

Prof. FLETCHER: It is hard to describe. It is very small—not longer than a sixteenth of an inch—and under the microscope it is very easily recognized by the shape of the antennæ, the blades of which lie together like a fan; and it is the only insect that attacks the peach which has the antennæ of that kind. It lives burrowing in the bark.

The SECRETARY: It would escape our attention easily?

Prof. FLETCHER: It would unless you were examining to see what caused the gum on the bark. Mr. Fisher, of Queenston, brought it to my notice first, and then Mr. James Sheppard sent me specimens afterwards. The fruit pests of the year have not been very important. As I have not prepared any address, I will not take up any more time, but if there are any questions to ask, your time will be better employed in asking them and I will do my best to reply.

Mr. CRAIG: The apple curculio?

Prof. FLETCHER: What is generally discussed under the head of apple curculio is nothing but the plum curculio; and the plum curculio attacks apples almost as much as it does plums. There are some features about insect pests that are hard to understand or explain. In the State of Maine their worst enemy is the apple maggot. I do not know a single instance in Canada where this insect has caused any trouble at all; and yet it is common through all the country, feeding in the fruit of the hawthorn. There is hardly a bush that you can examine that you don't find some of these apple maggots, and I have bred it frequently, as well as the apple curculio. The latter, in the district around London, has been found injuring apples; but it is rare in my experience to find it injuring apples. I have some plum curculios that were bred from apples from the Eastern Townships, which were brought me in the spring, attacked both by these and the codling moth. To spray with Paris green should in most cases be sufficient. I believe in this orchard Mr. Craig brought me those apples from the spraying had been done and it was not successful, whether it was that the Paris green was not of a sufficiently pure nature, or that the spraying was imperfectly done, we do not know; but it was a careful man that did it, and a man who has had good success in the use of these poisons before. There is no book treating of the apple but lays great stress on treating the canker-worm. At Ottawa it is most exceptional for that insect to attack the apple at all. The maple and other trees were almost defoliated. It is an easy insect to fight; it is merely a matter of spraying the trees when the larvæ are seen upon them. I have no doubt that the apple curculio could be treated the same way as the codling moth, and at the same time.

Mr. BOULTER: What proportion of Paris green is used for apple trees for spraying?

Prof. FLETCHER: One pound in 200 gallons. It is very important to observe that proportion, and not put one pound in ten gallons, as some people do.

A DELEGATE: The oyster-shell bark-louse?

Prof. FLETCHER: It is better to treat this pest twice, early in the spring before the buds burst, and in June when the bark lice have legs. This is only for a few days after emerging from the mother scale. It crawls to a suitable place and inserts its beak through the bark, and at once begins to form a waxy coating for itself; and by the autumn it is simply a scale covering a bag of eggs, and these eggs will not hatch till the following spring. Kerosene emulsion made of coal oil and soap suds—two gallons of coal oil to one gallon of soap-suds; add ten to twelve times the amount of water before you use it. A spray-pump is a necessity now for fruit-growers, and you probably all have them; if you have not, it is a very good thing for you to get.

Mr. BEALL: I know of two persons this year who have used the Bordeaux mixture with Paris green, and I have good reason to know that the same formula exactly has been followed; both used precisely the same quantities of everything. One of the men failed entirely, inasmuch that he destroyed the leaves of his trees so as to nearly ruin his orchard, or at least injure it very materially. The other had no injury whatever. On strict enquiry afterwards it was found that where the leaves were injured the lime had been two or three years old, but it was slaked, of course—would that have made the difference?