

### The Apiary.

#### Fruit-Growers and Bee-Keepers.

That bees are an important factor in the economy of nature, has long been proved. Only a few days ago I came across the following in the American Bee Journal:

"Most of the readers of the Journal are aware that in England melons, cucumbers, pumpkins and squashes cannot be raised in the open air; they are all raised in green-houses and hot-bed frames, and many hours have I worked in the garden at home in England, with a fine, long camel's-hair brush, conveying the pollen from blossom to blossom, where the bees could not get to do the work; and even now in this climate, if we do not have good weather for the bees to work on the fruit blossoms, and especially on red clover saved for seed, we get but a poor crop. Last year I had a good crop of mammoth clover seed, while a few miles from here there was none, and I think I owe it to my colonies of Italian bees, for they worked on it first-rate."—W. ADDENBROOKE.

A few weeks ago I heard two old farmers discussing bees and buckwheat. "I tell you," said one, "buckwheat is a good thing for bees." "Yes," replied the other, "but the bees are not a very good thing for the buckwheat." "No, I suppose not," said No. 1. And thus the conversation ran on until I ventured to ask Mr. Farmer how he knew that buckwheat was injured by the bees. "Why, they take something from it, don't they? If they do, it injures it. How can it be otherwise?" replied my farmer friend. I then explained that I was a bee-keeper, and that I also raised buckwheat; that my buckwheat, which was at times fairly "swarming" with bees, yielded fully as well, if not better, than buckwheat that was far removed from the busy workers. I explained how necessary were the bees for the fertilization of blossoms; that if the blossoms were covered with muslin, so that the bees had no access to them, they produced no fruit. My opponent contended that it might not be lack of visits from bees that made the covered blossoms unfertile, but lack of heat from the sun's rays, as the result of being covered. I then cited to him the experiments of Prof. Lasenby, of Ohio, in covering strawberries with boxes, and fertilizing one variety with the pollen of another. Specimens that were left unfertilized produced no fruit; those that were fertilized did.

I also told that oft-repeated story of how the fruit-growers of a certain town in Massachusetts, years ago compelled the bee-keepers in that vicinity to move their bees out of town—the bees injured the fruit, so said the fruit-growers. In a few years they were persuading the bee-keepers to bring back their bees, as the crops of fruit had been exceptionally light since the removal of the bees. The bees were brought back, and with them came abundant crops. I told him that crops of red clover seed could not be raised in Australia until humble-bees were imported to fertilize the blossoms. I then waxed eloquent, and declared that the beautiful colors were not given flowers simply to please the human eye, the grateful fragrance to regale the human olfactories, nor did the nectar flow simply that it might be gathered up and used to tickle human palates; these things were the blossom's advertisement, which attracted to it the honey-loving bee, which came, bringing with it the fertilizing pollen

from distant flowers. When I had finished, my opponent said: "Well, I don't know anything about it; maybe you are right, my friend."

Now, those of you who know that bees are largely instrumental in the fertilization of blossoms, and that the removal of the nectar in no wise injures the fruit or grain, may be inclined to smile at the old farmer's views, but he is not alone in his ignorance; even editors—yes, and agricultural editors at that, have exhibited lamentable ignorance upon this subject. The agricultural editor of a very prominent New York weekly paper very gravely informed an inquiring correspondent that bees were an injury to buckwheat, taking the same ground as did my farmer opponent. It was this same editor who said he had watched, with interest, the progress of the Italian bees ever since the first pair (!) was brought over from Italy.

It is nearly always ignorance that leads to trouble about bees. In Wisconsin, the past season, the owner of an apiary was sued for damages alleged to have been done to sheep while grazing in a pasture of white clover. It was claimed that the bees came in swarms and drove the sheep from the pasture! It is well known to those who are conversant with the habits of bees that, when foraging, a bee is timid, and will flee upon the approach of any object. The plaintiff in the suit was not only ignorant of the habits of bees, but seemed to forget that were it not for the services of the bees in fertilizing the white clover blossoms, there would have been no white clover pasture for his sheep. The judge in this suit decided that there was no law applicable to the case, and dismissed the suit. The plaintiff probably mistook the attacks of the troublesome gad-fly for the attacks of bees, which he saw working upon the clover. In California, recently, a bee-keeper has been sued by a fruit-grower for alleged damages done to grapes. The suit was in a justice's court; the apiarist was beaten, but has, I believe, appealed to the higher court.

As to whether the bees really do injure fruit, is a question that has been frequently asked. I presume many fruit-growers will unhesitatingly say they do, and they know they do, while bee-keepers are equally certain that it is impossible for bees to pierce the skin of fruit. At the convention of bee-keepers held last December in Detroit, Prof. A. J. Cook said: "People have several times told me that their grapes had been destroyed by bees, and I have offered to come and witness the destruction, if they would let me know when it is going on, but I cautioned them to first be sure that they had a case; I have never been called. Bees do sometimes attack grapes, however, but it seems when the weather has first caused them to crack or something else has attacked and opened the skins." At Aurora, Ills., there is an experiment station of the United States in charge of Prof. Nelson W. McLain. The professor in his report says that he placed colonies of bees in a building, deprived them of food, except fruit of different kinds, which was placed upon shelves around the sides of the room. All specimens having cracked skins, or that were intentionally perforated, were entirely consumed except the skins; but although these bees were starved to death, not a sound grape, apple, peach or fruit of any kind was injured,

It is a physical impossibility for a bee to cut open the skin of a grape; its mandibles are not capable of cutting.

Now, then, although I deny that a bee can attack and destroy a sound grape, I do not deny that bees are sometimes a source of great annoyance, and perhaps some loss, to the grape grower. Even if the skins of his grapes are cracked, or have been pierced by wasps or birds, the grape-grower may not wish them sucked dry; or if he does not care for the loss of the cracked grapes, the presence of the bees is a great annoyance in gathering the fruit. Bee-keepers should not ignore this; neither should the grape-growers forget that the bees are their best friends, inasmuch as they fertilize the blossoms, and thereby produce the fruit. In the spring, when there are but few insects to fertilize the blossoms, the bees are very valuable. Both bee-keepers and fruit-growers should learn to bear and forbear. If I understand the matter, the injury and annoyance that grape-growers suffer from bees, are often of short duration, only lasting a few days, and, if all parties would exhibit a neighborly spirit, it is probable that the bees might be shut in their hives a few days, with no great loss to the bee-keeper, as bees never frequent cider-mills, nor suck the juices from fruit, unless there is a dearth of honey, and the loss of honey would not be great. If the weather is warm, the hives would probably require a great amount of ventilation.

But let us suppose that bees do injure grapes or other fruits, and that the bee-keeper cannot, or will not, keep his bees at home, can the fruit-grower, in justice, ask the bee-keeper to pay damages or to move his bees away? It may help us to turn the telescope and look through it from the other end. Let us suppose that the juices of fruits were injurious to bees, that when stored and used for winter food it led to disease among bees. Could not bee-keepers, then, as consistently complain if a vineyard was started near them, as fruit-growers can now complain when an apiary is brought into their neighborhood? Bees have existed as long as have fruits, and the keeping of one is as legitimate and recognized a business as the raising of the other, and if there are times when the two industries clash, it is doubtful if the difficulties can be settled by legal proceedings. In my own opinion, however, there is a moral law to priority of location. If bees are the cause of loss and annoyance to a grape-grower, and this loss or annoyance is not counterbalanced by the benefits derived from the bees, then the man who knows this and plants a vineyard in the vicinity of an apiary, is morally bound not to complain of the depredation of the bees, while the bee-keeper who brings an apiary into a grape-growing district should feel himself morally bound to keep his bees from annoying his grape-growing neighbors.—[W. Z. Hutchinson, before the Michigan Horticultural Convention.

The destruction caused by the bot-fly amounts to £2,000,000 in Great Britain and Ireland, and the estimated loss caused by ergot in the grasses reaches £1,000,000. The latter is the chief source of abortion.

The Royal Agricultural Society (England) recommends McDougall's preparation for destroying bot maggots on cattle, also later on as wash to prevent the attacks of the warble flies.