

APPENDIX No. 1

A. Those eggs probably were laid in the previous spring or summer, and the maggot wanders about the tissues of the animal for a number of months.

Q. We see the mature fly attacking the cattle in the field during the summer?

A. You have seen them?

Q. Yes.

A. Because the warble fly is extremely difficult to see. It takes a number of months, in the case of the larvæ of *Hypoderma lineata*, which wander through the tissues of the animal, for those maggots to reach their final position, and as I said, these insects are affected very much by climatic conditions. You could not lay down a definite rule as to the duration of the life history of any one insect for a very large tract of country. Take for example the codling moth, which in Quebec has only one brood in the year, whereas in the western regions of Ontario and British Columbia, it has two broods in a year. That is simply a matter of climatic conditions.

By Mr. Henderson:

Q. The warble is not a new pest in Canada.

A. No.

Q. My impression is that I have recollected it for the past fifteen years.

A. I merely called your attention to the warble as an example of an insect which attacks live stock, in a review which I am giving you of Canadian insects which are prevalent at the present time. The most effective method of treating is simply squeezing out the warbles when they are full grown. It is a very troublesome procedure, but in doing so you destroy what will be a future fly, and also what will be a large number of future maggots; and by doing that in the case of cows which are used for milk for dairy purposes, you can destroy all the warbles in the herd. I am not speaking theoretically, I am speaking from practical experience. In a certain district in England the boys at school were taught the life history of this insect and were shown how to deal with it, with the result that they became very interested in warbles. Wherever they could find a warble on a cow they squeezed it out and destroyed it. The result being that in a very few years that district was entirely free from the warble fly. Another method which probably takes less time to do but is not so effective, is to paint the warbles with some dressing or other which will kill the larvæ inside or prevent them breaking, and so suffocate them.

NEED FOR CO-OPERATION.

But, as I was saying before answering these questions, I should like to ask for co-operation in these things on the part of the farmers, and also in the case of fruit pests, of fruit growers. We get very many inquiries about insects, asking what the insect is and what method is to be used to eradicate it, but so far as I can see we do not so frequently receive a reply after some time from the inquirer saying whether he has used that method and with what success. Yet that is what we really want. Surely it is not much to ask if a man has applied a remedy and found it effective, or did not find it effective, or only partially effective, that he report his results. In that way one is able to obtain some idea as to the efficacy of the particular measures in particular localities; and as Canada is such an immense country, having so many different conditions, it is important to know the effects of remedial measures which we suggest under different conditions, because one thing may be successful in a certain region and another may not.

SAN JOSÉ SCALE.

I have brought here for those of you who may not have seen it, a specimen of that insect which I have already mentioned, the San José scale, and also some speci-