

Prof. Sears: That is one, another is whale oil soap, also kerosene emulsion and hydrocyanic gas. Hynroyanic gas has been used extensively in Maryland, and it is also used in disinfecting nursery stock. Most of the authorities say that if a nursery is badly affected to chop it down and burn it.

Q. In naming the trees it would attack I did not hear the orange tree mentioned?

Prof. Sears: I do not know whether it will attack it.

Dr. Saunders said the Ontario government, urged by the fruit growers' associations have taken strong measures to stamp it out. It is still restricted to a limited area. The insect multiplies with such amazing rapidity that it has given no end of trouble. He believed that the nurseries in Ontario were entirely free from the scale, and they are very careful in using hydrocyanic gas when importing stock. The

#### Hydrocyanic Gas Treatment

has also been used in the orchard by Prof. Johnston. You have to envelop your tree under a screen by this method, and it is a cumbersome and expensive method of treatment. He hoped that the crude petroleum treatment would be an effectual remedy. Prof. Macoun, our horticulturist, undertook to repeat some experiments made in the western states, spraying the trees during the winter with strong lime whitewash, with a view to retard the buds. We sprayed in February, March and April, and there was a decidedly perceptible effect from this spraying in retarding the bud, more particularly in plums and cherries. It was not so manifest in the case of apples. But later in the season, when the trees were cleaned by the action of the rains, we found on going over those which had been affected by the oyster shell bark louse that those which had been sprayed were entirely free. We feel perfectly sure that the lime had the effect of loosening the scale, not only the new scales,

but the old scales as well. We also sprayed the trees this year. My impression is that the action of the lime on the oyster shell bark louse, from what I have been able to see, is to loosen the scale up completely, although it does not probably destroy the eggs and the rain washes the scale off before the time comes for the eggs to hatch and thus we practically get rid of the trouble. I think it is an exceedingly useful discovery. At Ottawa we often find the bark louse an exceedingly hard enemy to fight. An effectual treatment is spraying with tobacco water and soap when the young come out, say ten pounds of tobacco stems in a barrel of water, soaked for a few days, and three or four pounds of whale oil soap. I hope this may be found a useful treatment in keeping the San Jose scale in check.

W. C. Archibald: I would like to ask Dr. Saunders if he would kindly give the season for disinfecting for the San Jose scale in Ontario, and what is the nature or extent of the law affecting the disinfecting of the nursery stock; is there a law obliging the nurserymen to spray their trees? I understood the scale being very minute is apt to be overlooked?

Dr. Saunders: I believe the law of Ontario now is that every nurseryman must expose all his stock, before shipping, to the hydrocyanic gas treatment in a chamber provided on his own grounds, and that he is liable to a fine if he sends out any stock which has not been fumigated in this way. I presume the law is fairly enforced. I do not think there are any instances on record of any trees or shrubs infected coming from the Ontario nurseries.

J. S. Bishop: Have any experiments been made with caustic potash for the oyster shell bark louse?

Dr. Saunders: Yes, I think Mr. Blair has made such experiments.

Mr. Blair: I used one pound of caustic potash to a bucket of water and sprayed