

Geese and Ducks Laying in Fall.

I am a reader of the "Farmer's Advocate," and I would like to ask a few questions. Have your readers ever heard of geese or ducks laying eggs in the fall? I have a goose and a duck which are laying nearly every morning. I think they would be good stock to breed from. I have asked several persons, but they never heard of such a thing. I am not a farmer myself, but I take great interest in farming. I always wait for and read the "Advocate" before any other paper, and I think every farmer should have it. It would help them if they would study its teachings.

LONNIE WINKLER.

Waterloo Co., Ont.

ENTOMOLOGY.**Entomological Society of Ontario.**

The 38th annual meeting of this Society was held in London on Wednesday and Thursday, Nov. 13th and 14th. The first morning was employed by the council in the transaction of the business of the Society. In the afternoon a well-attended meeting was held for the purpose of discussing the progress and present aspect of the San Jose scale. The Rev. Dr. Fyles, president of the Society, occupied the chair, and expressed the gratification of the meeting at the presence of the Hon. John Dryden, Minister of Agriculture for Ontario, and other eminent persons.

Mr. G. E. Fisher, Provincial Inspector, was the first speaker called upon to address the meeting. He wished at the outset to emphasize the fact that very few fresh localities had been found this year infested by the San Jose scale, which was very encouraging, and that people were now realizing better than ever before how dangerous an enemy it is. Where the scale did exist, its spread and its destructiveness were greater than ever before. As instances of the latter, he mentioned the case of an orchard of 1,600 peach trees which was inspected in August, 1899; after six days spent in its examination by seven experienced men, the scale was found in small numbers on 87 trees. The following year it bore a very good crop of fruit; this year the whole orchard is practically dead; the scale is to be seen everywhere upon the trees. In another orchard he had eaten peaches this last summer gathered from trees which have since become encrusted with the scale and will soon succumb to the attack. From a third orchard, 25,000 baskets of peaches were picked this year. About the 25th of September he visited it and found the scale on every tree along a row; unless this orchard is at once put under treatment, it has only one more year to live. The alarming rapidity with which the scale spreads when once it has found lodgment causes it to be so destructive and so difficult to control. Apple trees he found more resistant than peach, and at first he was inclined to think that they would not be much affected, but now he finds that many have been killed outright. The lower limbs are usually attacked first and then the scale spreads upwards. An orchard of 350 trees bore well two years ago; last year it became infested with the scale, but produced a fair crop; now it is doomed and will never bear again—most of the trees will be dead next year.

Mr. Fisher then gave an account of the most effective remedies. These are whale-oil soap; crude petroleum; lime, salt and sulphur; and fumigation with hydrocyanic acid gas. Whale-oil soap should be made strong, 2½ lbs. to a gallon of hot water, and should be applied freely to every part of the tree. Many people sprayed only one side of their trees, waiting till the wind changed to do the other, and ending by leaving it undone. Crude petroleum could be safely applied to apple trees, but not to peach; it could also be used for pear and most plum trees, but not for Japan and egg-plums. A very fine nozzle was required for spraying; most of those supplied were much too coarse. For large apple orchards this was the most satisfactory remedy and also the cheapest. He gave many interesting details regarding his experiments, the apparatus used, and the results. The lime, salt and sulphur wash was effective, but required so much time in cooking that it was not likely to be generally employed. Fumigation had proved to be a perfect remedy. It had been applied this year to 300 trees in several different localities and not a single live scale could be found after the treatment. Though troublesome and expensive, it will well repay the fruit-grower to employ this method and save his trees from certain destruction.

After replying to many questions, Mr. Fisher closed his interesting and valuable speech by stating that the course of events had proved the wisdom of the efforts made by the Department of Agriculture for the extirpation of the scale. Many who were at first bitterly opposed to the methods adopted were now quite satisfied that they were right and just, because they had seen with their own eyes the deadly effects of the

scale where no proper attempt had been made to keep it under control.

The next speaker was Dr. James Fletcher, Dominion Entomologist and Botanist. He had recently inspected several of the worst-infested localities, and had also visited portions of Ohio. He showed examples of branches from trees that had been treated with whale-oil soap and with petroleum, and from others that had been killed by the scale from want of treatment; also portions of bark from limbs sprayed only on one side, showing the scale flourishing on the neglected part and killed off on the other. These were impressive object lessons. After describing the method of using the remedies referred to by Mr. Fisher and giving much useful information regarding them, he stated that the chief obstacle in the way of successful warfare against the scale was the carelessness and ignorance of the owners of orchards. In many cases they did not take sufficient pains to apply the remedies thoroughly to their trees, and consequently many scales were left to develop fresh colonies and destroy the trees, but in far more cases they did not take the trouble to find out what should be done and left the scales alone to wreak destruction. Hundreds of thousands of dollars were involved, and it would pay everyone who grew fruit trees to learn what remedies should be applied and how best to use them. The Governments both of the Dominion and the Province had done all that could be expected of them; they had caused careful experiments to be made and had published the results; these publications could be had for the asking; it only remained for all interested to read them and apply them. He suggested a system of co-operation by which the fruit-growers

Nothing can be done to enforce remedies, unless people believe in its deadly character. How are we to impress the people with this fact? We must educate them first as to the danger involved and then as to the remedies to be employed. It would be well to teach people how to spray by sending competent men about whom they could see doing it; no matter how plain written directions might be, they were of little use unless people were shown how to do it. This was the experience in improving the buttermaking of the country. One great danger lay in our nurseries, from which scale-infested stock might be sent out even after inspection, as specimens might so easily be overlooked. The only plan, then, was to require compulsory fumigation of all nursery stock before shipment, and this must be done by officers sent by the Government, who shall see that the fumigating houses are perfect and the work perfect. On the whole, he felt much confidence in the efforts that were being made for the preservation of our fruit trees, and believed that if the danger were once fully and generally realized, our fruit-growers would spare no efforts to exterminate the scourge.

EVENING SESSION.

A meeting, to which the general public were invited, was held in the evening at the Normal School, and was well attended, notwithstanding the inclemency of the weather. The chair was taken by the Hon. John Dryden, who said that he esteemed it a great honor to preside over a meeting of the Entomological Society, which was one of the best Associations aided by the Government of Ontario. It had always been composed of gentlemen of wealth, of education, and, above all, of public spirit, who were willing to devote



A PLUM THICKET NEAR MORDEN, MAN.

in a neighborhood could have their trees sprayed or fumigated just as farmers have their grain threshed; one set of apparatus would thus serve for a large number.

Professor Webster, of Ohio, was next called upon to address the meeting. He said that the problem in Ohio was exactly the same as in Ontario, and it was the most tremendous the world had ever had to face as regards insects. He was constantly asked for a cheap, easy, perfect remedy, but such was not to be had. Machinery was required which could not be produced in a day, and which would be the result of long-continued experiments and constant improvements. He had not yet been able to find a good sprayer; the best so far made (it was gratifying to hear) was made in London, Ontario, but it was capable of improvement. Skilled men were also wanted in order to do the work properly, just as skilled men were needed for driving an engine; such men should go about the country, and they could do the work far better and much cheaper than untrained men; there was an opening here for a paying occupation. At present, if remedies are properly used, we can reduce the scale 90 per cent. in one year on peach trees and exterminate it on the apple.

The Hon. John Dryden said he had listened with great interest to the excellent addresses of the speakers, and was rejoiced to learn that definite measures for the extermination of the scale could now be adopted. It was undoubtedly a most serious danger to the fruit industry of this Province, and every possible means must be taken for its removal. The difficulty at the outset was to persuade the public that this danger existed; many do not believe it even now.

their time and energy to the objects of the Society. It was not only one of the best, but also one of the most useful of the Associations connected with his Department, in the opinion of a practical man like himself. We need its accurate work, and we have been greatly helped by it during all these years and shall be for years to come. He came to show his interest in the Society, and the interest which was taken in it by the Government and by the Legislature. He should like to impress all with enthusiasm for the work of the Society, which was doing a great work for the country. He congratulated its members upon their extensive collections of insects, and their library, which was the best of its kind in the country.

The Rev. Dr. Fyles, of Quebec, read his presidential address on "The importance of Entomological studies to the community at large," and illustrated it with a number of beautifully-executed colored diagrams, the work of his own hand. His charming manner and choice diction added to the interest and unflagging attention which was bestowed by the audience. It would not be practicable to give a synopsis in brief form of the address; it will soon be published in the annual report of the Society, and be available to all who wish to read it.

Dr. James Fletcher was the next to address the assembly. He took as his subject "The Value of Nature Study in Education," and delighted all present with the spirited manner in which he discussed the subject and impressed its importance. At the close he illustrated his remarks with a series of beautiful lantern pictures.

Votes of thanks were given to the Hon. Mr. Dryden, the speakers of the evening, and Prin-