

Spraying Methods in the Peach Orchard

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THE chief objects of spraying are to keep trees healthy and vigorous, to prevent the fruit from falling to to preserve it from injury by either insects or diseases. The chief insects that weaken peach trees or attack the fruit in Ontario are: San Jose Scale, plum curculio, peach borers, and shothole borers, or pin borers as they are often called. Several other insects such as aphids, red spiders, tarnished plant bugs, and peach twig borers are present, but seldom require much attention.

The chief peach diseases are: Leaf curl, brown rot, scab or black spot of the fruit, powdery mildew, crown gall, gummosis yellows, and little peach. Of these insects and diseases the following can be controlled by spraying: San Jose Scale, plum curculio, leaf curl, brown rot, scab or black spot of fruit and powdery mildew. It is true that sprays will control aphids, red spiders, and twig borers, but, as mentioned above, these are seldom of much importance, and so would not in themselves justify treatment.

San Jose Scale and leaf curl can both be satisfactorily controlled by a single very thorough spraying of the trunk and branches with strong lime-sulphur, either commercial or home-made concentrated. If the commercial is used, it should be diluted about one gallon to eight, but the safest way to dilute either this or the home-made concentrated is to use the hydrometer as described on pages twelve and thirteen in bulletin 198 of the Ontario Department of Agriculture, and make the strength 1.032 specific gravity or even stronger. The spraying should be done before the buds begin to swell in spring because the leaf curl disease begins to develop with the buds and often cannot be warded off if the spraying is delayed until the buds are almost ready to burst. Damp, cold springs when the buds are swelling and the leaves coming out greatly favor this disease. No one should expect to control it or San Jose Scale unless he will take the trouble to cover every twig and bud and in fact the whole tree with the sprays. In most orchards these two pests are by far the most destructive ones controllable by spraying, therefore this application is much the most important: in fact, it is the only application the majority of our peach orchards receive.

An application of four pounds of arsenate of lead to forty gallons of water to which one or two pounds of freshly slaked lime has been added is of great value against the plum curculio if applied shortly after the fruit has set

and before it is half an inch in diameter. It is also indirectly valuable against brown rot, because wherever the curculios feed on the fruit they give an opportunity to the spores of this disease to enter, hence the prevention of such insect injuries means to a large extent the prevention of brown rot.

Whenever scab, or black spot as it is often called, attacks and disfigures the fruit, this can be prevented by a thorough application of the self-boiled lime-sulphur about four weeks after the blossoms have fallen. The self-boiled lime-sulphur is a weak spray mixture, and is the only really safe one we yet know of for peach trees after the foliage is out. The commercial and home-made concentrated will burn unless diluted so greatly that they are ineffective against diseases. The self-boiled is made by putting the lime and sulphur together in a vessel, adding water and allowing the heat generated by the slaking lime to do the boiling. As the details of the method of preparation are given fully in bulletin 198, Department of Agriculture, Toronto, on pages fifteen and sixteen, readers are urged to consult that bulletin, which may be obtained free of cost.

Whenever a grower is troubled with brown rot, the use of the self-boiled

lime-sulphur about four weeks before the fruit ripens will be found very valuable. Of course, as previously mentioned, he must have previously sprayed for plum curculio with the arsenate of lead if this insect is present. The self-boiled lime-sulphur clings to the pubescence of the fruit, so has to be applied nearly a month before ripening or otherwise it will remain on the fruit and render it unsaleable. This is the reason it is not applied nearer the time of ripening. Usually it is the white-fleshed and early peaches that are most subject to rot and that would be most benefited by spraying.

THE MILDEW

It is very seldom that growers spray for mildew on the leaves, but if a considerable number of trees are affected the self-boiled lime-sulphur can be used against this disease also. The mildew is a surface feeding disease and can be killed after it appears, whereas spraying for other diseases is intended to prevent germination of the spores and thus keep the disease from getting a start.

The different sprayings that peach orchards may receive and the object of each have now been outlined. Each grower will have to be his own judge as to how many of these applications it



A Power Sprayer at Work in a Huron County Apple Orchard