journal in "Lancaster county," which should be an exponent of her agricultural resources, an advocate of her agricultural interests, a register and a chronicler of her agricultural productions, and of her agricultural sentiment. Without regard to what we are; have ever been; or ever will be; this is nevertheless our abiding sentiment, exemplified through experience, confirmed through industrial development, and made manifest through material and intellectual progress. Why comes there a voice from remote Oregon, from "down East," from "out West," from the shores of the Pacific, from the "Sunny South," from the central commonwealths and from the Northern Dominion, iterating and reiterating in emphatic tones "PLEASE EXCHANGE," but that Lancaster county is known throughout our entire "Republican Realm," and the farming public are anxious to know what we are doing here, and how we do it? Can we supinely and selfishly fold our arms and let the industrial world move on without single desire to become a factor in its progress, when we remember that it was one possessed with a demon, who uttered—"What have I done with thee?"

There were those, during the war of the rebellion, who, when they witnessed the turmoil of the recruiting camp became disgusted or alarmed, and bid their companions—"Come boys, let us go home, there will only be a fuss if we stay here!"; but a few had gone forth proclaiming them part and parcel of that camp, and therefore they could not be merely indifferent spectators. Legitimate human society, legitimate human enterprise and legitimate human obligation, link together in one vast chain all the social and industrial interests of the world, and those who stand outside of that circle, consciously or unconsciously sympathize with the miseries of the outlaw'd. The higher the degree of intelligence the wider the plane of mental and moral culture, the more apparent becomes the sense of social obligation; and no one can be entirely indifferent in relation to the condition of his fellow man, without becoming more or less a "Cain." Notwithstanding in a free country and under equal laws, men should be left in "freedom according to reason," this does not abrogate or in the least diminish the obligation to contribute to the general mass. Truth remains truth—because "the eternal years of God are here!"—even if universal error should prevail. The newspaper, the magazine and the book have become such necessary elements in social, intellectual and material progress that no community can afford to do without them, any more than they can physically afford to do without their "daily bread." Almost every human interest has now its representative mouthpiece in the form of a newspaper, a magazine or a book, and the more local they are, the more they may be regarded as a reflex of the local mind, the local enterprise and the local condition. We are all integral parts of the same social body, and no part can be injured or destroyed, without some measure or manner, affecting the whole. We cannot truly say:

"I am myself alone, I have no brother, I am like no brother, And that word Love which greybeards call divine, Be resident in men like one another, and not in me." because, to do so is to relapse into that state of selfish heathenism from which the whole tenor of the nineteenth century has been endeavoring to emancipate itself.

We are fast approaching the threshold of another year, and on a review of the one that is so rapidly passing away, we cannot be other than impressed with aspects of droughts, and floods, and confiscations, and failures, and frauds, and assassinations, and deaths, and mournings; yet, we, in Pennsylvania, and especially in Lancaster county, have still abundant reason to be thankful that we have been so signally preserved from the more dire calamities—we have been as prosperous on the whole, as we, perhaps, deserve to be. It is true, we cannot chronicle an unexceptionable season, but in every country in the entire country that has yielded a better crop, there are ten that have yielded worse ones; and when we gather in and consolidate the crops of the whole country, we find that we have abundance for home consumption, and sufficient to send abroad to continue the balance of trade in our favor.

The facilities for transportation are now so ample and expeditions, both on land and on water—and the philanthropy of the people is so readily and so humanly excited, that no district of our vast country has to suffer very long before relief can be brought to its doors. Perhaps an allwise Providence permits these things, not only as a chastisement for our many public and private iniquities, but also to afford us an opportunity to do good to our fellow men. The tendencies to monopolize and subserve the interests of self are so strong in man's unregenerate nature, that perhaps, precious little good would be done at all if we were always prosperous, and had things our own way.

The contents of the volume of the Farmer, of which this is the closing number, we think will not only compare with any volume that has preceded it, but also with any other one dollar volume that is published in the whole country. If it has failed in attractiveness, or of variety in its original contributions, it is because our contributors have failed to furnish the needed original material; and here and now, as a parting adumbration of the furlough year, we would most earnestly implore them to be more punctual and liberal during the coming year.

Our farming patrons are properly thoughtful and practical, and industrious, and withal reliable, and we would fain have them also diffuse, for the world at large is, as it were, unconsciously yearning for the very knowledge which they so abundantly, and apparently so unwittingly, possess.

Simple fishermen on the coasts and in the valleys of Palestine, were the heralds of the most godly system of moral ethics that ever was promulgated on earth, and there is no reason why plain and practical farmers should not perform a like service for the advance of agriculture, and the domestic industries in general, especially as the agricultural press, Christianity made its most powerful and enduring advance, and it is by and through the same medium that practical agriculture can be brought most successfully to the apprehension of the masses of the people; and who so competent to diffuse this species of knowledge as the farmer? There never was a teacher that did not more firmly fix the knowledge in his own mind that he honestly attempted to impart to others—it is a "frame," that does not dimish by lighting the torch of the neighbor. It will always be our pleasure, as editor and publisher, to co-operate in the diffusion of knowledge among the people, in whatever form it may be brought under our observation. And now, having attained our "three-score and ten," the last thirteen of which have been partially devoted to the interests of progressive agriculture, we may, in sympathy with our patrons and readers, be permitted to bid good-bye to old 1881, and commend them to those significant and time-honored festivities, through whose memories and social refreshings they may be able to enter more energetically into the domain of 1882.

A STUDY OF VARIOUS SOURCES OF SUGAR.

Sugar-cane, sorghums, sugar-beet, maple, corn stalks, watermelons, &c., by Lewis S. Ware, member of the American Chemical Society, &c; price 50 cents. Published by Henry Carey Baird & Co., No. 810 Walnut Street, Philadelphia, 1881. We have only recently received this rare Royal octavo of 66 pages, printed in beautiful clear type, on heavy double calendared paper, and, although gotten up in the best style of typographic art, we deem its literary contents far superior to its mechanical execution. Facts, figures and practical experience all seem to indicate that the cultivation of the sugar-beet, and the manufacture of beet sugar, is the "coming man" of the next progressive period in the domestic productions of our country. The inadvertencies of the indifferent, the misapprehensions of the timid, and, perhaps, the
excessive anticipations of mere adventurers, may retard, blunt, or divert its progress, but time will work its ultimate liquidation, and it will eventually become as sure an industry in the United States as it has become in Europe. Our population, by home procreation and foreign emigration, is increasing too rapidly for the present state of things to remain in status quo. Blotted and dishonest speculations must come to an end, and the people must settle down to reasonably compensated honest labor. They must produce sufficient at least for home consumption—if it is possible—and if all were sufficiently intelligent to apprise themselves of the sugar question, they would be perfectly appalled at the great amount we pay annually for the saccharine products which elementally exist so abundantly in our own country, almost to its utmost boundaries. If foreigners, who seek our shores as an asylum from pinching want, are compelled to depend on the countries they have left for the necessities of life, then they might as well have remained there. If our rising generations cannot assimilate themselves to the industries of the country, as necessity develops them, then, perhaps, they had better locate somewhere near the equinocial line.

Mr. Ware, of course, discusses the sugar question from his own standpoint, but he does it so reasonably, so moderately, so clearly, and we think, so truthfully, that we deem him entitled to an unprejudiced and patient hearing.

For the time being, we wish we were a Doug, even a Dougly, that we might print all the chapters of this little work contained in the article on our first page, but under the circumstances we cannot do this; but, we admonish our patrons and readers, who entertain the remotest thought of entering into the cultivation of any sugar producing vegetation, to get a copy of this "Study" by all means. They will find the tabulated statistics very elaborate and interesting. "Nothing extenuate or aught set down in malice," and after a perusal of its columns, they will have a clearer conception of the errors than they have now. We do not expect any of the tobacco-growing districts of Pennsylvania to make any very special demonstration sugar-beetwards, just yet; but, if ever the question between sugar and tobacco involves a domestic necessity—where one or the other must abate—we think the former must triumph.

From authentic sources it is ascertained that the production of cane-sugar is greatly falling off (89 per cent. in Mississippi alone) and while the "tables show that the production has not regularly diminished, yet it has practically, for the reason that nearly 90,000,000 pounds less are made to-day, than twenty years ago." This in face of the fact that during those twenty years our population has increased about twenty millions.

The following will explain how we "got along" in the mean time. In 1860 we import ed 684,879,756 pounds of sugar, but in 1877 our imports had already increased over one hundred per cent. and were 1,023,678,557 pounds, and the increase continues. Under these circumstances, can any one fail to see the necessity of developing a home sugar production? There are many sources of sugar in our vast country. Beets, cane, sorghum, cornstalks, maple, potatoes, watermelons, acorns, pine, chestnuts, fruit of various kinds, pepper-nut, &c., the relative values of which are, comprehended in the little work we have been reviewing; and, in our stock of general knowledge, it is sometimes of as much importance to know worthless one thing may be, as it is to know how useful a different one may be. The southern sugar-cane is known to be the most prolific sugar bearer of any of the cane-kind, and if the supply from that is diminishing, something else must be improvised, and nothing seems so "cosmopolitan," as the Sugar-Beet.

A RELIC.

Some kind friend, apprehending our penchant for literary relics, has sent us as by mail No. 1, vol. 1, of the Pennsylvania Farm Journal, for April 1831. Edited by Prof. S. S. Haldeman, and published by A. M. Spangler, Lancaster, Pa., just thirty years ago this past April. How many full sets of this journal are now extant would be impossible to say, even in the county of Lancaster where it was born, in April 1831.

The Editor, in his address, thus quoted from the Tennessee Farmer, "It is a great fallacy to suppose that when an individual becomes the editor of an agricultural paper, he necessarily constitutes himself a dictator of opinion and practice to his readers." This has always been our view, and we have on various fitting occasions practically, and in general terms, so expressed it. In fact an editor of an agricultural paper may necessarily be a mere gleaner,—"a gatherer and dispenser of other men's stuff."—"perchance,—"to make you laugh." We have in our possession an entire set of this work as far as published, 7 volumes in all. From Lancaster it was removed to West Chester, and from thence to Philadelphia, when the title was changed and thenceforward known as The Farmer and Gardener, and finally merged in the Progress and Practical Farmer. In 1831 there was not a distinctly agricultural paper published in Pennsylvania, and the publisher in his introductory says, "After persevering inquiry we were led to believe that the day had arrived when Pennsylvania would support an agricultural journal of her own." But it can hardly be said, that in any very special sense, she ever gave that support to the Farm Journal; and finally it was compelled to suspend, as a distinct publication, for the want of support.

There are some things in this old odd number that are worthy of republication, and we shall probably make that use of it by and by. In looking over this waif of the past, it recalls the fact that it was through the pressing solicitation of the publisher of this Journal that we were first induced to put our pen to paper on the subject of agricultural Entomology, and we are not quite sure that "we have done a good thing," for it imposed on us a multitude of unremunerated labors and responsibilities, which have clung to us for more than thirty years—almost half our lifetime.

SPONTANEOUS FORESTS.

A writer in a West Virginia paper combats the opinion, held by many arboriculturists, that an open country is never converted into a forest through the operation of natural causes, and, as establishing the fact that such change does sometimes occur, brings toward the case of the Shenandoah Valley. When first settled, about 160 years ago, it was an open prairie-like region covered with tall grass, on which fed herds of deer, bears, elk, etc., and having no timber, except on ridgy portions of it; but in consequence of its settlement, by Virginia, Maryland, and Pennsylvania, and trees sprang up almost as thickly and nearly as if seed had been planted. These forests, having been preserved by the farmers, cover the great part of the surface, with hard wood trees of superior excellence. These facts would also seem to substantiate the theory that the treeless character of the prairies of the Western states is the annual burning of the grass by the Indians.

The above is a confirmation of what Prof. Meehan said about the Shenandoah Valley, and parts of Pennsylvania, and for which he had been taken to task by those who in their very arguments against his position, practically admitted the tenability of his assertions. From the standpoint of our western prairies may not be universally true, yet we think it as valid as any that has yet been given, and until a better reason for their destitute of trees can be given, we may as well settle down on this view as on any other. When the prairies are permitted to remain 100 years or so without being subjected to devouring flames they may put on a different appearance from that which they present now, except so far as this sylvan succession is prevented by the necessity of agriculture. How the trees producing seeds get in is the question they come from, is quite another question. Many have noticed a similar phenomenon in a single lifetime, when forest lands have been cleared of timber and underwood.

NUTRITIVE VALUATION OF ANIMAL FOOD.

In the December number of the American Agriculturist we find an excellent article on this subject, by Prof. W. O. Underwood, of the Wesleyan University, Middletown, Conn., from which we glean the relative nutritive value of the different kinds of animal food in the following list. He also gives in separate columns of a tabulated list the percentage of water, fat, and albuminoids of the several kinds, but as most of our readers may regard the nutriment of primary importance, we will confine our quotations to that alone. Estimating medium beef at 100, all the others will bear a percentage in relation to that.

Lean beef, 91; medium beef, 101; fat beef, 112; ven, 92; medium mutton, 87; fat pork, 118; smoked beef, 146; smoked ham, 157; ben meet, 94; cow’s milk, 24; skimmed milk, 19; cow’s cream, 56; butter, 122; skimmed milk cheese, 159; whole milk cheese, 161; very fat cheese, 163; Hen’s eggs 72; Fresh Fish as follows: Halibut, 88; Flounder, 62; cod, 68; haddock, 75; alewives, 87; saltwater eels, 96; shad, 90; striped bass, 88; black bass, 87; mackerel, 91; blue fish, 83; salmon, 107; salmon trout, 96; white fish, 105; black fish, 94; red snapper, 91; smelt, 74; Spanish mackerel, 100; white perch, 89; herring, 103; turbot, 84. Prepared Fish as follows: boned cod, 107; salt cod, 102; dried cod, 341; smoked halibut, 102; smoked herring, 103; canned salmon, 107; salt macker, 111.

These figures will not only illustrate the relative values of lean and fat meats, but
do many of dry and green meats; also the difference between fresh and preserved foods; and, that the latter far transcend the former in nutritive value. In this respect there is nothing cheaper in the list than butter and cheese, though the milk itself is made of a fact that they have "no bones." My "Jolly Herring" occupies no mean position in this list of meat foods, and is only excelled by "Master Cod." This fully illustrates why, when a hungry man improves a meal at the least trouble and expense, he sort of instinctively patronizes "herring, crackers and cheese." Salt mackerel is eleven "better" than medium beef, and only one less than fat beef, and yet to many, the very name of the fish is a by-word and a reproach. In the present advanced prices of nearly every thing that passes between people's teeth, it may be well to consider this list and only purchase that kind of "fuel" which will make the warmest fire, and continue it longest.

A CURIOUS BEETLE.

A recent issue of the New York Times says: The golden cucuyo which has been at Tiffany, any quantity of that best has the price of four or five specimens of this rare South American beetle in this city. They are regarded with superstitious reverence by the women of both the sexes. If caught, for the beetle is rare in its native country, are fastened in tiny fetters of gold and worn as an ornament. A gold or gold and silver band is passed around the specimen, to which is attached a slender gold chain about four inches long which ends in a long pin. This pin is thrust into a bouquet of flowers on the shoulder, or on the hat, and the beetle is left to ramble the length of the chain. It is an uncanny looking black thing, about two inches long. The true South American cucuyo is a fire beetle, a single specimen giving out light enough in a dark room to enable one to read a newspaper. They are capable of living without food for a great length of time. There is one in the city which is not known to have eaten anything in two years. The beetle at Tiffany's probably dined over a hundred times. The steel was tempted with sweetened water and rotten weed, but the creature paid no attention to the food. A piece of banana was placed in the cage, but the beetle merely began eating it and clung to it for three days, when it was found dead. It should be mentioned in connection with the use of the living beetle as an ornament to the ear or dress that they have powerful jaws, and gnaw their way through anything except metal in a few hours.

Exactly what wonderful insect this "cucuyo" is, it would be difficult to determine from the name alone. At the Centennial Exposition we saw quite a number of South American (Brazilian) insects, many of which were set in jewelry, but we cannot recall the cucuyo, and judging from the description above, we should think it had little to commend it, compared with the brilliant Caracolidae then exhibited, especially those popularly known as "Diamond-Bullets." (Estimia major) and "Tetragnatha magnifica" (Carceola) the former were chiefly valued for their luminosity, which we imagine is the case, for almost every visitor to the West-Indies and South America, alludes immediately or remotely to these; and in fact we have a number of them now in our possession, but none of the luminous species are "black," but slightly varying shades of brown. We have them from Brazil, from Cuba, and from Cor- dova, in the Argentine Republic; and except in varying size, they all appear to be of the same species (Euder noctiluca). Two of these, now in our possession, were brought from Cuba to Lancaster county alive, but they lived a month on a lunched beef and from New York two years without food needs confirmation. Their longest lease on life is in the larval period, and then they are woodborers, if they have any alliance, at all with northern species of the same family, Elateridae. But they cannot be rare, for almost every collection brought from their habitat contains a proportionately large number of them. But they are very luminous, and their luminosity is not continuous and not all the luminous kind our customers' "firefly," (Pholidius). Whilst the two that were brought to this county were alive, they emitted sufficient light to read thereby and their value as an ornament is based entirely on this quality, when they are dead their luminosity passes away, and then they have no special quality to commend them. They are not like the Diamond-Bullets, which are pretty, dead or alive. If they are black and "mucuous," we fall to see why they are called "golden cucuyo," unless the golden chain employed to confine them should convey that title.

These insects are variously called "click-beetle," "skip-jacks," "hammer-bugs," "snapping-beetle," &c., and by the Germans, "schnellkäferen."

Which brings the most money?

"We have been inclined to think that tropical fruits in Florida would bring more money to their producer per acre than could be got out of an equal extent of ground elsewhere, but seeing some figures of Mr. John L. Grif- fins, of Norfolk, has rather unseated our first conclusion. When a profit of $30 per acre is made on cabbages, as Mr. Griffin says he has done, $500 on potatoes and $1,000 on cucum- bers, the small fruits. There are some figures given as to strawberries, but nothing denoting the yield in money per acre. Certain it is that many competencies and some small fruits. The annual increase of the fruit and vegetable crop represented by shipments from Norfolk, is nearly $3,400,000. That is taking some attention to track or small-fruits farming instead of delaying for 15 bushels of wheat to the acre, they would realize much more out of their land and with less anxiety and labor.

A few years more of present progress and our entire country will be a vast net-work of railroads, and the facilities of transportation will be such that people will not be compelled to cultivate on their land what they can buy cheaper elsewhere than they raise it themselves. Intelligent and discriminating cultivator will ameliorate the present hardships of the farmer.

Written for the Farm and Garden.

Here we have before us an Agricultural bantling just four months old, which has been "Written for the Farm and Garden," attached to thirteen contributions, on thirteen different subjects, and by thirteen different contributors; enough to make us envy its editor the luxury of his "easy chair." When an appeal comes up before the country for material aid in behalf of those who have suffered by floods and fires, and malarial diseases, no one can justify himself in omitting to give, on the ground that the appeal is not made personally to him, or that it is not the business of the public to importune people personally in relation to matters which should be done spontaneously, or from a sense of duty. Goodness in any or all of its forms is more or less an aggressive work, impelled by an innate sense of right, of justice, and of humanity. If we possess a moral or intellectual torch, it will burn none the less brightly, by lighting the torch of our neighbor. Indeed, the feeblest and briefest attempt to impart knowledge to others, never fails to confer a benefit upon ourselves. There is a true maxim that there is a pleasant office of which we are not mutually. This is essentially the case in writing for a local journal. No man can write an article without being self instructed and self improved. Of course, we feel thankful—sincerely thankful—for any assistance we may have received from our contributors during the past year, and shall continue to be thank-
THE LANCASTER FARMER.

December, 1808.

ful for continued contributions, but we cannot comprehend why the farmers of Lancaster county should be so recalcitrant on matters so honorable to their heads and hearts. Missionaries do not wait until they are invited into the right hand of faith. Slavery would have hung around our necks as a millstone until doomsday, had the emancipationists waited until they were invited by those who held their fellow men in bondage. Moral darkness would have hung over the world forever, if Christianity had waited for a personal appeal. True charity, or neighborly love, involves a going forth, and doing with our might whatsoever we find for our hands to do. To those who possess light and knowledge on useful subjects the injudicious are more imperative, to "go and teach likewise." We would like to have a self-appointed committee of contributors to the Forner for 1882.

STRATEGY VERSUS STRENGTH.

The sand-hornet is the greatest villain that flies on insect wings, and he is built for a professional murderer. He carries two keen chimeles, and a long and powerful trowel armed throughout with an invulnerable coat of mail. He has things all his own way; he lives a life of tyranny and fear. The blood of the insect tells me that I know that care to swallow such a red-hot morsel. It is said that not even the butcher bird hawksers after him. The toad will not touch him, seemingly ignorant what sort of chain-lighting he contains. Among insects this hornet is the harpy eagle, and nearly all of them are at his mercy. The eagle, a merciless flyer, an insect often larger and heavier than himself, is his very common victim. Considering these characteristics, it was only a question of time when this would be evident as I have here pictured, where one of these huge tyrants was actually captured and overpowered by the strategy of three black ants.

I had left the meadow, and was ascending a spur of the mountain by the edge of a pine wood, when suddenly I espied the hornet in question coming toward me. He is not a fickle, and took to wing, and as he flew on ahead of me I observed a long pendant object dangling from his body. The incumbrance proved too great to bear, and the hornet, that was nearly dropped again upon the path, a rod or so in advance of me. I overtook him, and on a close inspection discovered a clutching grip with its teeth upon the hind-foot of its captive, while with its two hind-legs it clung desperately to a long cluster of pine needles, which it carried as a dewy wreath. No longer did the hornet mount the ground than the ant began to tug and yell for help. There were certainly evidence to believe that the second one immediately appeared upon the scene, emerging hurriedly from a neighboring thicket of pine-tree moss. He was too late, however, for the ant had by then escaped. But this attempt was even more futile than the former, for that plucky little assailant had now laid hold of another impediment and was once more sought after in a flight. This is the Stigmacerus, of Thomas Say, the female of which measures three inches in alar expansion (from tip to tip of the wings) and nearly two and a half inches in length of body. The male is fully one-third less. Colors, brown and yellow. The female burrows in the hard ground, deposits her egg or eggs therein, and then stocks her cell with the body or bodies of the common "Harvest-fly" (Cicada cinerascens) locally called "summer-brotch," which she first in some manner paralyzes, and upon the body of this insect her young subsist after they hatch from the egg.

But there are a number of other flossorial wasps that have a similar habit in storing their nests with other insects, especially with caterpillars and spiders, so that one is not more cruel in this respect than another. The "black-ant" may be a species of Formica, perhaps F. nigra. Ants have long had the reputation of being very intelligent, industrious, and diligent insects, and the history of some species is simply wonderful; but in some species at least there is much in their habits that appears stupid, useless and objectless.

Mark Twain, in his "Tramp Abroad," takes off the ant in the following amusing and somewhat significant style. "Now and then, while we rested, we watched the laborious ant at his work. I found nothing new in—certainly nothing to change my opinion of these industrious fellows. It seems to me that in the matter of infidelity, the ant must be a strangely overrated bird. During many summers, now, I have watched him, when I ought to have been in better business. I refer to the ordinary ant, of course; I have had no experience of those wonderful Swiss and African ones which vote, keep drilled armies, hold slaves and dispute about religion. Those particular ants may be all that the naturalist points them, but I am persuaded that the average ant is a sinner. I admit his industry, of course; he is the hardworking ant. But is there anybody looking—but his headlessness is the point I make against him. He goes out foraging, he makes a capture, and then what does he do? Go home? No; he goes anywhere but home. He doesn't know where home is. His home may be only three feet away—no matter, he can't find it. He makes his capture, as I have said; it is generally something which can be of no use to himself or anybody else; it is usually seven times bigger than it ought to be; he hunts out the awkwardness of the thing to the top—After the hunt he lifts it bodily up in the air by main force, and starts; not homeward, but in the opposite direction; not calmly and wisely, but with a frantic haste which is wasteful of his strength; he fetches up against a pebble, and instead of going around it he climbs over it backwards, dragging his booby after him, and tumbles down on the other side, jumps up in a passion, kicks the dust off his clothes, mollusks his hands, grabs his property viciously, yanks it this way, then that, shoves it ahead of him a moment, gets madder and madder, then presently hoists it in the air, and goes tearing away in an entirely new direction; he comes to a weed; it never occurs to him to go around it; no, he must climb it; and he does climb it, dragging his worthless property to the top—which is as bright a thing to do as it would be for me to carry a sack of flour from Heidelberg to Paris by way of Strasburg steeple; when he gets up there he finds that it is not the place; takes a cursory glance at the scenery, and then climbs down again or twitches down, and starts off in a new direction, as usual, in a new direction.

At the end of half an hour, he fetches up within six inches of the place he started from, and lays his burden down; meantime he has been over all the ground for two yards around, and climbed all the weeds and pebbles he came across. Now he wipes the sweat from his brow, strokes his limbs, and then marches aimlessly off in as violent a hurry as ever. He traverses a good deal of zig-zag country, and by and by tumbles on
his same booty again. He does not remember to have ever seen it before; he looks around to see which is not the way home, grabs his bundle and starts; he goes through the same adventures he had before; finally stops to rest, and a friend comes along. Evidently the friend remarks that a last year's grasshopper leg is a very noble acquisition, and inquires where he got it. Evidently the proprietor does not remember exactly where he did get it, but thinks he got it "around here somewhere." Evidently the friend-contracts to help him freight it home. Then with a judgment peculiarly antic, (pun not intentional) they take hold of opposite ends of the grasshopper leg and begin to tug with all their might in opposite directions. Presently they take a rest and confer together. They decide that something is wrong, they can't make out what. Then they go out again, just as before. Same result. Mutual re- cussion follows. Evidently each accuses the other of being an obstructionist. They warm up, and the dispute ends in a fight. They lock themselves together, and chew each other's jaws for a while; then they roll and tumble on the ground till one loses a horn or a leg and has to haul off for repairs. They make up and go to work again in the same old insane way, but the cripple ant is at a disadvantage; tug as he may, the other one drags off the body and him at the end of it. Instead of giving up, he hangs on, and gets his shins bruised against every obstacle that comes in the way. And by and by, when that grasshopper leg has been dragged all over the same old ground once more, it is finally dumped on about the same spot where it originally lay, the two perpiering ants inspect it thoughtfully and decide that dried grasshopper legs are a poor sort of property after all, and then each starts off in a different direction to see if he can find an old nail or something else that is heavy enough to afford entertainment and at the same time prove useless enough to make an ant want to own it. "And more to the same effect, but this is sufficient.

Whether the foregoing is merely a fancy sketch or not, there doubters are many country raised boys who have often seen approximations to it. We have seen the ant trying to push or pull the dried wing of a grasshopper through an aperture hardly large enough for the ant's body to pass through, when, if it had just moved it within three inches on either side it would have found openings large enough to admit an object of twice its bulk; but no, it must go through just there or not at all. As to the strategy of the ants in their encounter with the "sand-hornet," Prof. Riley relates a case where one of these huge wasps (we boys used to call them "Locust Killers") finding a cicada (these we called "Summer Locusts," or "Dog-day Locusts") too heavy to bear off to its cell, it dragged it (the cicada) up the trunk of a tree until it reached a limb, and then drag it out to the end of said limb, and from thence make an inclined B line, and land within a few feet of the entrance of its subterranean burrow. Seeing that it could do all this, it seems a little singular that it could not carry off the one, two, or three ants, as related in our extract. The reason perhaps is that the ants were the intrepid aggressors and seized the hornet, instead of the hornet seizing the ants. It makes a mighty difference whether you capture an Indian or an Indian captures you. In regard to the providence of the ant we found out that shah was slain already in our boyhood, especially so far as it related to the subterranean hunter, that in capturing an ant's nest, we could have sworn that we saw the ants seize grains of wheat and carry them to a place of safety. But on one occasion we found the grains white like rice, and yet the locality was so remote that they could not possibly have been rice; so we tested them and found them soft and yielding, and on opening them we found a little white worm within. On further investigation we found these apparent wheat grains contained little tender white ants seemingly dead; but we still did not know them as cocoon, and their inhabitants as the larve and pupae of the ants. But as before stated, there are some species of ants that exhibit a wonderfully intelligent instinct in their structures, their social economics, their governmental order, and their general habits. Their industry, of course, is unquestionable, but this relates mainly to the building of their cells, and supplying themselves and their young with food, a characteristic that belongs, more or less, to all insects.

EXCERPTS.

A New York farmer, who is also a practi- cal sheep grower, gives the following as a sure cure for grub in sheep: Turn into each nos- tril of the animal affected half a teaspoonful of kerosene oil.

Young pigs just weaned are sometimes over-fed in the desire to give them enough. When their sides distend they have too much. Hogs should not be over-fed just because they are hogs.

Sweet oil and kerosene mixed, well stirred, will free a colt or horse of lice. Horses are not often troubled in this way, but they will be when the hen-root is too close to their stalls.

A Southern gentleman, writing to an ex- change, says that he has found by experiences that if a plank, not less than two feet across, is whitewashed on both sides and fastened in the ground, rabbits will not come within twenty yards or more of it.

Keep fighting and destroying insect ene- mies.

Do not use too much seed if you drill in wheat.

To keep seed from mice, mix some pieces of campfire with the seeds.

Mr. Alfred Smith, of Moomouth, Me., says he can graft in every month of the year and have the trees do well.

A good mulch is a better preventive against drought than watering.

The bulbs of the tuberose never bloom but once. They require a sandy soil.

An exchange says that wild peppermint scattered around in corn cribs, etc., will keep the rats away.

With regard to the gait of farm horses the Western Agriculturist remarks that that the walking gait is all gaits the one to be en- couraged. A horse can walk five miles an hour, and has done it. Such a horse is worth more than Maud S. St. Julien and Bonner's team all put together; he would probably walk to San Francisco quicker than either of them could trot there.

The small Yorkshire hogs are said to be serviceable for crossing with our common breeds, a very useful and easily-fattened animal being the result.

In applying manure see that it is fine and well composed if you want quick results from it. Then, too, for grain or grass it can be applied at the surface and harrowed in.

If the cucumber which grows nearest the root be saved for a number of years the result will be a smaller and earlier variety. If the fruit on the extremity be saved it will make a larger and later variety.—Farmers' Home Journal.

Plum trees planted in the poultry runs will be kept free from the ravages of the cur- culet, and will also afford the shade so necessary to fowls.

Save the seeds of such things as sweet corn, squash, tomatoes, cucumbers, lettuce, onions, beets, parsnips, cabbage; you can by careful selection obtain better seed than you can buy. This is well in the regard to the seed dealers and seed rabers, and to whom gardeners are indebted largely for new and oftentimes choice varieties of vegetables.

It is thirty per cent. more profitable to pre-mature and dispose of fattening cattle at two years old, than to keep them up to three years.

In all cases a cow should be milked regularly and stripped quite clean. No doubt this has much to do in forming good milking tribes of cattle, by encouraging the milk giving organs as far as possible.

Thyme will grow almost anywhere, but it prefers a dry, poor soil. If the ground is rich, the plant will grow too luxuriant and lose its aromatic qualities.

Grain for eggs and soft foods for flesh is the conclusion in respect to profitable poultry keeping. Applied to eggs, this is well with the well- known English authority. "Every country," he says, in the London Live Stock Journal, "which gives great attention to poultry for table adopts soft food."

The wire-worm lives five years, and changes its skin three times during this period. It next appears as a snap-beetle to propagate its species.

Mulching grapevines with cornstalks, straw or grass will help them to withstand drought. If necessary they should be watered.

English farmers have been very successful in growing wheat by the aid of peat charcoal as a fertilizer, using at the rate of 600 pounds to the acre.

The stings of bees, wasps, yellow jackets, hornets, etc., are not only painful, but with some persons may be dangerous. If you can see the sting, extract it with tweezers, or by pressing a watch key over it. Apply soda, harsnorn, sweet oil, whisky or cologne. If there is depression, give stimulants.

Swamp muck is of little value for pot plants. Leaf-mold mixed with the loam taken
just under the soil of an old pasture is suitable for nearly all plants; additions of sand and manure can be made as necessary.

At Crown Point, Lake county, Indiana, Thursday, one of the largest real estate transfers ever made in that section of the country occurred. Mrs. Caroline Forsyth and her husband, Jacob Forsyth, signed a warranty deed on an 8,000 acre tract of land owned by them, located about fourteen miles from Chicago, for which $1,000,000 is the consideration, of which $325,000 in cash was paid on Wednesday. The deed was made to William W. Green, of New Jersey, who immediately gave a warranty deed to the East Chicago Improvement Company, the consideration being $3,000,000.

An acre of good pasture will, says a farm writer afford sustenance for from five to eight sheep, keeping them in good condition. But on account of herbage taken and the closer feeding of the sheep it is believed that three acres of good pasture will maintain one cow, and, in addition, five or six sheep. The sheep would choose plants the cow would reject. This was done in England. Weeds and grasses not eaten by the cow.

It is said that there are upwards of 3,000 steam ploughing machines now employed in England and Scotland.

A TABLESPOONFUL of carbolic acid in two gallons of water is said to prove as destructive to the currant-worm and rose-bug as hemlock.

The observations of Dunas, Payen and Bousingault have shown the fact that a cow gives a healthy milk in exact proportion to the surplus of food beyond what is necessary for her own maintenance. If the animal is kept on food barely sufficient for proper nourishment, the milk produced must be at a loss of animal tissue, with general deterioration of the milk also of the cow.

A CORRESPONDENT of Forest and Stream gives the following anti-mosquito receipt: Three ounces sweet oil, one ounce carbolic acid. Mix in every half hour until the pores have thoroughly absorbed it.

Too much attention cannot be paid to the cleanliness and ventilation of stables and pens. To insure the health and comfort of animals they must be kept dry and warm and have plenty of light as well as pure air and pure water.

A new scale has made its appearance in the orange orchards or Santa Barbara, Cal. It is white, much larger than the ordinary black one, and blunter at one end. It adheres to the tree, and spreads a sort of cotton film which is impervious to water. Wherever it settles on leaves they curl up and fade.

The general opinion is that ants are enemies to fruit trees, but it has long since been proved that they destroy larvae and chrysalis, and that they do not destroy the fresh fruit.

LUNISEED is perhaps, of ordinary foods, the one most similar to milk in composition, and hence a desirable artificial food for young animals.

Farmers in Great Britain suffered severely during the first half of 1881. No less than 571 agriculturists had to declare themselves bankrupt, including farm bailiffs, millers and market gardeners. In trades immediately connected with farming, 501 have been forced to give up business.

In building a silo the main point is to make it tight. A perfect exclusion of air is necessary. Any failure in this respect will be injurious to the contents of the silo.

A MONGREL sire of any kind of stock should never be used. If a farmer is not able to purchase a thoroughbred alone, he should get others to unite with him and make a joint purchase, dividing price, purchase and cost of keeping. When this is done, no neighborhood need be without such a sire.

PEAR blight has in several instances been arrested in affected trees by spraying them with a weak solution of potash, and it has proved a preventive when applied to the healthy trees.

SAYS the Dalles Mountaineer: The stock range of one firm in the south end of Grant county is 50 miles wide and 125 miles long. This firm, by taking advantage of the notoriety of swamps and land of Oregon, now hold possession of the watersheds of this vast region, and as effectually keep out settlers as if they had a patent for the whole region.

Young cows do not give as rich milk as those of mature age do. A young cow gives poor milk, and a fat cow gives rich milk.

From 1850 to 1890, a period of thirty years, the United States gold coinage consisted of $220,000,000 in double eagles, $4,000,000 in eagles, $30,000,000 in half eagles, and $425,000 in pieces of smaller denominations.

A GRAPESYRE that is overloaded with fruit should be thinned—a portion of the bunches removed, half of them, perhaps, or even more. This forces the growth of the remainder and increases the size of the fruit and the bunch. All badly formed and small bunches should be clipped off, and but one bunch left on a bearing shoot.

For family cows, heifers with their first calves should be milked within a few weeks of their coming in again. If dried off early they will always dry up their milk early.

When wheat is cut young it will be lighter in color, and will ferment more quickly than that cut later. Late wheat will make the least flour, but the strongest and best.

PRUNING ought to be done after the leaves attain their size, when the wounds will not bleed and they will commence to heal immediately.

EXPERIMENT shows that with early rose potatoes the smallest amount of seed in the hill yields the best crop.

A MAN in Texas is said to have perfected a wheat called Moll's Red River, that is rust proof.

If salt and charcoal be fed to pigs every week it will greatly benefit them by preserving their health.

BUTTERMILK poured over the back of a scurry pig will remove the scurf.

OATS grown on clay land make the best meal, keep longest and bring the highest price.

Hogs should be allowed to have a heap of coal ashes. They will be all the healthier for it.

To make a good walk, dig out the earth a few inches deep and fill in a layer of broken stones, brick and the like, then a layer of fine clinkers, and over this spread coal ashes and roll down, if you have a roller. If not, make the surface as smooth and compact as possible by other means, and the weather will do the rest. These walks are hard, clean, durable and withstand cheap.

Colts' hoofs should be pared occasionally, or injury will result.

It is advantageous to turn sheep into orchards in summer and allow them to run there until the apples begin to ripen.

A CELEBRATED French agriculturist, who for many years held first rank in the art of fattening sheep, when urged to divulge his secret, replied: "My secret? I have none; it is only a question of fare. Induce the animals to eat abundantly by a large, choice variety and good preparation of food; that is all there is to it."

QUERIES AND ANSWERS.

HOW DO EELS BREED?

Professor Rathvon, Lancaster, Pa. Dear Sir: — Can you inform me how eels breed? Many fishermen's heads are puzzled by this question.

Respectfully, your friend,

D. G. Glass.

Fishermen are not the only people who have been "puzzled by this question;" and yet, one might reasonably, if not naturally, suppose that if ever this question was to be practically answered it would be by a fisherman. It is a question, however, that still needs a practical answer; notwithstanding there is no lack of theories on the subject, largely based on inferences, and those inferences relate mainly to the habits of the eel.

Migrating Habits of Eels.

For instance, as a general statement, it may be said the eel is migratory in its habits, as much so as the shad is; with this difference, that the adult shad ascends the streams in the spring, and the young shad descend in the autumn whilst the young eels ascend in the spring and the adult eels descend in autumn. This is unquestionably the case, notwithstanding it may be truly alleged that eels are locally in dams, ponds and streams, which they never leave. They have either by circumstance changed their migratory habits, or they are a different variety or species. On one occasion I witnessed the young eels ascending the Susquehanna river in late spring for nearly a whole day—for one whole hour at least in the forenoon, and when I returned to the same place in the afternoon, they were still running as numerously as they were in the morning. There were tens of thousands, if not millions, of them, and to make sure that they were young eels, I captured scores of them. This phenomenon has been frequently witnessed by other person in Lancaster county—notably by Mr. E. H. Hershey, of Creswell—and the late Jacob Stauffer assured me that he witnessed the same phenomenon, many years ago, in a stream in Chester or Montgomery county, that emptied into the Schuylkill or Delaware. Those I captured were from three to four inches in length, and about the thickness of the barrel of the quill of a com-
mon barnyard fowl; but I noticed some larger, and many that were smaller, in the stream.

Their Return to the Sea.

On the other hand, it is potent to every one who has resided for any length of time on or near the Susquehanna, and especially those who were interested in or owned one of those traps called "fish baskets, that the eels descendent that stream in vast numbers every autumn, in the adult form, some of them very large, although not so large as some found local in ponds and dams. This is unquestionable; nevertheless, it is equally true that they may be, and are, caught with hook and line, or otherwise, at any point along the river during the entire season. How far up the streams they ascend, or what proportion of them descend, has never been demonstrated, but it seems very apparent that many of them becoming localized, and are squirred through holes in the ice during winter. It is somewhat singular that among all the piscatorial experts of the Susquehanna, no one of them has ever seen or caught eels from one to three inches in length, save those which have been seen and caught during their spring migrations. Yarrell states that immense numbers of these little eels ascend the Thames, (England), in the spring of the year, and the adults descend in the autumn; and also, that thousands of the young are caught, and become a most toothsome dish for epicures. It has occurred to my mind that in ascending the streams these little eels probably distribute themselves along the route, wherever they find a favorable feeding ground.

A Youthful Experience.

From fifty to sixty years ago the Lancaster county shore of the Susquehanna was quite different from what it is now, and this was especially the case from the mouth of the "Chickleties" for miles westward. In front of Marietta, below the river bank, were flats of a rough, bluish, grey, and sandy character, much watered "logs" and tree stumps. In these flats were concavities of various lengths and depths, scooped out by the ice freshets. When the waters of the river became low in the summer, and the flats and bars appeared, these concavities were so many ponds of water, and often abounded in fishes of various kinds. In one of the smallest ponds, in company with other boys, we scooped out a number of eels from three to five inches in length—as nearly as I can now recollect—much smaller than the kind we caught on the hook, and denominated "whip crackers." Whether these bred from spawn there, or whether they were a colony left there by the upward migrating hosts of the preceding spring, is more than could be positively attested, but the probabilities seem favorable to the latter proposition.

Naturalists Still Puzzled.

From these and other corroborative data ichthyologists and writers on natural history generally infer that eels descend the rivers to the bays and seas and there bury themselves in the muck or mud during the winter to mature their spawn, and that in the spring they either spawn there or ascend the river to spawn, but how much of the latter is correct. My observations on the young eels were made in the month of May, about fifty miles from the mouth of the Susquehanna. At that period there were no dams in that river, but eels have been caught in buckets, or traps, in the Susquehanna as abundantly since the era of dams as they are now. Therefore, they must have in some way wriggled themselves through or over the dams. But the greatest puzzle seems to be that no one has ever caught an eel containing eggs, as they are seen in other fishes. This may not be very remarkable, if eels only mature their spawn in the mud of bays and seas. Has any one ever detected the eggs in a young shad, as it descended the stream in the autumn? The embryotic ost may be a small black speck or the eye. But in those eels which become localized in ponds, mill dams or lakes, and which are caught at nearly all seasons of the year we might naturally suppose that some would be caught containing eggs. But so far as I am aware, this has never yet occurred, unless a specimen caught three summers ago in the Little Conestoga, and now in the museum of the Linnean Society, contains eggs. It was assigned to Mr. Stansfield to investigate the case, but he has never passed away, and no one else has taken the matter up.

No Eel Eggs Ever Found.

Dr. Packard, of Massachusetts, claims to have discovered the spermatozoids of the male eel, if, indeed, they are not all of one sex, as he believes; but he discovered no ova which those spermatozoids were designed to fertilize. Millions of eels have been fished up out of the bays and rivers, and taken to Philadelphia New York and Baltimore and there sold in the shambles of the fish trader, but I have never heard that they have found any with eggs in them; although they have been caught in autumn, winter and spring. But it is not likely that those who so mechanically rip out the intestines, and tear of the skins of their writhing, squirming subjects, would give much attention to the cel-eel-egg question; and yet, perhaps, they would be able to give you any information you wanted, in relation to the eggs of any other fish—particularly their edible qualities.

The question has been mooted that eels may be overviverous, that is, they may bring forth their fry perfectly formed and alive, and that these are maturing whilst they are imbued in the mud; but no-young eels have been discovered any more than eggs have been that the whole question is still ambiguous. If there are two sexes, Doctor Packard seems certainly to have discovered one of them, and the other may be inferred.

Their Power of Adaptation.

In the summer of 1844 I visited Hunter's Lake, in Lycoming county, and with others, remained their one week. During that time three immense eels were caught on an outline, and also a few pike. The eels had been introduced from the Susquehanna, or the Muncy creek, about ten or twelve years previously, and the pike from elsewhere. This lake never had been remarkable for the abundance of either of these fishes. It was secluded, but every summer a few were caught. From the situation, and all the circumstances surrounding the must have bred there, but it is very probable that they devoured their own young. I merely relate this to show that eels, like many other animals, will adapt themselves to varying circumstances; but, under whatever circumstances they are found, very little has been discovered as to their time and manner of breeding. From the numbers of young eels which have been observed at various times ascending our rivers, the inference is that this animal must be exceedingly prolific and may void its spermatozoids similar to the oyster, in which each atom, in time, becomes a living organism, and that only a few, in proportion to the whole number survive; and that these are not easily detected in the waters where procreation occurs, especially since the eel habitually keeps near or on the bottom of the place it inhabits. Those I observed swam low, near the bottom, but were compelled to rise up over aledge of rock that extended out into the river as far as my vision could reach—perhaps fifty feet—and where the water was barely an inch in depth, but as limpid as glass.

If what I have written does not satisfactorily answer the question, How do eels breed? it may indicate the need for more minute and careful observations on the subject—a subject that certainly needs more thorough investigation than it has yet received, in order to make it clear in all its details.

BRUCHUS.

Dr. E. W., Lancaster, Pa.—The small beetle you found so abundant in your room, a few days ago, is a species of Bruchus, belonging to the "weevil family." There are at least twenty species belonging to the genus Bruchus; a few are among which is the common "pea-weevil," better known under the name of "pea-bug," but it really does not belong to the bag family, being a true Beetle. These little beetles usually infest the seeds of leguminous vegetation. The Locustinae, or "Pulse family," is a very extensive one, and embraces many subjects that seem very diverse in their structure and development; and yet as to their fruit and flowers, and also in the general arrangement of their foliage, they are closely related to theseclassification between them. We would hardly think of placing the common clover, locust, wistaria, pea and ground-nut in one family, and yet they all bear a similar flower, and develop pods like the pea or bean, and the seeds in these pods become infected with different species of Bruchus and allied genera. There is no remedy to destroy them after they once get into these seeds, without also destroying the vitality of the seeds. If we know nothing of the insect that has deposited their eggs on the young pods, almost any poisonous substance then applied would destroy the beetles and their eggs. As near as we are able to determine, without absolute comparison, the species is the musculus, of Thomas Say.

BEAN WEEVIL.

Mr. J. Z., Lancaster, Pa.—The insect which so numerousy infests the seeds of your lima bean, is the Bruchus foveol, or "Bean Weevil." It is even a worse enemy than the "Pea-weevil;" because of that insect there is seldom or never more than one individual in a seed, and when the beetle evolves and vacates the seed, about eight out of every ten will afterwards germinate and grow. It may
possibly not make as vigorous a plant as if no weevil had previously infested it, but we have planted scores of such seeds, and never knew "which was which" by their growth. But the *Beauneceris* is somewhat different, and perhaps not more than two beans out of ten infested by it would grow. We have seen ten to twelve issue from one seed, and when they had vacated it the residue was as soft and as porous as a sponge. This insect is said to have been introduced into this country from England or the continent of Europe. It was first discovered in this country about seven years ago by Mrs. P. E. Gibbons, of Bird-in-Hand, who had received some beans from a friend in Massachusetts, and that friend had received some beans infested by them, a year previously, from the Agricultural Department at Washington, D. C. For the manner of propagation we refer the reader to an article on the subject, published in *The Farmer* for October, 1851, on page 145, relating to the "Honey- Locust Seed Weevil," which belongs to a different genus, and in the same family (CUCULIONIDAE). The only method to destroy them now is to destroy the beans.

**PIPING MOSQUITOES.**

Mr. B. L. O., C——, Pa.—The insects you refer to are doubtless genuine "Piping Mosquitoes" *Ochlerotatus pipiens"* (see also to *Aedes Mosquitoes* in November, for we have frequently seen their final, or almost their final, when and where there is sufficient heat to vivify them. The larva or the pupa may be frozen in a solid block of ice; and yet, after the ice melts, it only requires a few degrees above the freezing point to enable them to evolve. Mosquitoes seem to be like seeds, or flower and leaf buds, ever ready to develop, as soon as favorable circumstances supervene. Hence we have buds foliage, flowers blooming and mosquitoes evolving in mid-winter, if surrounding circumstances are favorable. There are many species of the order Diptera that are equally hardy. We have noticed hundreds of "Pearl-flies" (Perla) coming up through the fissures of disintegrating ice very early in the spring—February, March and April—when it must still have been quite cold where they came from. If we should have an open winter, you may find a few mosquitoes in every month, if the temperature is warm enough to breed them.

**CONTRIBUTIONS.**

For the *Lan.character* Farmer, THE PERSIMMON. This fruit is known over the Middle and Southern States; but, perhaps, not known at all in England or in the Northern States—at least I have seen persons from Western New York who never saw one in that part of the State. It is known South as far as Savannah, Georgia, and perhaps farther South, so that it might almost be considered a kind of semi-tropical fruit. Varieties of it are common to Japan, and have been brought here from there. By some they are reported to stand our winter climate as well as our native species. Some of the Japanese varieties are claimed to be more delicious than our native species. I tried the Japan persimmon and did not succeed, so I have to report it a failure with me. But it is not necessary to go to Japan or to China, when we have some of the best native varieties in the Southern States, and such as will stand our climate, and quite as prolific as the foreign fruit. I have now growing four different native varieties. One came from Mr. Samuel Miller, of Bluffton, Missouri. They commence to ripen in the middle of September; they are very much subject to splitting, but are entirely seedless. Some of them would fill a hoof two inches in diameter. I saw a lady who lives in Kansas, on the Missouri river, about twenty-five miles from the Indian Territory, who informed me that the persimmon grew native on that stream, and some of them commence to ripen on the 25th of August. They are very large and much better than our native Pennsylvania fruit. I received grafts of a new kind, not before known, some seven or eight years ago. I grafted on one of our local trees, that was bare. One grew, and that limb bore two hundred persimmons, all of one size, nearly two inches in diameter, and of superior quality. It is, therefore, unnecessary to be wasting time with the Japanese fruit. We have them at home, in the United States, if we only go to the trouble to reproduce and improve what nature has furnished us within our own country. I really believe that our best persimmons in the Southern States would be fully as good as those of Japan, if we gave them proper attention and good cultivation—such as is usually bestowed upon foreign fruit. —L. S. R.

**SELECTIONS.**

**THE GREAT GRAN SPECULATION, OR "CRAZE," OF 1851.**

Never before, in this country, or in any other, has there been anything at all comparable to present speculation, rather "gambling," in Wheat, Corn, Oats, and in Hog Products. This gambling spirit has taken possession of large masses of people, and extends from the great dealers who handle or bet on tens of millions of bushels, down through all ranks, to the hotel waiter who puts up his week’s wages as a “margin” on the purchase of a single hundred bushels.

So great is the present rage of this kind of speculation, that on some days sales reach tens of millions of bushels. On one day (Oct. 1) the “deliveries” of grain, on previous contracts, were reported at 32,000,000 bushels in Chicago alone!

This speculation has demoralized the whole trade. The “bulls” have run up prices so high as to nearly stop exports. On October 1 the “visible supply” of wheat, that is, in the elevator and storehouses and in transit amounted 41,263,648 bushels. Last year at the same time there were only 37,059,745 bushels, showing more available wheat now than one year ago, though prices are full 40 per cent. higher. Nearly the same of corn, the “visible supply” being nearer 27,649,173 bushels; last year 28,289,288 bushels.

The increased price, produced largely by speculation, is beneficial to all those producers able to get their grain to market while these high rates prevail. But it is deranging almost all other business very seriously, and is drawn in immense sums, from the banks and from other legitimate business, to supply the “margins,” or to carry the stocks actually purchased and held by speculators.

Exporting being at a stand still, the inflow of foreign money we should have, is nearly stopped, and European buyers are seeking supplies in all other parts of the world.

The high speculative prices are greatly diminishing the consumption, and this alone must, ere long bring about a decline. The laboring classes are called upon to pay much higher rates for their daily food, the advances mainly going into the hands of the speculators. Labor must therefore advance, and this in turn increases the cost of manufacture and of all products of labor.

Of course every speculator, large and small, expects to sell out before any great decline shall come, and the shrewder ones will do so, leaving the great mass to bear the brunt of the loss.

Many extended business men now greatly fear that in the future, perhaps the very near future, a crash will come that will derange the whole business of the country.

To the oft-repeated question from our readers: "Shall we sell now, or hold on?" we can only answer, that a good general rule is to sell whenever ready; get the money; pay up debts, and keep in as snug and safe a condition as possible. To sell, or hold on for change of prices, is to speculate on great uncertainty. One half of the speculators, who makes a business of studying the prospects—viz., the sellers for future delivery—believe prices will fall. The other half of them—the buyers—believe grain, etc., will go higher, from natural causes, or that they can “corner” the supplies, and put up the rates. The outlook would seem to be that, while speculative influences may sustain or even advance prices temporarily, there can hardly be a demand for all the grain, etc. Consumers both at home and abroad will necessarily curtail their purchases very materially, and these high rates will call out supplies greatly, and prices will not usually be marked for long. —American Agriculturist.

**PROPER CULTURE OF POTATOES.**

The past season has been an excellent one for testing potatoes, having been hot and dry, just the reverse of what is conceded to be the demand of this crop. The usual shallow planting—two or three inches deep, thus exposing the tuber to heat of the sun and drought—has proved to be a failure. That which always happens in shallow planting, and especially in a hot season like the past, is that a large proportion of tubers protrude through the soil and are spoiled by the sun. These appear in market here in greater proportion this year than usual. They are of course worthless and unhealthy. The rest lack in quality, and will deteriorate more and more with age; and the effect of the sun co-operating. Few sorts if any are excepted. It is in a moist season, which is also a cool one, that the potato does best, increasing the size and number of its specimens. We are then to depend upon such seasons alone for success. It is for this reason more than any
that potatoes as a crop are so fluctuating. They do not yield what they should, and the quality is far from being what it ought to be, aside from the rot. In short, the potato is disdained as being largely raised, from necessity, for horse feed.

There have some good potatoes been grown the past season, which were from early plantings of early sorts. They escaped the heat and dry weather later on. It is always well to plant early, as early as possible in our climate, on well prepared soil having good drainage, whether early or late sorts. Properly managed and attended to, the chances are for more moisture and more coolness; and, for safety against the frost and dry weather of spring, put down well in. The soil, an inch or six inches deep, and deeper in sandy loam. This will prevent the seed, however small, from drying out, and sprouting will go on there instead of in the cellar, the tips appearing when the danger from frost is over, and at the time potatoes are usually planted, thus getting a start of weeks, and maturing the crop early, about the middle or latter part of June, before frost has penetrated deeply. By this time the late sorts which are planted as a seed crop with hay, roots and young tubers the lower, cooler soil weeks in advance of the usual planting, and ripening so much the earlier, thus avoiding frost and rot, which often makes serious work with belated potatoes. Deep planting requires deep working and enrichment of the soil so as to have the seed in rich, mellow ground, not dropped on the bottom of the furrow on the hard, raw subsoil, and covered with the plow, as it is often done. The roots want to penetrate downward as well as laterally. This puts them beyond the reach of even as severe drouth as the one just past. If, in addition, the surface of the soil is kept stirred so as to form a fine mulch, a superior crop is assured every season, if the soil has good drainage so, as to carry off the water in a wet season.

I have not been growing potatoes of late years, but as so much was said about the deterioration of the Early Rose, and as the market seemed to confirm it, I planted some time ago a small plot. The soil, an old, rich one, was prepared last fall, and an early working given in the spring when the planting was done. Selecting the sourest seed I could find, I planted some in the usual way, covering 2 or 3 inches deep, others 6 and 8 inches. The first were a failure—a few small potatoes in a hill and a poor quality. This agreed with the general crop of the neighborhood. It was a matter of gratification—and to the neighbors a surprise—to see the fine, bright tubers that came up when the deep planted were dug—which was the middle of June—those covered six inches ripening earlier, as they also came up earlier after planting. They were clean and sound, and when cooked were white, mealy and sweet, with no rank, unhealthy odor.

The objection to deep planting, that it is more expensive to harvest the crop, holds good so far as the digging is concerned, but it is in no way an offset to the other advantages of a longer, sounder and more uniform crop, taking the season with an other, drought having much less effect. The greater freedom from disease, which results is a point that can hardly be overestimated in view of the wide spread, undom condition of the tubers, for there is less chance for rot with deep planting in well-drained soil, the tubers being farther above and better protected—at least there is greater success.

So much can I say for the Early Rose from my own experience. Grown in the way described, big as soon as ripe, and stored in a cool, dry place, they will keep sound and sweet during the summer and through the following winter, competing favorably in the spring with the late sorts. Care must be taken when dug and put away to keep the cellar cool and not too dry, by keeping the cellar cool and not too dry, by keeping the ventilation good, and removing surplus moisture, and shut when warm, double windows being a better protection against heat. This is the way a cellar should be kept, not only for potatoes or fruit, but for all purposes. Never dig potatoes under a scorching sun. As soon as dry take to the cellar, handle carefully, reject all barked, bruised or imperfect ones, and put in barrels or bins, and close.

We are too rough and careless with our potatoes.—F. G., in Country Gentlemen.

THICK AND THIN SEEDING OF WHEAT.

A generation or so ago, four bushels, or sixteen pecks of seed wheat, were considered a moderate seeding for an acre of land; now, not a few are contending that one peck will suffice. It is clear that either the old-time farmer was singularly wanting in observation, and recklessly lavish of seed, or that the agricultural writers were guilty of "penny wise and pound foolish" practice, not having the facts of ordinary experience. Are we not going too fast, or were our forefathers so hopelessly astray—is there no golden mean?

In the fall of 1879, 12 plats, of 1-10 acre each, were laid off in a field of fair average fertility, which had been in clover for the two years preceding. The soil was a good clay loam. The land was thoroughly prepared, and the seed drilled in without fertilizers of any kind, on the 15th of October. One plat was seeded with three pecks of "Boughton," the other with four pecks of "Champion Amber," in a smooth, white, and rather tender variety; the next adjoining, with three pecks of "Champion Amber," a bearded red, and hardy wheat; the next with four pecks of "Boughton," the next with four pecks of "Champion Amber," and so on up to eight pecks of each.

To sum up—It appears that the verdict of the experiments of this year and the last, with these two varieties, is in favor of moderately thick seeding (6, 7 and 8 pecks per acre), for average soils in this section of country. The three-peck "Champion Amber" plot of 1881, shows, however, that on superior soils these amounts can be safely reduced. Why should four pecks give, in both varieties, the smallest return? Is it possible that, like the Church of Laodicea, this amount of seed is neither one thing nor the other—not enough to secure the advantages of heavy seeding, and too much to secure those of light? Again the lower ratios of straw to grain in the eight-peck-plots of both varieties, as compared with the nine-peck; Show that the opinions of those who assert that heavy seeding will increase the straw at the expense of the grain, are not well taken. As to varieties—in the twenty-six experiments of the two years, twenty-five are in favor of the "Champion Amber." The five-peck "Boughton" plot of 1881, gave the yield of grain in each case, that of the corresponding "Champion Amber" one, by only 36-100 bushel. Finally, these experiments confirm the observations of Stevens and others, that heavy seeding tends to hasten the maturing of the crop; the heavily seeded plats were cut two days earlier than those that were thinly seeded.—J. M. McBride, in American Agriculturist.

ARTIFICIAL MILK.

Although milk is not a mere emulsion of fat and alkali, inasmuch as it contains albumins, salt and sugar, Schickshoff nevertheless found that he could prepare emulsions very similar to milk by closely imitating its natural components; i.e., by first preparing an liquid similar to the more fluid part of milk, and then mixing it with fat of analogous composition to those in real milk. As other chemists had done before him, he found in whey a form of emulsion, which differed from either Albumen or Cassein; and he observed in his experiments that while Cassein without Albumen would not yield cream but only milk, and that while the two albuminoids together gave both milk and cream, the presence of the third albuminoid was necessary in order that the cream should be in a condition similar to natural cream. Schickshoff describes a "good emulsion as one that smears glass strongly, rises slowly, and forms a definitely deeper layer on standing than would be produced by a mere dilution; it should be white and lustrous. Under the microscope it appears to be composed of small globules of tolerably equal size. It is seen plainly that the act of emulsifying consists in dividing the fat into little globules, and fixing these globules in position by the adhesion of the emulsifying liquid to their surfaces. It was noticed that the globules in the emulsion were apt to be smaller in proportion as the molecular attraction of the liquid for any one of the constituents of the fat was greater, and that in proportion as the globules were smaller the emulsions were less permanent. Shaking promotes the subdivision of the globules, and may consequently hasten the destruction of an emulsion. By long continued shaking the emulsions were in fact, completely decomposed into fat and soap, which would not again set on one another. The emulsions were destroyed also by boiling, by diluting them with much water, by allowing them to stand for a sufficient length of time, and by manipulations which promote the formation or separation of soap, such as warming or the addition of strong lye, or the like.—American Agriculturist.

A HALF MILLION IN HORSES.

The Fashion Stud farm, situated about a mile and a half east of this city, on the State street road and opposite the coaling station of the Pennsylvania railroad, it is believed has not an equal in this country. It was purchased about ten years ago by the well-known horsemen, Stud Dole and Charles H. Kerton, for H. N. Smith, the prominent
New York banker, and was not visited by the latter till nearly a year after it became his property. Since that time considerable lands have been purchased by Mr. Smith, until his farm may now contain something over 350 acres, nearly all of which is under the highest condition of cultivation, and through which runs a never-failing stream of water.

It was not at first Mr. Smith’s purpose to establish an extensive stock farm, but owning the celebrated Goldsmith Maid and other fine-bred horses, he bought the farm on which to keep and breed them. Becoming more and more interested in stock raising and breeding, Mr. Smith, has increased his stables and improved the establishment until they now represent a moneyed value of about $500,000, his horses alone being valued at $300,000. With the single exception of Robert Bonner, Mr. Smith has probably spent more money for horses than any man in the United States.

With a view of laying before our readers a description of this interesting stock-farm, a reporter of the State Gazette recently made a visit thereto. The first thing to which the reporter was attracted was the speed of the horses, the galloping of the stallions, and the swirling of the tails of the fillies. The next thing that met the eye was the large square building used for offices, harness and carriage-rooms, etc., adjoining the grand stand, was visited. On the ground floor, facing the track, is the reception-room, whose fineness of finish almost beggars description.

Its ceiling is very high, and the walls is finished in oak. The walls are covered with heavy English leather paper. The elaborate mantel is of oak, with unique tiling, and the furniture is rich, heavy and antique, and upon the floor is a gorgeous Wilton carpet. Just back of the reception-room is the office and harness-room finished in oiled pine and handsomely furnished. In the rear of this room is the large carriage repository, also finished in oiled pine. The second story contains a large hall, which will be fitted up for a billiard-room, and ten bedrooms elegantly furnished for the accommodation of invited guests. On this floor is also the room for the veterinary surgeon. In the cupola of this building is a tank, which holds water for a steam pump in the basement, which has a capacity of 150 gallons per minute. The water is obtained from a well twenty-one feet deep and nine feet in diameter, and holding 5,000 gallons. To further guard against fire, five fireplugs are conterminous to the stables and are supplied with 400 feet of hose. In addition to this the Trent fire department could be summoned by telephone.

In the cellar of the carriage-house, besides the force pump, is a steam engine and boiler, which heats the building and cooks the food for the horses. Besides this structure there are the following: Main barn, with twenty box and forty single stalls; the colt barn, with twenty-four box stalls, capable of holding forty-eight colts; the training stable, with fifty box stalls; the grand stand barn, with seventeen box stalls, for brood mares and colts; the stallion stable, with five box and six single stalls; the grain barn, recently built by Cubberly & Kafer, and probably the largest barn in this section; the cow barn; a barn for the farm work horses and mules; a barn for farming implements; the blacksmith shop; grand stand with seating capacity of 2,000; Mr. Smith’s residence, in which he occupies about three months each year; General Manager Riddle’s residence near the entrance, and four other residences for employees.

Inside of the large square formed by the stock barn are large and substantial paddocks in which to exercise the horses in winter. Inside of the square formed by the paddocks is a manure pit six feet deep and 150 feet square, with a cement bottom. Into this pit all the manure is deposited daily.

The proprietor of this grand establishment, II. N. Smith, as we said before, is a prominent New York banker, and except in the summer, resides at Fifth avenue and Forty-fifth street, in the city named. He is in the prime of life, and his wealth is estimated at $1,000,000. He is a thorough lover of horses, and while he spends hundreds of thousands of dollars in developing superior stock, he is in no sense a gambler or jockey. Thus far his stables are believed not to be self-sustaining, but they are now rapidly becoming so. Among the horses, many of which have a world-wide reputation, are four-service stallions, twenty-one yearling colts and fillies, sixteen two-year-olds, thirteen-three-year olds and thirty-five brood mares altogether, with a number of boarders, making 150 head of blooded stock.

The most noted animal on the Fashion Stud Farm is Goldsmith Maid, who was foaled in 1857, and has a record of 2:14.—Trenton State Gazette.

**FLECKS, OR "WHITE CABS," IN CREAM.**

Flecks are generally supposed to be pieces of dried cream, and possibly sometimes they may be, but usually they are not, for occasionally they exist in milk before any cream rises, and sometimes are mingled with butter made by processes of cold-setting in which the cream remains soft, no part of it being dried at all. They seldom appear, however, in butter made by cold-setting; they are mostly found in butter made in dairies where the milk is set without any other cooling than that of the temperature where the milk remains soft. For the most part they are developed in milk after it comes from the cow. By quickly cooling milk to a low degree, change is so much arrested that they cannot develop. They can only form within certain limits of temperature, and when they do, are likely to appear as plentifully in the milk as in the cream, and often more so, which is evidence adverse to their being originated from dried cream. In milk which is in a perfectly normal condition they never appear. They always occur in milk which is more or less faulty. They are very apt to accompany an inflamed state of the udder, and seldom or never appear without it. When milk is all right, the surface of the cream may be exposed to currents of dry air until it becomes quite dry and hard, without showing any indication of "white caps" as they are sometimes called. The dried cream, when mixed with the rest and well stirred up, soon becomes soft and churns the same as the rest. But when milk which is a little feverish, or in some other way faulty, is thus exposed to the air without being first well cooled, flecks will be pretty sure to show themselves in numbers proportioned to the exposure. Whenever it is liable to be developed, there can, with the aid of a microscope in the milk the small specks of solid matter with fragmentary shapes which form the nucleus of the flecks. When such milk is set in a glass vessel and kept without much cooling, these specks can be seen to enlarge by the coagulation and adhesion of the milk in contact with them. Sooner or later they swell from gas forming within them, and, becoming lighter than the milk, rise toward the surface and escape, or less of them become imbedded in the soft coagulum. When cold milk they are almost wholly composed of cream, but when formed in the cream they are rich in cream, having as much, and perhaps, more cream in their composition as curd.—L. B. Arnold, in American Agriculturist for November.

**BARBED WIRE FOR FENCING.**

Experience has demonstrated the practical value of the following suggestions for constructing barbed-wire fence: Set substantial posts one rod apart; the post at the starting point should be braced by cutting a notch in it and driving it in the ground, and running a strong pole from the notch to the foot of the second post, where it is fitted to rest firmly, and is supported about three inches above the ground by means of a short block driven down behind the fence post. This method of bracing should be repeated once in forty rods. A faulty construction would be to cut the notch in the starting post four feet from the ground, make the brace shorter, and allow the lower end to rest upon the ground; for the moment the wire is tightened upon the fence, the short brace acts as a fulcrum to lift the initial post. When the posts are set a wire is wrapped firmly around the first post, four feet and two inches from the ground; then the coil is unrolled forty rods and the wire drawn tight by means of a set of small pulleys with grapples. After this wire has been securely stapled, a second is similarly fastened one foot below it, and a third and fourth below this, leaving a foot space between the respective wires; the ground space is fourteen inches. Four wires thus arranged make a perfect cattle fence. For horses the lower wire should be without bars to prevent cutting the knee, and a fifth wire should be placed upon the posts five feet from the ground.—Prof. S. A. Knapp, in American Agriculturist for November.

**NEW YORK WOOL MARKET.**

At the last London auction but two hundred bales in all of Colonial wool was bought for America. At the next sale, to commence November 22, but very little choice wool—and that only from the new clip—will be available.

We know that but a very small amount of foreign clothing remains on hand in this country, in all some few thousand bales. We also know that, at present, next to nothing is on the way hither from foreign parts. A telegram from London says, “All sorts of clothing wool firmer.” Which means that foreign wool is nothing there for America, even if we want—
THE LANCASTER FARMER.

1881.

ed it. It would seem as though we did not want it from the way manufacturers act. They know that fleece wool, at to-day's price, costs them, for the best qualities, under ninety cents for the second pound, while, had they to import the same qualities, it would cost them $1.03 and over, with a rising market there, which means that when they want to buy they will not be able to do so at prices now quoted. The slightest demand from America would put prices up there very materially. Was there ever a time that we couldn't get wool for our own use? Are not the woods imported in 1879—80 in excess of immediate wants all worked off or nearly so? And we know that nothing worth mentioning is on the way at San Francisco. We find that out of receipts of ten million pounds of the Fall clip but five hundred thousand pounds have been marketed, or in other words, the Californians hold for certain prices which they are sure to obtain if they but hold long enough. It is certainly not their fault if we go there and buy wool at less for than we paid for it. We know such is time-honored custom; and they know it also and, mark our words, somebody will buy all the wool they have there at the prices they ask before March. There is not a sailing vessel up for New York, from San Francisco. It is hardly likely that any of the Fall clip of this season will be here by sail before April or May, so holders of old Fall need not fear competition from the present clip this season. In the meantime short-wool Spring wools will have to take their place. This demand will shortly absorb all of that clip. With regard to manufacturers, what do we find? Why, all the goods they can make up to April are already sold, and many of the commission agents will not take any more orders for goods. This is the case with cassimeres, flannels, cloakings, etc. Have manufacturers who have sold up to April or March bought their wool? If they have not they are very unwise. We have here a few wools left which are sure to cost $1.03 to import; Ohio XX will cost at present less than 90c. scoured. Now before we get a pound from abroad there must be an advance in domestic clothing wool of 10 to 15c, the scoured pound.

That such an advance must take place before the 1st of next June is a fact as certain to take place as can be reasoned out from ordinary business methods. The factories are all running full time at paying rates, and there is no reason why wool as an article of merchandise should not advance so as to make it fairly profitable to dealers, which has not been the case for two seasons. It is well for all these interests to work in harmony, so that this country may be able to grow a sufficiency for our wants, which should, with our vast extent of territory, be the case.

We have to note the great decrease in the number of sheep in the United Kingdom since 1868, when there were 35,607,412, while the number in 1881 has declined to 27,493,737, or a net decrease since 1868 of 7,767,675, or over twenty per cent. This gives an idea of the suffering among the sheep养 of the country. England gets her lack of wool from her colonies, where the increase in wool is very large yearly.

We hope and expect to see Ohio XX selling at 90c. per pound, equal to $1 for the scoured pound, which is certainly cheap enough. Considering prices abroad and in California there is every reason for such a result. Holders of wool who now sell at a loss with such a prospect before them of a firm and advancing market should go into some other trade.

Our wool market remains very firm, especially for staple wool and fine fleeces, which are in tight stock and are generally held for higher prices. In fact our sea-board markets are now very firm and likely to so remain for some time to come.

LONDON, Nov. 11, 1881.

To the editor of the U. S. Economist:

Anprev reports an advance of 10 per cent. in Mestizza. Our home and export trade very good.

HOW THE FRENCH MANAGE.

When we Americans are bothering about "family help" it is aggravating to think how much better they manage these things in Paris. A correspondent who has been studying up these points writes as follows:

Imagine the convenience of having a piece, tidy woman coming up to your rooms early in the morning, say eight o'clock, cooking your breakfast and then doing all your chamber-work, sweeping, dusting and leaving you in perfect order for the day by ten o'clock, just two hours, and this for the modest cost of ten cents. Their charges are actually but five cents an hour. A great many quite well-to-do families live in this way, having the femme de menage two hours three times a day to prepare their meals and do the necessary housework. For those who do not care to take their early breakfast at home there are the nicest little places, called crerurewes, where you can get a bowl of coffee or chocolate and a roll for four or five cents. These little establishments, in addition to their early breakfast, fast trade, sell fresh butter and eggs, milk and cream, cheese and fruit. It is surprising what a small quantity of provisions you can buy in Paris. For example, who would dare, in New York ask for two cents' worth of butter? Here it is a matter of course, and the fresh, clean-looking girl, always wearing a white apron and cap, serves you across a snowy white marble counter, and cuts the exact quantity with a wire, never making a mistake as you will see when it is weighed. Among other conveniences for those who do not want to cook at home are the charcuterie shops, at which are sold cold ham, tongue, veal and delicious stealing, a sort of bouquet of chicken and turkey, all kinds of sausages, and even sardines at retail, two for a cent. These are all sold by the small quantity.

A slice of ham for five cents is enough for several sandwiches. Again at the Rotiserie you can buy roast chicken just out of the oven, whole or by the piece, a leg or wing, or slice of breast. All kinds of game or meat are to be had already roasted, or cooked to order, and sent home at any specified hour. It is an immense convenience, and a great saving in food alone. There are also to be seen little stalls where fried potatoes and small fish are sold hot, every day from 11 till 2 o'clock, when you will meet strings of girls and men in their blouses hurrying off with a brown paper bag stenning in their hands, two or three cents' worth being enough for a meal, even for a hungry man.

Speaking of fuel, I must tell you of a little contrivance I discovered which is invaluable, and certainly the cheapest cooking apparatus ever invented. It is a tiny stove of sheet-iron, hardly larger than a quart measure. It costs about twenty-five cents. The material burned in it is a sort of very fine charcoal called bridier, which is bought at the baker's. It is the residue of the baker's fuel, and it is sold very cheap; four or five cents' worth being enough to last a whole week. The fire in this little stove is enough to make tea and coffee, and to boil eggs, or even to boil fish and chops. It makes no dirt, and it is exceedingly easy to light a fire.

OUR LOCAL ORGANIZATIONS.

AGRICULTURAL AND HORTICULTURAL SOCIETY.

The regular meeting of the Lancaster County Agricultural and Horticultural Society was held Monday afternoon, December 5th, to their room in the City Hall building.

The following members were present: Jos. F. Winner, Paradise; M. D. Kendig, Creamsville; F. R. Deff, Unruh, etc., cly; T. H. Couch, cly; C. E. Johnston, cly; C. A. Gast, cly; W. W. Grisell, cly; S. P. Eby, cly; James Wood, Little Britain; Cyrus Neff, Manor; Frank Bad, East Lampeter; Calvin Cooper, Bird-in-Hand; John H. Lands, Manor; John Miller, Warwick; W. H. Broekus, Intercourse.

Mr. Homer Hoffman, Chester, asked; Walter Hennig, cly; Peter S. Reist, Lititz; Levi S. Reist, Oregon; Ephraim S. Hoover, Manheim.

On motion the reading of the minutes of the previous meeting was dispensed with.

Mr. Linville reported the wheat in Salt-bury as looking remarkably well—never saw it looking better. He had thought that there were not half a dozen peaches in the township, but a neighbor had two or three peach trees on the north slope of the Gap ridge, near the top, and fully exposed to the north winds, which were full of peaches.

Mr. Landis reported for East Lampeter, a good crop of wheat. Also the rainfall for November was heavy. For a county there was a great deal of soft white wheat. The tobacco was nearly all said.

James Wood, of Little Britain, reported a good wheat crop. He also heard of a second crop of peaches on sale.

Charles Neff, of Manor, reported the same state of affairs in regard to the growing wheat. The grass also was looking well.

Mr. Kendig reported the rainfall in Manor town ship to be three and four-tenths inches during November.

Mr. Wittmer of Paradise, remarked that he tested one of his Alderney cows some time ago, and from fourteen milkings in one week he had secured 104 pounds of fine butter.

Mr. J. C. Linville read the following essay on

The Sanitary Condition of Farmers' Houses in Winter.

Why should not farmers be the healthiest people in the world? Perhaps they are, and yet when one goes to any assembly in the winter season he will notice a vast amount of coughing and blowing of noses. When you inquire of your neighbor regarding the health of his family the stereotyped reply is, in case none are sick, "Oh, they don't have colds." Bad colds (who ever heard of colds that are not "bad") often lead to something worse.

Our houses are made too nearly air tight. Patent weather strips and tarred sealing paper are the twin curses of modern house building. Our grandfathers built better then they knew. A log cabin with a great roaring wood fire are the open hearth af-
FORCED better ventilation than all the contrivances of the architect. But the doors of the log cabins and open wood fires were always open.

The weather strips and sheathing paper do not necessarily make the house unhealthy. Anyone who cares for his health will leave his bed-room window an inch or two open in winter. Of course this defeats the very object of the above mentioned contrivances of the Architect, namely, the cold, and pure air out, and the foul and warm air in. Warm air is not necessarily impure but splendidly becomes foul in air-tight apartments.

Better far to burn a ton or two more coal and throw the wood fire out. True, the ashes are hot sand and have cold and consumption and death.

I have in my mind’s eye, “farmers” homes where every pathway about the house-yard is laid with boards and daily scrubbed, so that a scurvy whitened and grayish surface meets you every angle and will force you to clean your boots, and where the tinware on the kitchen walls shine resplendent and the stove is as black as “Rising Sun Polish” can make it; and yet when the cellar door is opened there comes up smells that are not.

“Sabena odors
From the spicy shores
Of Araby the blest.”

The poet Coleridge counted three hundred and sixty-five separate and distinct smells in the city of Cologne. I have never yet been able to make a full account of the average city smell. I think the numbers will not run so high as in the perfumed city above mentioned. Beets, potatoes, turnips and cabbage give up their fragrance, to say nothing of odiferous sauer krant and salt fish.

The smell of apples, even, is unbearable when confined to the house. These things should all be kept in a cellar at the barn, or in some Outstanding conveniences to the dwelling.

The essay was discussed by a number of the members, all of whom agreed in the importance of the subject having been thoroughly discussed and understood by farmers.

Hon. John H. Landis read an essay on the subject of “The Farmer and Politics,” which was listened to with much attention. The essay was very lengthy, and urged upon the farmers the importance of taking an interest in politics, and seeing that none but good men were elected as lawmakers.” The essay was discussed at length by a number of members, all of whom concurred in the ideas advanced by Mr. Landis to the effect that it is essential to farmers to keep informed in politics.

What is the Best Time to Apply Manure?

This question, which had been referred to Mr. Brodie, was answered by him by saying that the manure that is made, during the winter should be applied to the spring crops, and that made in the summer should be put on fall and winter crops. He did not believe in keeping it on hand for any length of time. He was also in favor of plowing it down.

Mr. Landis was of the opinion that it did not matter so much when it was applied as the treatment it received after it was down. He thought it should not be exposed for any length of time.

The manager of the agricultural society stated that most farmers agreed on the matter of the manure should be hauled out as fast as made, and leave it there as long as can well be done. He always found the best results if the manure was well decomposed, if it spread it out as wide as possible in the field. He also stated that he had found this to be true in practice.

Mr. Cooper said one of the best farmers in his neighborhood always found the best results by spreading his manure on the surface of the ground. His farm is noted as one of the most productive in the neighborhood and he attributed his success solely to hard work and economy. He keeps his manure until it is unusually well rotted, and always has a large amount on hand.

The following questions were referred for answer at the next meeting: “Can the grain-grower dispose with nitrogenous fertilizers?” To Casper Hikel.

“Can dairy cows be kept in healthy condition by the soiling system, and is the butter of as good quality?” To J. Frank Landis. “Ought rank-growing wheat to be pastured?” To James Wood.

“What are the best methods to plow land for spring crops?” To John C. Lillian.

Calvin Cooper, John H. Landis and Simon P. Eby were appointed a committee to examine and report on specimen of red streaked, Smith’s cider apples and grafted persimmons, presented by Levi S. Reight.

On motion, society adjourned.

POULTRY ASSOCIATION

The Lancaster County Poultry Association met stately in their room over City Hall, Monday morning, December 5. In absence of the President the meeting was called to order by George A. Geyer.

The following members were elected:

George A. Geyer, Springville; J. B. Lichty, city; E. E. Doffen-
derfer, city; J. M. Johnston, city; C. A. Gast, city; Frank Griest, city; William Schoenberger, city; Charles Lippold, city; Dr. E. H. Witmer, Neffsville; Joseph R. Trisler, city; John A. Stober, Schnecken; T. F. Evans, Lititz; Charles E. Long, city.

The minutes of the previous meeting were read and approved.

Mr. Lichty reported that he had expected to have the premium list ready for distribution to-day, but he had been unable to receive the advertisements yet. He had received several advertisements to print for the printing and have over $100 to spare, which had been placed on special-premises.

Secretary reported that he had had communication from the Maryland Poultry and Pet Stock Association, stating that they would send a committee to visit the show of the home society.

The following names were placed in nomination for officers for the ensuing year:

Presidents, H. H. Taheny and George Geyer; Vice Presidents, Charles Lippold and M. L. Greder; Corresponding Secretary, Joseph E. Trisler; Recording Secretary, Jacob B. Lichty; Treasurer, T. Frank Evans; Executive Committee, Dr. E. H. Witmer, John E. Neff, Joseph R. Trisler, J. B. Long, Wm. A. Schoenberger, J. A. Stober.

On motion of Mr. Lippold, it was resolved that all premium birds should be required to score 87½ points, and that birds to take a special premium should score 90 points.

On motion, society adjourned.

FULTON FARMERS’ CLUB

The December meeting of the Fulton Farmers’ Club was held at the residence of Grace A. King, Saturday, December 8, 1881. The members present were.

Mr. King, John F. Brown, Josiah King, Josiah Brown, Solomon L. Gegg, Grace King and F. Henry Haines. Visitors, Nathan Harry, N. I. King, William M. Way, Clinton Way, William King, Robert Davenport, Samuel Daven-
port and Wilmer Moore. The Secretary’s report of the last meeting was read and approved.

Exhibits

Grace A. King exhibited some fine fall red streaked apples and ears of yellow corn. Wilmer Moore exhibited an apple of which he desired the name, but no one was able to name it. E. H. Haines exhibited some winter pears of an unknown variety. Nathan Hare exhibited corn and apples.

Questions and Answers

E. H. Haines—Can weathers be bought in the fall so as to be fed during the winter with profit to Josiah Brown, who was the only one present who had had much experience with sheep, said that they generally could. He said that when a farmer can get from two and a half to three dollars per head advance it is the best time to buy sheep. He always looks to be careful and select good ones as they pay much better than inferior, low priced sheep.

Nathan Harry gave an account of the experience of a neighbor of his who had been for many years a poultry raiser and who concluded to try sheep, but after a few years trial he gave up the business with disgust and returned to the cattle.

Montillion Brown: “What kind of apples are keeping the best and what is the best method of keeping them?” S. L. Gregg said he had several varieties but none keeping very well. The Russets are probably keeping the best but since he has taken them to the cellar they have not rotted as badly as they did in the warehouse. Josiah Brown has found that apples keep better on shelves in the cellar than in barrels.

Nathan Harry said his best way to keep apples is to pick them early and place them at once on shelves in the cellar and only two layers thick on the shelves. A good way is to construct a series of shelves, one above the other, about four feet wide and about 10 feet apart. Mark the shelves of slats and have them placed so to go to the back to both sides of them for convenience in eating over the fruit. The Wine Saps are keeping the best.

William W. Way was also convinced that on shelves was the proper way to keep apples. He keeps his on shelves and they are the best on top shelf. He recently visited an apple cellar in Clearfield county, which was made by digging into the ground about seven feet, and lining with boards, between which and the bank was a space filled with sawdust and the shelves of apples being placed on the sides of the shovels which were now about one hundred bushels of choice apples some of which were of summer varieties and still keeping well. In very warm weather ice is put in the cellar, and in very cold weather over a stove is used to keep the fruits from freezing, the air being kept at a temperature about thirty degrees.

The apple crop of Clearfield county the present season is very good, though the trees in general are quite of a stunted growth.

Wilmer Moore said he had tried wrapping apples in paper and keeping them in barrels in the cellar, and they kept well.

Elizabeth King—Is it better to salt meat on a board or to put it in pickle? Melissa Gregg prefers salt on a board. She rubs the meat three times in salt, makes a little pickle, using about one-fourth as much salt as pickles. If you’re lying about six weeks it is hung up dry, and it keeps well. Linliney King, Josiah Brown and Thomas J. King all prefer to put their meat in pickle.

William W. Way had tried salting on a board but found the meat to get moldy around the edges. He now packs his meat in a barrel and uses about three or four pounds of sugar with as much salt and a little tamarind in seven or eight hundred barrels. He keeps a pretty strong brine in the barrel—about four parts salt and eight parts water. When he has been hung up a sufficient time to dry, it is placed in boxes and covered with dry salt. E. H. Haines covers a shelf about half an inch deep with salt and on this he places his hams and shoulders with the skin side up. He keeps it very dry and if left lying about six weeks it is hung up dry, and it keeps well. Whatever salt then remains is rubbed off and the meat hung up. In this way it absorbs as much salt as is necessary to keep it and which is not more than the best way to do.

Josiah Brown: “Is there any advantage in fall plowing for corn?” S. L. Gregg has tried it but thinks that in most seasons there is no advantage in it, except that the work is done. If after freezing the corn in the fields it will do well, but if there is much alternate freezing and thawing it becomes very hard, and if there are many rains it is liable to wash.

Literary Exercises

Mary A. King read an essay on “Conversation.”

Lindley King read a selected article on raising fodder corn, in which the writer contends that farmers would do well to plant corn for salt, and as a substitute for hay. The fodder should be cut before it is ripe, let it lie on the ground a few days to wilt,
then tied into bundles and set up into shocks where it will keep in a tolerably green condition and make excellent winter feed.

Clintom Way read a selection, which had been handed him, on the scarcity of farmers in the New England States, stating that women competent and willing to do the indoor work of the farm are scarce or not to be had at all. The cooking is of a kind to make an outdoor laborer a dyspeptic; and a hired man, if one is needed, must find his food elsewhere. None of the girls on a farm are trained to remain on it.

Mabel A. Haines read a reply, stating that the fact is and has been for a long time that the farmer’s wife is expected to do the work of three or four women; and every important position offered for doing the work of one. She must be cook, laundry maid, dairy maid, kitchen girl, mother, wife, nurse, seamstress, and attend to the raising of the pigs, calves and poultry. Her husband, in his work, will have mowers, ploughs, etc., and she must draw water, bring in wood and do everything at a disadvantage. The farmer must not expect more from his hired wife than from his hired man. Who ever knew of a farmer’s wife to sit down in the middle of the day and rest for an hour? Yet every hired man claims this as his right. When the “woman question” has gone so far that men have to do the indoor farm work, and know how it is done, what will be the next step? Which changes will make women willing to come back again and do cheerfully and easily what will then be expected and desired of them.

Emma King recited “Lucy’s Lover.”

Should a farmer make a specialty of one particular kind of business, or follow what is known as a mixed husbandry? was adopted as a question for discussion at the next meeting, which will be held at Josiah Brown’s, on the first Saturday in next month.

LINNÉAN SOCIETY
The Society met on Saturday afternoon, Nov. 26, 1881, in the Hall of the Y. M. C. A., with President J. S. Stairs in the Chair, and Dr. M. L. Davis, Sec’y. The meeting was well attended, and with manifest interest in behalf of the Society.

After the usual preliminaries, the following donations were announced:

Museum.
A specimen of Oats from Huntingdonshire, Eng., selected from a growing spot in a field. A specimen of Black Tertiary Oats, from the stables of the O’Donovan, Rich. three and one hundred bushels per acre, and vetches to support them, and cut and fed green. Specimens of Tares or Vetches, Huntingdonshire, Eng., cut and fed green. Two specimens of Heather from the same locality, all of which were collected and donated by Mrs. P. E. Gibbons.

Library.


The Sugar Beet, for November, 1881.

Four Book Catalogue of Domestic and Domestica.

Historical.
A $20.00 bankbook on the Marietta and Susquehanna Trading Company, date January 20th, 1881; $1.00 bill on the Egg Harbor Bank, date Oct. 1, 1861; $2.00 bill on the Marine Bank of Baltimore, date April 20th, 1861; $2.00 bill on the Union Bank of Reading, date Dec. 1, 1860; $1.00 bill on the Bank of New Jersey, May 1st, 1855; a $2.00 bill on the Farmers’ and Merchants’ Bank, of Middletown Point, New Jersey, date May 1st, 1855. All of which were donated by Mr. Wm. H. Bulla.

Three envelopes containing 51 scraps of Biography and History, collected by the Curator.

Deferred Business.
The resolution offered by Dr. Davis at the July Meeting, was considered and adopted, and Dr. Davis was again appointed to the committee, theron, with power to appoint sub-committee, either from members or friends of the society. The object of this resolution is to take cognizance of such moral and material support as is received from the support of the committee for advancing the interest and efficiency of the society, and to report its progress from time to time at its meetings.

The committee to report upon the expediency of changing the constitution, and the number of meetings, referred the question back again to the society, and was discharged.

Dr. Davis offered the following resolution, which was unanimously adopted:

Resolved, That the society hold day and evening meetings alternately; the evening meetings to be on the last Friday evening of each alternate month, at 7 o’clock, p. m., and that the Secretary shall notify the members of the time and place of meeting.

Mr. R. L. Davis then read a letter from Dr. Davis, to the effect that the February meeting 1882, would be the twentieth anniversary of the society.

Mr. H. M. Herr, of Millersville, was proposed, as an active member of the society.

Under Science Group, there were some interesting details of the mode and manner of conducting society meetings in England.

After the usual pleasant intercourse, the society adjourned to meet in annual conclave, on Friday evening, December 30th, 1881.

AGRICULTURE.
The Great Grain States.
An extra census bulletin just issued, giving the cereal production of the United States by counties for the year ending June 30, 1880, shows the States which lead in the enormous grain yield of the country, Illinois may be said to lead the column. It produces three-fifths of the wheat, barley and rye, and twice as much rye as is produced in New York. California leads in barley and Pennsylvania in rye. New York is first in buckwheat, second in barley and third in rye and oats. The great wheat States are Illinois, which raised fifty-five million bushels; Indiana, forty-seven; Ohio, forty-four; Michigan, thirty-one; Pennsylvania, twenty-nine; Missouri, twenty-five; and Wisconsin, twenty-four. In these States were produced nearly three-fourths of the whole wheat crop of the country. Nearly a third of the entire corn yield of the country was raised in Illinois, where its product amounted to three hundred and twenty-five million bushels. The other great corn States are Iowa, which produced two hundred and seventy-five million bushels; Missouri, two hundred and two; Indiana, one hundred and fifteen; Ohio, one hundred and ten; and Michigan, one hundred and five. Of oats the product in Illinois was sixty-three million bushels; Iowa, fifty; New York, thirty-seven; Pennsylvania, thirty-three; Wisconsin, thirty-two; Ohio, twenty-eight; Minnesota, twenty-three; and Missouri, twenty, California and New York contribute nearly half of the barley crop of the United States, the former showing a production of twelve and the latter seven million bushels, while Iowa follows with four and Minnesota three million bushels. Buckwheat grown in the United States are credited to New York and Pennsylvania in the proportion of four and a half million bushels to the former and three and a half to the latter. The leading rye States are Pennsylvania, with a crop of three and a half million bushels, Illinois, New York, and Wisconsin, and Iowa and Ohio. We may add that the entire yield of the United States was four hundred and fifty-six million bushels of wheat, one million seven hundred and forty-four million of corn, four hundred and seven millions of oats, twenty million of rye, forty-four million of barley and twelve million of buckwheat.—New York Herald.

Broom Corn Seed
The “Valley Farmer” makes the following statement as to a new use of broom corn seed: Broom corn is likely, at no distant day, to revolutionize the cereal world. A sample of broom corn has been discovered by which the finest and most delicous broom can be made from the seed to the extent of over half its weight, and leave the other half a valuable food for beef and milk. The average yields per acre is from forty to eighty bushels. In some instances, five hundred bushels, or thirty thousand pounds, have been secured. Nor does it exhaust the soil as Indian corn, from the fact that it feeds on the deeper soil and assimilates its food from a pure crude state. It becomes, about ninety-five in five weeks, which, as an article of food, is growing in public esteem, and from the seed of which, a most nutritious flour can be obtained.

Lime in Agriculture.
All writers on agricultural subjects seem to agree that the use of lime on clay soil is of great benefit, crops thus treated showing the advantage of its mixture with the soil. A correspondent of the Farmers’ Review writes from France that the European farmers are apt to overlook the relations between lime and lime products in this respect, and concludes as follows:

“The extensive use of lime is excellent for clay soils. Argil augments in volume when moist—but diminishes when dry. Carbonate of lime possesses neither these properties, and under all circumstances it can be used to advantage, as it enables the air and heat to penetrate more readily, thus making the land friable. On light soils the action of lime is weak, and on those very light the use of lime is misplaced. But as the action of lime rapidly transforms the nutritive capital of the land, its success cannot be prevented unless rationalally supplemented by direct fertilizers, as farm yard manure, etc. Hence the adage, ‘Lime enriches the father, but ruins the children.’ If the soil have an excess of acids, lime ‘overcomes’ by neutralizing them: all cultivated soils are slightly acid, such being necessary for vegetation. Too much, acts directly on plants, and indirectly by the formation of soluble and insoluble nitrates of iron.”

New Seed Wheat Necessary.
Seed wheat is not so long lived as supposed, and wheat growers will do well to pay some heed to the facts, that of seed gathered one year and sown the next about two grains in a hundred will fail to grow; if two years, only fifteen; if three years, only thirty to forty; if four years, it may be reckoned as nil. The figures are based on the supposition that the wheat is sound and has not been injured by a damp harvest. The stories about Mummer wheat, etc., are all of one class and have no foundation, in fact, when viewed from a botanical standpoint it is of universal truth that whenever seed is sown the fact is that seed dies after an existence of three or four years. Fresh and new seed is as essential as a proper cultivation, to say the least. Another fact should be kept in view, and that is, that if the same kind of wheat be grown on the same land year after year, successively, the result will be a poor yield and an impoverished soil. A good rotation for this country is from wheat to barley and from barley to oats, as near as may be each year. At all events a great diversity of crops is necessary. Different kinds of wheat are supposed to contain the various elements in somewhat different proportions; for this reason a change of seed cannot help but be a benefit. There are enough standard names to allow a farmer to have various sorts to sow.

Notes on Indian Corn.
To improve corn, one should study the plants on which it intends to experiment. Let him take pat-
ter after the successful breeder of animals. The
butter, and the animals which are raised. Let a
breeder of corn select some of the best stalks in his
field, cover the young ears before the “silk” comes
in sight. Then take pollen from a stalk very
much like the one which is to be the seed ear. Save
the best ear, plant a good place by itself, and
cultivate well. Continuously, this work, and in a few
few years he can make almost anything he chooses of
his corn. One should let no possibility of corn escape his attention. See which endures dry weather
best; notice the height of the upper ear, the stalks,
the earliness, the number of nodes, whether the
stalks are slender or stout, whether the ears have
long or short husks, long or short, large or small
shanks, etc. This is a fascinating study, and he
who will begin an intelligent series of expert
measurements, in the few years, with corn, will be
quite sure to succeed. He will interest and profit
himself, and also become a benefactor to his race.

American Agriculturist.

Horticultural Pure.

Bitter Rot in Apples.

Bitter rot in apples is becoming quite prevalent in
this country among the older trees. Three plans are
proposed for its eradication: 
1. Dent a single tree with a peck of apples. 
2. Let a tree become infected with the disease,
and allow it to grow and bear fruit. 

The Crazy Farmer gives this good suggestion to
young gardeners who have no room in the house for
their young plants which want some shelter at night. 

Then, and until then, your fish, which
already egg-and-bread-crumbed, is launched lightly
in a pan of hot oil, is a dish which
will keep it soft, and, therefore, to the thickness
of the fish, from two to three minutes should
be given to it; then turn gently with flat tongues.

Frisco Pudding.—Take quarter of a pound of finely
ground bread crumbs, half a pound of finely
chopped figs, three ounces of white sugar, six ounces of finely
chopped scotch, with grated nutmeg to taste. Put
the figs in a teaspoonful of warm milk near the fire
until thoroughly soaked, then add the other ingredients;
mix well, put into a mould and boil for four hours.
Serve with rich liquid sauce.

Scottish Haggis Pudding.—Take four pounds—neck
and breast—of mutton, the latter cut into neat square
pieces. Cut into dice, very small, turnips, carrots,
onion, cauliflower and a very little cabbidge in
quantity to fill a quart bowl; put these on the floor
of the loaf. Boil the haggis in the oven for five hours;
add a few peas and some blades of parsley.

When ready, serve in a tureen, the meat with the rest,
after seasoning to taste.

Scotch Barley Broth.—Take the middle cut of
a neck of mutton, put on with a boil of water until
it is tender, when the liquid is clear, let it cool,
then add in half a pint of milk, and encore the
water cold, a breakfast cupful of pearl barley.
Cut up into dice, quite small, turnips, carrots,
green onion, or a little leek and cauliflower in quantity double
that of barley. When the soup is boiling add those,
and when well cooked, put in a pint of milk and a
broth boll two hours. Then serve the meat with
some of the broth as gravy.

Children’s Pudding.—Put one teaspoonful of
Carolina rice and one tablespoonful of tapioca into
a three-pint pudding dish, add one tablespoonful of
coarse brown sugar and a small pinch of salt. Let

This sook close to the fire, and let it be constantly
stirred. Then put very little bits of butter on the top,
and put it in a modern oven, for 1½ hour stir it often from the bottom; then leave it. In
two hours you will have a pudding far exceeding in
richness one made with eggs, and with a delicious
flavor. Sago, or tapioca, or rice alone, is equally
good.

Creme Cakes.—Into half a pint of good cream stir
a plash of salt and as much flour as will make a
soft batter; then add a teaspoonful of Caroline of
soda; bake at once in a shallow tin, in a very quick
oven, and serve hot, with sifted sugar over. If liked
a little grnt of sugar may be stirred in with the
other ingredients.

Chicken with Oka.—Serve and draw a large
tench chicken, cut in small pieces, put in a sauce
pan with two ounces of butter, two ounces of lean
ham and an onion cut in squares; stir on the fire
until they are well browned; then add a pint of
water, and simmer fifteen minutes; skin off the fat, remove the
parsley, leek and celery, pour into a soup-tureen and serve.

Live Stock.

Garget in Cows.

A writer says that he has never failed to cure garget
by the use of beans. He feeds one pint of bean meal,
mixed with other meal, for four successive weeks.
This quantity suffices, and is the worst cases. He thinks if cows were fed with bean meal several times a year they would never be troubled with garget.

“Doctoring” Farm Animals.

It is a poor practice to be continually doing
animals. When we see a farmer frequently visiting
the drug store for medicine for his stock, the impression left
is that he is sick; they are worse off than the others,
and are controlled by it. He is the “sick one,” and needs the
aid of a good physician—some one to show him that
his cows are healthy, and that all the other
animals, that clean, warm stables and plenty of good feed,
are the only cure for their ailments. And if
the doctor will come to his farm, the wrong
aspirations to the rights of the right sort for the health of the farm animals
and their profitable growth and increase. Sickmess
will sometimes come with the very best management,
and when it does it is better to employ skilled hands
to cure them. The farmer and stock上看 that
perhaps keep the valuable animal himself, that under
proper treatment might have been saved at a trifling
Overfeeding with Hay.

Now that cows are about going into winter quar-
ters, it is well to review the question of the
quantity of hay. We often hear dairymen talk as if the height of
the hays in winter was to get all the hay down that is possible to cram into
them. “I give my cows all the good hay I can get to eat,”
and this is a prevalent idea among dairy farmers.
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the hays in winter was to get all the hay down that is possible to cram into
them. “I give my cows all the good hay I can get to eat,”
and this is a prevalent idea among dairy farmers. Cows can eat very well and be sure that they have enough food for their feed, but they will not
endure the physical to crowd them with a great bale of hay of
any quality. It is not wise to crowd any animal with a

Cows should have no more hay than they have
time to manage, and if this is not enough for their
needs they should have some easy digestion
and watered food along with it. The quantity of
hay given should never exceed eight bales, and it is often enough to give time
for properly ruminating.—National Live Stock Jour-

[December,}
Fattening Hogs.

Fattening is accomplished most profitably as the cool weather advices, with good shelter and warm quarters in which to lie. The feeding place should be in full sun, and corn or the carrots fed free, and mucked out at night and morning, as much as they will eat up clean, and stop when they are just full, and mucked out at night and morning. The fatteners become the closer their quarters may be. In the early stages of feed, they need room for exercise, of wheat, bran, charcoal, and sulphur occasionally to keep them in condition and increase the size of bone and muscle, for when quite heavy they need only rest.

Signs of a Good Cow.

A long, slender tail is not in itself any indication of a good cow. It is a sign of good breeding, and well-bred cows are generally better cows than scrubs. In a good cow there are several physical marks of excellence; the head is long and thin, the face broad and dished, the eye large, the neck thin and long, the dewlap is light, the shoulders small, the back straight and broad, the belly large and deep, the udder large, the legs slender, the corpse long, and the tail long and fine, the skin soft and mealy; if one of these be lacking, the chain is broken and the cow's character doubtful.

A Prolific Mule.

The Arabs have a proverb to the effect that "when the mule has young, men will become women and women will become men" to induce its kind. In this hybrid between the horse and the ass, the power of reproduction is lost; at least the number of foals is much less than it is in blood of horse. The London Live Stock Journal recently pointed out that they breed by the female, and a mule is well authenticated: "One of the curiosities in the Park Jardin d'Acclimatation is a mule, named Catherine, which was purchased several years ago, and while on her way througth Paris with a Barb stallion and a foal by this horse, to the exhibition at Vienna. While in the Park, the mule was sold, and the stallion in foal to the same horse. Since she has been in Paris, the mule has been the admiration of a large circle of horsemen; she is said to be two and a half years old, and is claimed to be the finest mule in the world. Her fifth and last produce is a four-months' soft foal by the Barb she referred to above, and has been named Krommland.

Catarh in Sheep.

When sheep are exposed to the hot sun and then a sudden shower, or to the hot sun with wet grass, they take cold, and the frequent result is catarh, with sneezing and discharge at the nose. The best way to prevent the inflammation often spreads to the lungs and causes pneumonia or pleurisy. The remedy is to keep the sheep in close quarters, and to keep the pint of tar-water once a day. Tar-water is made by stirring a tablespoonful of pine tar in a gallon of water, and then keep it in a jar for use, and is always valuable in a flock.

Killing Lice on Stock.

"One pound of tobacco and six ounces of borax boiled in a gallon of water is sufficient enough to make a thick paste," says the American Agriculturist. "The mixture of boracic acid and soap in this proportion, to one of four, makes a compound easy to apply, and very effective. It is as well to use a mixture of excellent lime with a little carabolic acid, is perhaps the most convenient mixture to make, and is equally as effective. Animals affected with lice can be cured. Better care and higher feeding to overcome the drain that those parasites make upon the system.

The Shropshire Sheep.

The development of great industries in iron and coal in the districts of Shropshire, at the beginning of the century, disposed of vast sums, and increasing demand for mutton. To meet this demand the farmers of that part of the country turned their attention to mutton sheep. Shropshires were sought for from the midland and southern counties, and at time Shropshire became not only a breding centre for the wool breed, but also an important breed, in the "natives" of the Southdowns, the Suffolk, and the Dorsets. These two-breed, the Southdowns, have been combined. On account of this complex admixture of blood, the Shropshire breed is one that varies widely in character. The original sheep was horned, black or brown-faced, hardy and free from disease, producing 50 to 50 pounds of mutton to a carcass, and a fleece of two pounds of moderately fine wool. The present Shropshires are without horns, the legs and face dark or spotted with gray, the neck thick, the head well made, the neck and legs straight, and the legs strong. They are easy keepers, hardy, fatness quickly, and at the age of two years their fleece averages 7 pounds, and at the age of three years a little heavier, averaging 8 pounds, and more than 10 pounds. The Shropshire is a valuable sheep for American farmers.—American Agriculturist.

Sulphur for Sheep.

Mix a little sulphur with salt and feed occasionally to sheep. It will effectually destroy sheep ticks. The same remedy is said to be very effectual in the case of troublesomelice. Mix with salt well and repays the trouble of keeping a supply for battle against these pests. Sulphur, with seven of salt, or free applied there will be no trouble with vermin.

POULTRY

Care of Chickens.

Proper care is essential to success; for a person may have the best known breeds and if they are not properly cared for they will prove a failure. The management and care of chickens is of more importance than is generally considered, although it is supposed to be a simple matter. This is an age of self-sufficiency, every poultry keeper knows, or at least pretends to, how much the health of the flocks depends on the sanitary conditions of the houses. The greatest neglect in the management of chickens is feeding them from the start with too much corn meal. It is to cause a great, in a great measure, that there are so many diseased flocks of which die careless, often before they have fully feathered up. We know there are many persons keeping poultry who cling to the old-fashioned idea of feeding them only with the corn mixture, which cresses because they have been used to it; and also because, with the care of poultry, it is less likely to be torted on corneal dough and hard corn, hundreds of young cocks which started their existence with the healthy. The first food for fowls should be as near the nature of the yolk as we can obtain. They should not have corn meal alone; even when they are three or four weeks old, unless it be a little scalded or cooked meal; occasionally dry-cooked eggs at first, supplemented with stale breadcrumbs and milk, then a little oatmeal cake soaked in milk, wheat screen in the bottom, when a light meal, cooked daily, have usually given the best results.—Poultry Monthly.

Fattening for Market.

November is usually the last month of the season fowls enjoy outdoor range. When we are obliged to confine or two full-grown, husky cock-crows and pullets in contracted places our labors become too tiresome to be of much profit. We keep them for a year or more. We all know that of fish feed, which is the result of our experiments. We are, of course, speaking of discreet young stock that first-class breeders consider. We should not keep them two or three weeks cooped in shady and airy places and fed liberally with good chafing and precautions. They are cooked thoroughly, three or four times a day, when they will be ready to slaughter.

It is not permissible to fatten hens after their second year, unless in particular cases, when you know them to be the best layers and breeders. It is not, however, essential to keep them as long as the demand and increase going on steadily year after year.—Poultry Monthly.

Effect of Food on Eggs.

All varieties of poultry can be kept well and economically upon screenings composed of all seeds, of various kinds, and the fruit of seasoned, and decaying meat scraps and nutty grain. This may be an inducement for keeping poultry, but we have occasionally seen cases where the per- manent disease of fowls, where an excellent quality of eggs and flesh is de- manded, cannot be cured. It is a great mistake to suppose that eggs are decaying fowl fed. The quality of eggs and ducklings is that poultry should be vigorous and healthy in order that their digestive organs may do their due work. In this way the shell is taken to see that the poultry house is properly venti- lated and not kept too warm, as a vibrated atmosphere has very much to do with the profit and health of the flock. Poultry, to be kept profitably, must be kept in a healthy condition; this condition may, however, be realized when kept simply as the scavengers of the farmyard. When kept in this way, instead of get- ting efficient food and shelter, but the quality of the product is inferior. Corn and wheat produce the richest flesh and eggs, and should be the principal food employed. Buckwheat and decoying vegetables are the poorest foods, not only for quality, but color

Scaly Legs.

An authority says that here badly afflicted with scaly legs should not be used as sires, as the disease will be communicated to the chicks. The disease is caused by a variety of mite, and appears to us to allow the hen to breed the chicks, even if she hatched the eggs. It is always well to set several stools of eggs from a different hen. Early broods, however, had better be taken care of by their own mother, as during the cold weather, cannot keep more than ten or twelve chicks warm.

Hen Lice and Kerosene.

I wish to tell my readers not to be afraid of using kerosene in poultry houses. It has killed all the bedbugs and lice that have not infested the fowls in the least. I was in Europe in 1878, and in all my travels I did not know of a single house with bedbugs. In the country districts, they are not used for any way, and last year there was thousands of red and grey lice and the common bed bug. Every cow stable in the country districts, and the little kitchen, and my poultry looked to be (and were) in a very filthy. I could not get into my houses for the bedbugs. All the lice, I found, were killed by kerosene. I really drooled to get near my poultry or to touch them. I tried several times to use kerosene, but I soon gave it up, for it was not at all efficient. I used kerosene quite fearless, as I have not found what bed infestations of in- munity to my fowls or old, and I pay ten dollars a gallon for the common kerosene; keep a two-gallon can of kerosene in my fowls, and keep a can of kerosene, (two weeks) I sprinkled the liquid on the perches and over the floor, through a small hole in the cork of the can. I have proved by actual test that keros- ene will kill bed, and I, but not the fowls.—Country Gentleman.

LITERARY AND PERSONAL

Papers Received.

The SHEPHERDS' NATIONAL JOURNAL, Extra; devoted to the wool market. Chester Hill, Ohio. $1 a year. monthly. Address P. O. Box 8.

The New Northwest.—Devoted to the Interests of railroad investments, land and settlement. Philadelphia, Pa. 8 page quart.; monthly, 50 cents a year. 11 South Third street.

The Sheepomen's Mirrour, Boston, Mass., semi-monthly; 60 cents a year; monthly. Of course, as its title imports, this is a religious paper; and, if we were too obstinate to apprehend much from this title alone, the editorials, "How to read the Bible" and "How to love God," the effectual

Buckwheat, and it typographic is good, and its editorial, contributions and selections are good; but, there is something discordant in its list of premiums. Abstractly speaking, premiums at best are not far removed from bribery, and for people to do something they would not think of doing but for the premium. Publishers may justify themselves with the reflection that they have been instrumental in getting a good paper into the hands of a sinner than a profane. But it is another way; the man who will only subscribe for a paper by reason of such a bribe, won't give a fig for the paper, and values only the bribe. Be that as it may, however, the custom is a very general one, whether it is right or wrong. In the list afterwards the editor (presumably) says.—"We have made arrangements with Wm. Reed & Sons, by which we are enabled to offer three styles of..."
As a special inducement to subscribers, we will furnish the LANCASTER FARMER and the Farm and Garden for 1882, at the low price of $1.25, and to a club of five, to one address, for $5.00. Knowing what the journal is we consider this a rare opportunity. It is practically giving two dollars worth for one.

THE POULTRY REVIEW AND STOCK JOURNAL.—
A quarto of 12 pages with tinted covers, published in the interest of poultry breeders, fanciers and growers, by Grant Parrish, Washington, D. C., at 50c. per annum, monthly. This journal is designed to cover poultry matters generally, the duties and opportunities for our contributors alike over the country. No. 3, Vol. 1 (for November) of this sprightly journal is before us, full of interesting matter to poultrymen, and we observe pays a deserved compliment to our local industry, extolling its exhibitions the best held in Pennsylvania, which is no small praise coming from such a competent source.

THE SUNDAY SCHOOL TIMES, the best publication on that special subject in the world, and one that ought to be in the hands of every Sunday school teacher in the country. It is a superb royal quarto of 16 pages, and is published weekly. A quarto of 16 pages, and may be had on trial for three months at 50c. 225,000 copies extra of the number for November 29, have been issued and distributed, and it is in the hands of more than 40,000 teachers of all denominations.

"Armour, or What are you Going to do about it.
By C. H. Anderson, Huntington, Pa., and published by W. B. Smith & Co., New York." This is a story of 272 pages, lately published, and which will no doubt be regarded as a meritorious production by persons of certain political predilections, who are happy in seeing their political opponents castigated and rendered odious. The main object of the book appears to be to de tory, disparage and disparage the personal and political characters of several leading editors. In conclusion, it is a very fine book, and perhaps it is not unworthy of the attention at home and in the National Councils. Farther than this, and that the story is carried on with some spirit and hairbreadth printed, no much can be said in its favor.

REPORT OF THE ENTOMOLOGIST OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, FOR THE YEAR 1889, by H. B. Bigelow, United States Department of Agriculture, which we cannot expect to receive through the ordinary channels before next spring or summer, unless some expedients mode of issue and distribution exists now foreseen. We have, however, the good fortune and thanks, and whilst we deplore the visiableness of that capricious tenure through which its entomological labors have been transferred to a different field of use, we are gratified to know that his present position will enable him to specialize more amply this department, without which it would be a mere shadow.

This report is a royal quarto of 120 pages, with 24 full pages of illustration, index and title page, beauteous, illustrated, published by the American Entomological Company, and containing an introductory. Part one contains miscellaneous insects, and part two is devoted exclusively to lepidoptera. Part three describes and discusses the parasites that infect the eschallons, scale insects, etc. The report is illustrated by the method of section and description of insect remedies, which, after all is said and done, is the best that the gardener and the fruit grower. In looking over the places and their explanations (and all this we have found thorough and correct) and the general order of new species, with original illustrations. The coco and the Aphis are very perishable, and their name is well earned. Although these are often weak and inactive insects, they are not so numerous as they研讨会 upon that point. It is a very important and useful volume, and it is published with great care and skill, for it is the best and most complete work of its kind that we have ever seen. Were it not that they have myriad parasites that prey upon them, their numbers and destructions would be overwhelming.
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FRUITS may be permitted to ripen in their native climate, and can be transported to any part of the world. The advantage in this art, is that it can be done by the most limited person, and can be done at home, treated in their original natural condition, and without any expense. All grain, flour, meal, etc., are held in their normal condition.

HATCHER, after being treated by this process.

Dead hens, huddled together before decomposition sets in, can be held in a natural condition for weeks, without puncturing the skin or mutilating the body in any way. Hence the great value of Ozone to undertakers.

There is no chance in the slightest part of an article preserved by Ozone, and no trace of any foreign or unnatural odor or taste. The process is so simple that a child can operate as well and as successfully as a man. There is no expense of apparatus or machinery required.

A variety of packages, such as eggs, meat, fish, etc., can be treated at one time, without additional trouble or expense.

In fact, there is nothing that Ozone will not preserve. Think of everything you can think to be liable to sour, decay, or spoil, and then remember that we guarantee that Ozone will preserve it in exactly the condition in which you bought it. Ozone will not destroy, but will improve the food. We guarantee that Ozone will preserve this or that article—it will preserve anything and everything you can think of. The only thing which a live man cannot make, is any amount of money, for $1,000 to $10,000 a year, that he pleases. We desire to get a live man interested in any county in the United States, in whose hands we can place this Preservative, and through him secure the business which every county ought to produce.

A FORTUNE Awaits any Man who Secures Control of OZOME in any Territory or County.

A. C. Brown, Marion, Ohio, has cleared $2,000 in two months. $2 for a test package, and $2 for the first investment.

Woods Brothers, Lebanon, Warren County, Ohio, made $50,000 on eggs purchased in August and sold November 1st, for a test package without any expense. We will also prove, free of charge, any article that is brought or sent to us, and return it to the sender, for him to keep and test.

F. K. Raymond, Morristown, Belmont Co., Ohio, is clearing $2,000 a month in handling and selling Ozone. $2 for a test package, and $2 for the first investment.

H. C. Weidler, Charlotte, Eaton Co., Mich., has cleared $1,000 a month since August, $2 for a test package was his first investment.

H. Gaylord, 30 Salle St., Chicago, is preserving eggs, fruit, etc., for the commission men of Chicago, charging 50c per dozen for eggs, and other articles in proportion. He is preserving 50,000 eggs per day, and on his last order for a test package was his first investment.

The Cincinnati Food Co., West 49th Seventh Street, is making $500 a month in handling brewers' malt, preserving eggs, fruit, etc., and has never spent more than $2 for a test package, and $2 for the first investment, which is proving to be a great fortune for him, and is perfectly sweet for months.

The gentlemen to whom we have asked in the privilege of publishing. There are scores of others. Write to any of the above parties and get the evidence direct.

Now, if you want to know what we mean by the subject we have said in this paper, we propose to place in your hands the means of proving for yourself that we have not claimed half enough. To any person who doubts any of these statements, and who is interested sufficiently to make the trip, we will pay all traveling and hotel expenses for a visit to this city, if we fail to prove any statement that we have made.

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A test package of Ozone, containing a sufficient quantity to preserve one thousand dozen eggs, or other articles in proportion, is $2. This package will enable the applicant to pursue any line of tests and experiments he desires, and thus satisfy himself as to the extraordinary merits of Ozone as a Preservative. After having thus satisfied himself, and had time to look the field over, to determine what he wished to do in the future—whether to sell the article to others or to confine it to his own use, or any other line of poultry, which is best suited to him, to his township, county, or state—we will enter into an arrangement with him, that will make a fortune for him and give us good profits. We will give exclusive township or county privileges to the first responsible and desirous to control the business in his locality. The name of the company is secured at the expense of the company, and will be secured in any special territory, will enjoy a monopoly which will surely entitle him to a fortune.

Don't let a day pass until you have ordered a Test Package, and if you desire to secure an exclusive privilege we urge you now and during the present season by securing every mail—many thousands of people are applying for our test package and we will send it C. O. D. but this will put you to the expense of charges for return money. Our correspondence is very large; we have all we can do to take care of the hundreds of orders placed and our working force is at full speed. Therefore we cannot give any attention to letters which do not order Ozone. If you think of any article that you are anxious about Ozone preserving remember we guarantee that it will preserve it, no matter what it is.

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TERMS OF SUBSCRIPTION:

ONE DOLLAR PER ANNUM,
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