

The committee to prepare business for the meeting reported the following questions for discussion:

"Why should early grown tobacco cure lighter than late?"

"What causes what is known as black rot in tobacco, noticed so frequently in the present planting?"

In answer to the first question Mr. Brady answered that it was because the early grown plants matured and were housed during the hottest and lightest part of the summer; that the light and heat cured the leaf too rapidly. Plants set out later mature later in the summer, when the days are shorter and the light not so strong. This causes the leaf to cure slower and gives it a darker hue. He thought spearing the stem had a tendency to make the tobacco cure lighter. He thought tobacco should not be planted earlier than the second week in June.

President Kendig agreed with Mr. Brady that the stronger the light was the lighter the tobacco would cure, and *vice versa*.

Henry Shiffner believed that if proper attention were given to early cut tobacco it would cure just as well and as dark as that cut later. Tobacco in curing wants moisture, and if this is given it will cure dark. He closes his shed during the day and opens it every night to let in the damp air. After cutting off his tobacco he takes it directly to the shed and hangs it up, before it has wilted.

Sylvester Kennedy said that before the society undertook to decide why it is that early planted tobacco cures lighter than late it should be ascertained whether it does cure lighter. If it does not, then there is an end of the question. He was inclined to think there were other causes than early planting that caused the leaf to cure light. If the plant is allowed to become too mature the leaf will cure light; if cut too young it will cure green. His own early planted tobacco had turned out better than that which he planted later, and cured quite as dark. It is well known that grass cut off and dried rapidly makes better hay and has a better color than that which dries slowly. Why should not the same effect follow the rapid drying of tobacco? All that is wanted is to cure it in the shade in a dark place. He believes that early plants will generally do better than late ones, though a good deal, of course, depends on the condition of the season.

Henry Shiffner said one reason growers have light tobacco from their early plants is because they top them too high. The season being early they think they can get a few more leaves on a stalk, forgetting that the earliest plants are so near mature that they have no strength to fill out an additional number of leaves. Early tobacco should not be topped any higher than that planted late.

Webster L. Hershey said that his crop of 1877 may have been an exception to the general rule, but he had noticed that that which was cut on or before the 15th of August cured darker than that which was cut on or after September 1st. As the early tobacco grows when the days are longest and lightest it may make some difference.

The question, "What causes what is known as black rot in tobacco?" was postponed for discussion at the next meeting.

Place of Meeting.

After some discussion relative to procuring a permanent place of meeting, a committee appointed at a former meeting was continued, with instructions to confer with the officers of the agricultural and horticultural society and ascertain if their room could be secured for the meetings of this society.

Henry Shiffner and Sylvester Kennedy made brief speeches to the effect that if the tobacco growers did not take enough interest in the society to become members of it, and pay the trifling annual membership fee of fifty cents, it might be well to disband.

The speaker did not think it fair that a dozen men should bear all the expenses of an organization in which all the tobacco growers of the county were interested. If the society receives no better encouragement let it disband, and those members who choose to do so can meet each other informally and have a social interchange of views as to growing tobacco. It is not fair that a few should do all the work, bear all the expenses, and allow the whole county to avail themselves of the benefits of their labors by sitting at home and reading the proceedings in the newspapers. It was suggested that the reporters "pitch into" this class of farmers, and show them that duty and interest demanded that they should connect themselves with the society.

Foxy Tobacco.

Mr. Kennedy asked for information as to what caused the foxy appearance that tobacco sometimes has, and what will prevent it? He was of the opinion that brine or weak lye might act as a remedy.

John Brady said he had heard that pulling the stalk enough to disturb the earth about the roots of the plant, but not enough to injure its growth, had been adopted with good results.

After some other remarks had been made it was resolved to continue the question for discussion at next meeting.

Frank R. Diffenderffer and Clare Carpenter were proposed and elected members of the society.

A bill of \$5 for services as janitor was presented by Jacob Heline and paid. Adjourned.

BEE-KEEPERS' ASSOCIATION.

The regular quarterly meeting of the Lancaster County Bee-keepers' Association was held in the room of the Agricultural Society, City Hall, Monday afternoon, August 12.

The meeting was called to order by President P. S. Reist.

The following members were present: Messrs P. S. Reist, President, Litz; Elias Hershey, Paradise; J. G. Martin, Earl; Amos G. Wenger, Mastersonville; Tobias Seachrist, Manor; Samuel Erb, Warwick; G. S. Lintner, Lancaster; John Metzler, West Earl; Isaac Shirk, West Earl; J. F. Hershey, Mount Joy; D. T. Seldomridge, John Huber, Pequea; Daniel Kreider, East Lampeter; J. F. Shaeffer, Upper Leacock.

The President then read a paper closing as follows:

There are three kinds of bees in every prosperous hive—the drones, the queen and the workers. The workers constitute the main body of the colony. These do all the labor, but live only about two months, and are the smallest. The drones are the male bees, fewer of which are raised in a hive, and are always destroyed after the honey season. They fecundate the queen, do no other work and are clumsy and nearly as large as the queen herself, but are drones in every sense of the word.

The queen bee is the only perfect female in the hive. She is the mother of all the others. No swarm can exist and prosper without the queen. There can never be two queen bees in one hive. She leaves the hive when about seven days old to meet the drones for the purpose of becoming fertilized, and never leaves the hive again, except with a swarm. The queen sometimes lives three years. She is capable of laying one hundred thousand eggs in one season.

There are four substances secreted in gathering, by the bees, viz: pollen, or bee bread, "propolis," wax and honey.

A great deal depends on the management of bees and the handling thereof. There is a spring, summer and winter management, natural and artificial swarming, feeding, the kinds of hives or boxes; the destruction of fruit. These subjects, together with the management necessary for every month in the year, will make good questions for our consideration to-day. The study of bee life and how to treat them so as to receive the most good from their labors, is a most interesting one and well deserves the attention of both farmers and scientists.

Reports as to the condition of the honey interest being called for,

G. S. Lintner said that his bees had not done so well this year as last year. In the spring he started with eight hives and had increased the number by swarming to 16 hives, and had left about 75 pounds of surplus honey. After he had divided his hives in the spring the weather became cold, and his bees have not done so well as they would have done under more favorable conditions.

J. F. Hershey said that during the cold weather of the spring his bees were in a starving condition, and would have died had he not fed them. He started with 62 hives, and had about the same number now, besides some 40 small hives started to raise queens. Since July his bees have been doing well, and he would have had more surplus honey had he not raised so many queens. He lost no bees from inclement weather during the winter or spring.

John Huber, of Pequea, reported that he kept the black bee. Those colonies which had not swarmed made a good deal of honey up to time of haymaking, from which time they have not done so well.

Elias Hershey stated that he started in the spring with 15 hives and had increased them to 27, and that they had averaged about 25 pounds of surplus honey per hive, and are still busy making honey. He keeps the Italian bee.

J. G. Martin, of Earl, started in the spring with 15 hives and had now 25, besides which he had sold six hives; returned some swarms to the hive. He had taken off during the season about 500 pounds of honey, and his bees are still doing well. He had used with perfect success a good deal of comb foundation in the main hives. He lost no bees during swarming, though in the cold spring weather they had done very poorly.

J. B. Eshleman, who could not be present, sent in a report to the effect that he had eight natural and one artificial swarm. In the spring all his stock was strong and vigorous, but the cold weather had interfered with them. He had, however, secured about 500 pounds of honey, and the late refreshing rains were favorable for a continuance of honey-making.

Daniel Kreider, of East Lampeter, said he started with 9 hives, has now 14 hives, sold one hive, and two he lost. He expects to take out about 250 pounds of honey. The second crop of red clover being very good, the bees are hard at work and doing well.

J. F. Sheaffer, of Upper Leacock, stated that he started last spring with 9 hives, has now 20, some of his hives having swarmed once, and some twice. The young bees are doing well, with boxes full and hard at work. He never before saw Italian bees do better in July; he has taken off no honey yet except for family use. Some have made two boxes full of

20 pounds each. Had one swarm of black bees that did not do well; done nothing in July. Sold one hive last year to Martin R. Shaeffer for \$25, insured for 60 pounds. It swarmed twice, and the three hives have made over 130 pounds. At the present time he has seven stocks and plenty of surplus honey.

B. T. Seldomridge says his bees have done well this season. He had 8 hives and sold 3, all of which swarmed twice. Of the remaining 5, 2 swarmed naturally and the other he swarmed on June 17. The hive has a 20 pound box of honey filled, and another box is fast filling. He keeps Italian bees. Never knew them to do so well in July before.

Amos G. Wenger, of Mastersonville, had several hives of Italian bees, one of which swarmed on the 26th of April, and the other on the 5th of May. He had, unfortunately, got two queens in one hive; one of them was killed and the other did not do so well. He thinks he will get about 350 pounds of honey.

Peter S. Reist stated that in those sections where the corn was doing well, the bees were doing well, and vice versa, which would indicate that enough rain to make a good crop of corn was necessary to make a good crop of honey.

J. F. Hershey said the rule was that in dry weather (if not too dry) the bees made the most honey.

Mr. Reist said that he had started with 30 stands, and had given 15 of them to a man to keep "on the shares." He had 17 swarms and a good deal of honey, but cannot say how much; but the bees are doing well and still storing honey.

Questions Discussed.

The President read a number of questions for discussion, and the following were discussed:

"Do bees select a new home before they leave the hive?" and how can they be prevented from going away?"

J. F. Hershey said he thought they did not select a new home before swarming. They swarm, form in clusters, and then if not cared for send out skirmishers to seek a suitable home and go to it. The best way to prevent them from going away is to cut one of the wings of the queen, so that she cannot fly. When she falls down the bees will follow her and may then be easily hived.

J. G. Martin says he always cuts the queen's wing and has never lost a swarm, but has occasionally lost the queen. In cutting the wing he takes off about one-half of the largest part of one of the wings, the wings being double. When he lost his queens, as above stated, the bees arose and returned to the hive in which there were queen cells.

Mr. Lintner preferred dividing the hives, and thus saving the trouble of swarming. If the bees should swarm they could be bottled and brought back by the reflection of a looking-glass; he had frequently done this, and related several instances in which he was always successful.

J. T. Sheaffer believed that throwing stones, sticks or dirt at them was as good a way as any to bring back a runaway swarm. Let them know that you are their master and they will not go far from home.

Elias Hershey thought sometimes the bees know where they are going to before they swarmed, and sometimes they do not.

The President was inclined to believe that they knew beforehand where they were going. It might be that they were sometimes confused and lost their reckoning when clustered, and then sent off skirmishers to find their destined home.

J. F. Hershey said he had known cases where bees were seen busily working in a tree and next day not a bee was to be seen there. In a day or two afterwards, however, a swarm of bees would be found in the tree. The pioneers had evidently been there, prepared the place and piloted the swarm to it.

"Do Bees Gather Honey or Make It?"

J. F. Hershey said they gather it. If they made it it would always be of the same quality. After being gathered it undergoes no process except that caused by the evaporation of the water it contains.

J. G. Martin said he had fed sugar syrup to bees and it never changed—never became honey.

Mr. J. F. Sheaffer agreed with Mr. Hershey. The flower from which the honey is gathered gives it its flavor. If from clover it will have a clover flavor; if from apple blossom an apple flavor.

"What is Honey Dew?"

Elias Hershey and J. G. Martin said it was the deposit left on leaves by certain species of aphides.

"Can a Locality Be Overstocked with Bees?"

J. F. Hershey said 18 years ago there were 13 stands of honey within a mile circuit of his residence. Now there are 250 stands, and each hive stores as much honey as they had done formerly. He thinks there is no danger of overstocking.

The President asked for best remedy for bee stings. Elias Hershey said, "put honey on the wound at once."

J. F. Sheaffer said "put on spirits of ammonia, or as a substitute any alkali, as soda, salaratus, etc., but the best way is not to get stung."

J. F. Hershey said all he does is to extract the sting. One can get used to be stung. His flesh, if stung, does not now swell as it did formerly. To re-

duce the swelling a piece of raw onion applied is good.

The President said he was badly stung on the nose recently, and reduced the swelling by applying cold water.

Elias Hershey asked: "What is the best way to get bees out of the honey box?"

Mr. B. T. Seldomridge said his plan was to bore a hole in the box, blow tobacco smoke into it, and the bees will leave it in a minute, so that you can safely remove the honey.

J. F. Hershey said too much smoke would flavor the honey with tobacco. His plan was to lift off a full box from the top, replace it with an empty box, and tap on it. Then all the bees will rise into the empty box and the full boxes below may be removed.

President Reist asked which was preferable, natural or artificial swarming?

Mr. Lintner answered that artificial swarming is preferable to natural swarming if you want to raise stock. If honey is what you want let the bees swarm naturally. His plan in artificial swarming is to make three hives out of two, by driving all the bees from hive No. 1 into an empty hive; set the empty hive where No. 1 sat; set No. 1 where No. 2 sat; and set No. 2 in a new place. The hives out of which the bees have been driven and in which there is nothing but brood will be supplied from No. 2 hive, which originally sat there, while No. 2 will still have enough left to stock it.

J. F. Sheaffer described a somewhat similar plan of artificial swarming, but advised amateurs or those who did not thoroughly understand bee culture, or who did not have the time or inclination to pay constant attention to them, to forego artificial swarming and let bees take their natural course in swarming.

President Reist stated that he now left his bees on their summer stands during the winter. He formerly wintered them in the cellar. Which is the best plan?

J. F. Sheaffer said he always leaves his bees on the summer stands; he covers them with corn-fodder or straw; and has not lost a single stand. It is well to shelter the hives in severe weather, but leave the entrance open.

J. F. Hershey has heretofore wintered his bees on summer stands, but last season he built a house for them and stored seventy-four stands—all of which came out well in the spring. He has the house so arranged that it can be either ventilated or closed entirely. He keeps it at a temperature of 45 or 50 degrees. The bees don't consume near as much honey as formerly. The house is dug out four feet below the level of the ground, and the ground thus excavated is thrown up around it, making it eight feet high. The ceiling of the bee house is covered with sawdust to prevent sudden change of temperature. The house is also provided with a system of cold air tubes and doors, by which the temperature may be prevented from becoming too warm in mild weather. He puts his bees into the house late in November, placing the strongest and more vigorous colonies below and setting the others on top of them. In February, if the weather be fine, he gives them "a light" and then shuts them up again. This plan of wintering he has found very successful.

J. G. Martin exhibited before the society a case of very beautiful honey in the comb. The case consisted of twelve boxes, each of which contained a pound or more of honey just as the bees had stored it. The boxes were $1\frac{3}{4}$ inches in width, 5 inches in depth, and $5\frac{1}{2}$ inches in length, and so arranged in the hive that the bees can gain access to each, but cannot cement two or more boxes together. Mr. Martin's honey and the construction of his hive were highly commended.

Adjourned to meet at the same place on the second Monday in November.

LINNÆAN SOCIETY.

The Linnæan Society held their stated meeting on Saturday, July 27, 1878. In the absence of the President and Vice President, on motion of J. Stauffer, Dr. S. S. Rathvon took the chair. The opening duties being attended to, on examination the donations to the Museum were found to consist of a bottle of sundry kinds of insects, collected in the vicinity of Rocky Springs on the 12th inst., by S. S. Rathvon; two slabs of the finely laminated smoky mica, found in a quarry within the city limits of Philadelphia, per D. McN. Stanifer; shells and pebbles from Rock-away Beach, Long Island, collected on the 25th inst., per S. S. Rathvon. J. Stauffer also met with and collected for the first time a cruciferous plant with thick fleshy leaves, that only grows on the shore of the sea and the great lakes, the "Cakile Americana," or sea rocket. He also found a low bushy form of the "Ampelopsis Quinguefolia" (Virginia creeper.) This grew among several species of heath, and showed no disposition to climb—perhaps because there was nothing close enough to cling to, higher than itself.

Wilmer P. Bolton also brought in a specimen of the yellow fringed orchis, the "Habenaria ciliaris," the wild "American Turk's cap lily," the "Lilium spurbum." This latter is a native species, worthy of the garden for its rich orange color and spotted petals. Mr. Bolton had with him two other undeveloped

plants; the one had the characteristics of a Chenopodium, only rather tall and large in the leaves; the other that of an "Andromeda."

The additions to the library were the proceedings of the Academy of Natural Sciences of Philadelphia; the proceedings of the American Philosophical Society, vol. xvii., January to June, 1878, No. 104; THE LANCASTER FARMER for July, and a paper containing natural history, called "The West Shore," Portland, Oregon, per *Examiner* office. Books, circulars, etc. To the Historical, were added three envelopes containing forty clippings, per S. S. Rathvon; a canteen marked "L. R., Battery No. 1," per Linneus Rathvon; a fac simile of the original draft of the Declaration of Independence in the handwriting of Thomas Jefferson before the anti-slavery clause was eliminated.

The only paper read was a descriptive list of the insects captured on the 12th inst., at Rocky Springs, per S. S. Rathvon, No. 499. Mrs. Zell reported portions from a letter received from Mrs. P. E. Gibbons, now in Paris. Messrs. Bolton and Stauffer compared botanical specimens and found the Linnæan collection of service and the arrangement complete.

The small attendance of members was remarked. No notice had been put in the papers. This, it was observed, was not required, as no provisions were made to pay for such notice, and no one's duty to impose upon the generosity of the press, as heretofore, to print them gratuitously. Since it is the duty of every active member to know that the last Saturday of each month at two o'clock, p. m., is the fixed and stated time of meeting, surely every one can remember it. "If there is any activity in the active members they ought to attend without special notice," was the concluding remark. On motion, adjourned to the last Saturday in August, the 31st.

AGRICULTURAL.

Wheat Growing.

The success in growing wheat in Pennsylvania the last couple of years, should stimulate us to raise a greater average per acre than has been the case in many portions of the State. We notice that as much as an average of thirty bushels have been obtained this year in some of the Western States; and we are well aware that the yield has been much increased this year in Pennsylvania. Of course there are various causes influencing success. That which might be an aid at one point, may be an injury at another. But there are one or two matters that wheat growers are apt to forget. The first is that as a general thing it is well understood that manure must be liberally applied to induce a good crop; but many persons plow it under, and it is not until the plant has set its roots deep down into the soil that it derives much benefit from the manure. But if the manure is so placed that the young rootlets could push at once into it on germinating, it would get an early start on its vital course, which will aid it largely against any future drawbacks.

In the second place, few persons have any idea of how manure operates in making roots. If we bury a shovelful of manure some distance from a thrifty tree in early spring, and examine it again the ensuing fall, we find the lump of dung a complete mass of roots, while the earth in other parts contiguous has but a few straggling ones. Some people think that the roots are attracted to the spot by the manure, but it is not so. They are actually created by the manure. A leading root stuck into the rich mass, and finding plenty to eat, at once sets to work to increase and multiply. Contact with the manure, therefore, makes roots; and the principle in successful wheat culture should be to place the grain and the food as close together as possible, if we would encourage it to root out well and get a good start. We all know very well how this is done with corn. Manuring in the hill is almost a universal practice; but where it is not, the result is well known. We repeat, therefore, give the crops an early start. It has a wonderful influence in its efforts in after life to come out well.

Condition of American Agriculture.

The reports that reach us from all parts of the union represent the agricultural interests to be so generally prosperous, flourishing and in good condition that the return of active trade seems to be unavoidable. The truth is, that while under the influence of the epidemic insolvency the trading classes have been ruining each other and preventing any possible reaction in the prices of merchandise, the farmers, gardeners and planters have done business for cash, have made sure of their profits and have not suffered from the operations of the bankrupt law. It is beyond question that the immense increase of the national exports is mainly due to the drift of the social current, that has forced so large a proportion of the bone and sinew of the republic into agriculture as the chief resource of the nation. So prodigious have the crops become that it seems ridiculous to find railroad managers talking about the insufficiency of the national products to supply a paying business to a few trunk lines. If the farmers and planters can obtain adequate facilities for transportation to

market the country can furnish produce enough to amaze the commerce of the world. The latest foreign demand before us in this way is live stock to be shipped alive to Europe to be there bred for use, and this includes horses, beeves, sheep and swine. The field opening before American agriculture is, in fact, practically limitless, and now we have got the upper hand, fairly and fully, it will be our own fault if we do not keep it. We can feed and clothe the civilized races of all the world. This something worth thinking about and boasting of.

Fertility of Dairy Farms.

In refuting the often expressed opinion that the soil of dairy farms becomes poorer by the abstraction of phosphates sold in the milk, the *American Agriculturist* gives the following figures: "One thousand pounds of milk contain about three to four pounds of phosphates, of which nearly the whole is phosphate of lime. Of this less than half is phosphoric acid; five thousand pounds of milk, therefore, contain but seven and one-half pounds of phosphoric acid, which may be taken as the yearly consumption in this way of each cow. As wheat bran contains 2.9 per centum of phosphoric acid it needs only that about two hundred and fifty pounds of bran be fed to each cow, yearly, to replace the draft upon the soil. There are few dairy cows that are fed less than this quantity of either bran or some food equivalent to it, and it is pretty certain that very little if any phosphoric acid is really taken from the soil of dairy farms. On the contrary, to say nothing of the natural supply in the soil, which slowly becomes soluble, there is good reason to believe that every well-kept dairy farm becomes gradually richer in phosphates every year.

Salt and Soot as Manures.

The Germantown Telegraph has published the following relative to the value of salt and soot as manures: Mr Cartwright received from the Board of Agriculture the honorary reward of a gold medal for a valuable set of experiments made by him to ascertain the value of salt in agriculture. On the soil he used, nearly three-fourths was sand; the remainder consisted of calcareous and vegetable matter, with alumina and a small quantity of oxide of iron. Having tried all the usual manures alone and differently combined, he found that mixed manures and soot were superior to all other. The produce upon which these experiments were made was potatoes, and it was observed that wherever salt was used this root was free from scabbiness, with which it is commonly infected. One peck of soot and a quarter of a peck of salt were used to a bed one yard wide and forty yards long." Our correspondent, "A Northern Gardener," in another column speaks highly of the value of salt and soot as manures for potatoes, and we know him to be an experienced and successful cultivator.—*London Journal*.

Loss of Phosphate.

A. B. Prescott, in the *Popular Science Monthly*, writes: "When phosphate fails at the root of the plant, grain fails at the mill, phosphates fail in the bread, the bones and teeth fail in growing bodies. The improvidence that leaves excretory phosphates to be washed away to the salt sea, farther from the reach of life than if they were in the primitive rock, is an improvidence that prepares an inheritance of poverty for after generations. And the ruthlessness that permits the purveyors of food to sift phosphates from the food of man, does its part to enfeeble the present generation." No one doubts the truth of all this, and yet farmers will continue to let the water run through and out of their gardens and pig-pens, and the millers will take the phosphate out of flour in the form of bran, because their customers demand white flour, and it cannot be supplied in any other way. All know and admit that both are wrong, but still keep on in the old way, and will continue to do so.

Interior Fences.

The interior fences of farms occupy more space and cost more money than the outer fences, while they are almost entirely unnecessary. In the majority of cases pasturing the cultivated land costs many times more than the little grain derived from it. The pasturing of mowing lands and newly-seeded stubbles, as a rule, is very injurious, and when, under exceptional circumstances, this is desirable, a temporary fence of portable hurdles might be profitably used. It may be beneficial to have a permanent pasture lot upon every farm, and where there is a roughish piece of land, it may be so used. But it will be found profitable to fence a small plot in a convenient place for the stock, and feed them there with green fodder, grown and cut especially for them, than to make a practice of indiscriminate pasturing with the necessary maintenance of interior fencing at high cost.

MAKE a calculation as to how much corn and other grain crops you will require, raise good crops, and you will soon see the folly of using three to five acres to pasture a cow when she can be soiled on a half acre.