

firmly and even spread widely before it is detected. The introduction of this insect into the peach growing districts of Canada is a very serious matter; and, although we are not yet in a position to say to what extent it will spread in our climate, yet every body concerned should know something about a danger which may bring enormous loss to the country. You, Gentlemen, will go out among your constituents and you may be asked about this, and it is just as well if you are in a position to answer. The scale is exceedingly difficult to fight and very hard to detect. The best remedy we have been able to find is to wash the trees with a strong solution of whale oil soap. There is some agitation in the West to have prohibitive legislation by Parliament, to prevent nursery stock, through which this scale is introduced, from being brought into the country at all. After studying the matter I have not yet seen my way to advise the Minister to recommend such legislation. All I can say is, I have watched it spread very carefully in the United States, and I think I know of all the instances in which it has been proved to have been introduced into Canada. Resort should only be had to legislation, I believe, when public opinion demands it; so far, this is not the case; our chief efforts should be directed towards finding out the best remedies without interfering with the established business of fruit-growers and nurserymen. If our fruit-growers and nurserymen could grow all their stock, and would grow it, then legislation of this kind might be considered more seriously. We know that our Canadian nurserymen have not got this insect, but we also know that they cannot yet supply all the fruit trees their customers require. They have to get them from the United States nurseries, and if we enact prohibitive legislation before it is possible for them to do without the importations, we are going to interfere with both of these businesses at once, and I do not see my way to advise the Minister to enact this legislation; but he wants the matter thoroughly investigated, and I have instructions from him that, directly my work will allow of my getting away, I am to go to the west again and examine all the known occurrences of the scale. There is one at Niagara, one at Chatham, and another in British Columbia, which is of course too far off to visit; it is not necessary either that I should go there as I was there three years ago, and, besides this, Mr. Palmer, the British Columbia Entomologist and Fruit Inspector, a very efficient officer, is watching it very carefully. The occurrence at Niagara and that at Chatham have been established probably for two or three years but so far have not spread; at least, I have received letters from the owners of these orchards, who are naturally very much concerned, saying that the insects have not spread very far in their orchards. They are on the original trees, which they have traced back to New Jersey nurseries.

*Life Zones.*—The distribution of plants and animals is limited by what are known as floral and faunal life-zones. The limits of these are arrived at by the examination of large numbers of the plants and animals occurring over wide areas, and certain well defined belts have been mapped and special names applied to them. The greater part of Canada is included in what is known as the Boreal Zone. Then we come to what is known as the Transition Zone, of which we have some outliers running up into our country. Along the northern portions of some of the United States lying south of us and a little strip north of Lake Erie, including our best peach country, there are parts of what is called the Austral Zone in which the San José scale may increase rapidly if once introduced, owing to the fact that it will there find all the conditions necessary for its rapid development.

It is a serious danger, I will not deny, but up to the present, by the fruit growers exercising the ordinary care that men of common sense should exercise, they have not introduced to any extent this injurious insect, though it does certainly occur in the country. We cannot prevent its introduction because it is here already but we only need common sense to see that it does not spread widely from the few localities where it has gained a foothold. In case I may be wrong in this, the Minister of Agriculture has instructed me to go to Niagara and consult with the fruit-growers of the St. Catharines and Grimsby districts. We shall go to the infested orchards, make an examination and ascertain what is the exact state of affairs. I have said that the San José Scale is one of the most injurious insects that has ever been discovered on fruit trees. It showed that it was so in California many years ago, as well as in the Eastern States on our southern borders since its introduction there. Those who have studied