

air, to counteract the bad effects arising from sedentary habits, and where these are located in rural districts, what reason is there why they may not combine pleasure with profit in a well managed apiary? Croquet, lawn-tennis and baseball might be neglected by the ardent student of bee culture, but perhaps the country would survive. The habits of study of professional men are a guarantee that they would master the science of bee-keeping and therefore likely to succeed. We note with pleasure that some of the brightest lights in apiculture have been clergymen. They have done as much to advance the art as any other class of men, not excepting the specialists. Some of the best bee-keepers of to-day are ministers, lawyers, doctors and teachers. But why multiply examples to prove the harmony existing between the various rural pursuits? After all it depends upon the man whether he shall devote himself to this or that, whether he shall combine two or more, or whether he shall, in sleepful inactivity, allow all the grand opportunities for culture and profit to pass by unobserved or unheeded.

EUGENE SECOR.

James Heddon said Mr. Secor was correct in regard to the breadth of culture that came from diversity of pursuits, but it is unnecessary that he makes money in all the pursuits he follows. Mr. Root said that, in poor seasons, it seemed to him as though it was foolish to have "all the eggs in one basket."

H. R. Boardman had found that bee-keeping was the best thing to go with bee-keeping.

Prof. Cook said that some of our best bee-keepers had other business aside from bee-keeping. He thought it wrong to discourage small bee-keepers.

James Heddon, was a specialist; the most of his money came from bees. He had lost nothing by having "the eggs all in one basket." The present poor year had helped him; he had on hand 20,000 lbs. of honey, and the high prices of the present year had enabled him to "unload," and at a great price. If we should lose money poor seasons by having "the eggs all in one basket," how about the greater profits in good seasons? Taking one year with another the advantages are all with specialty.

Prof. Cook urged that we so manage our bees that the work will be as little as possible during the busiest time of the farm work and *vice versa*.

Mr. Heddon said that is the very point himself and students had worked over and given the most thought of all apicultural problems, viz.: How to secure the most honey for the least labor, how to "cut corners" and reduce the labor to the minimum.

President Miller asked how many present were specialists. In response, 25 members rose to their feet.

Mr. R. L. Taylor, of Lapeer, Mich., read an essay upon:

WINTERING BEES IN THE NORTHERN STATES.

The only thing necessary to bees in order to secure their perfect wintering can be expressed in one word—comfort. In a climate warmer than that which reigns during winter in our Northern States much dependence can be placed on frequent flights to secure that happy condition, but in this latitude such flights can no longer be safely relied upon to furnish immunity from the causes of uneasiness and disease.

The catalogue of things liable to produce discomfort among the bees might be almost indefinitely extended but after eliminating everything that seems to me of little importance I find it is contracted to six items, viz., 1st untimely manipulation; 2nd moisture; 3rd improper ventilation; 4th improper temperature; 5th scattered and scant stores; 6th improper food. I shall touch upon these in the order of their arrangement and not in the order of their importance.

1st. It is evident that any manipulation after the season when the bees begin to assume the semi-torpid state tends to dissipate that disposition; and is also liable to leave crevices between the hive and its cover, which made earlier in the season would be closed by the bees, but being left open will often cause an injurious circulation of air through the hive.

2nd. When moisture invades the cluster in such amounts that the bees are unable to expel it by their natural warmth they are compelled to arouse themselves from their slumbers and to attempt to rid themselves of the moisture by gathering it into their stomachs. Besides other evident evils resulting, the bees will gather with the water more or less of impurities which will go to help load their intestines. And, no doubt, the excessive amount of moisture taken up will have a greater or less tendency to impair digestion.

3rd. As to ventilation I fear too much rather than too little *i.e.*, I fear a draught much more than the want of any change of air at all. A cold draught causes discomfort to most kinds of animate nature, but I have seen no indication that for breathing purposes the bees get too little change of air by any of the ordinary methods of wintering. Out of doors I give a full entrance, indoors I remove the bottom board entirely not for ventilation proper but that the bees may the more readily expel moisture.

4th. On account of the facts I shall mention below I do not attach great importance to a nice