

become sour and ferment, and if extracted honey is put in a damp atmosphere, unless sealed, it deteriorates in quality. My opinion is that we can increase the amount of honey sold in our own province and Dominion very materially. I think a great deal can be done to develop the "bee industry" just as the dairy industry has been developed. Prof. Robertson and Prof. Dean are working to improve the "dairy industry" and to increase the sale of the article at home and abroad, and I think we can develop bee-keeping in the same way. Some have had the view that it is inadvisable to increase the keeping of bees throughout the Province, but as long as we try to improve the quality and to increase the demand in the market, we are all right, and I think we have a great future before us, because there is no country which is so well adapted for bee keeping as the Province of Ontario and other parts of the Dominion. In speaking of the foreign market, I would just mention that The British Bee Journal gives the honey importation as \$270.38 and which, at 7 cents a pound, which is about the price we get for our honey if we export it, would be four million pounds in one year. Of course, we cannot secure the whole of the market, I fancy a considerable portion of that honey is of an inferior quality and comes from such countries as Chili. There are districts throughout Ontario where a good deal of buckwheat honey is produced that can be sold at the same price. I may say it has been suggested that the Dominion Government handle our honey throughout Great Britain, in which they propose handling meat. I spoke to Prof. Robertson about it, and he said he would not undertake it for some months, and it would be impossible for him to think of handling it before June or July. Of course, till that time we will not have any honey, and if they can do it then, that is just the time we will want them to.

The existence of the bee is not really for gathering honey, but the primary object is to assist in the fertilization of flowers. The whole construction of flowers is to secure as much as possible cross fertilization. We have the pistils and the stamens, one containing pollen, that is, little fine dust, and it is necessary for that to come in contact with the corresponding parts of the flower in order to secure fruit. For instance, in the apple it is necessary to secure five distinct fertilizations. It is really the fusion of five fruits. Take the apple and cut it across and you will find the core is divided into five parts. If you find one seed that is not properly developed, and it has not been injured externally, cut that across and you

will find that the pips in that part of the apple are shrivelled and shrunk. In that case we have had two, three or four fertilizations, and not the 5th. In our Dominion we have really an artificial condition in plant life. By that I mean we have in our immense orchards, which have so many blossoms in the spring of the year, an artificial condition that is not natural to this country in the forests, and therefore to correct that, nature has to help itself, and it is trying to do so with injurious insects, and by means of the honey bee, you have an artificial country. Most of the other insects perpetuate themselves by means of a female that lives through the winter, and just a few of them, but with the honey bee we have a large number of workers, perhaps ten, fifteen or thirty thousand in a hive, and just as soon as the sun shines out, these fly out, ready to carry out this work of fertilized blossoms. And we have the artificial condition of plant life on the one side, and artificial condition in insect life on the other. Bee-keeping takes absolutely nothing from the fertility of the soil. The dairy men have pushed that idea everywhere very prominently. The constituents in butter are those that come from the atmosphere, and honey is the same. It takes nothing from the soil, and in these days when farms are decreasing in fertility, it is an important point. Again, bee-keeping displaces no other crop on the farm. We avail ourselves of the flowers which naturally exist in the neighborhood, while there are many men who are not adapted to keeping bees who go into the business, yet there are farmers' sons and daughters who might remain at home on the farm and with a small capital engage in the keeping of bees, and perhaps make an independent living in that way.

Bee-keeping is very interesting. The queen is the mother of the hive. She deposits all the eggs. We have also drones and the worker bees. The queen is the mother, the workers are also females and the drones are the males. Under certain conditions the bees will build queen cells. I have here a frame which contains queen cells. The conditions under which they will build queen cells, are that they either want to swarm or they have lost their queen. From the same eggs that will produce a worker bee we can develop a queen. The instinct of the queen is just simply the production of eggs, and the tongue and stinging of the queen is not developed to the same extent as the worker bee, and in the queen bee we have an insect which will live from three to five years; the worker bee will only live from six weeks to eight