



Nova Scotia this Year will probably have a Million Barrel Apple Crop, mostly High Grade

The interior of a Nova Scotia packing house at Middleton is here shown.

dead wood only, hence its true nature has not at once been recognized. The fructification appears as more or less depressed or horizontal brackets of a dull crimson color. Remove at once all trees that are wholly involved—do not allow the stump to remain in the ground. It is generally on the stump, in, or lying on the ground where the fructification of the fungus is produced. The whole wood of any "Silver Leaf" tree should be destroyed by fire. Take the trees out any time before fall.

In the fall the fructification appears more generally. Cut away and burn any

silver leaved branches, and watch the tree; if after cutting away a branch "Silver Leaf" re-appears in others, throw the tree out. When removing a tree the roots should be dug out also, then fill in the hole with stone lime mixed with soil and allow three months before planting another tree in its place. Local infections of single limbs may take place and the inoculation experiments have shown that such a limb may recover, but it is best to remove an infected limb as soon as noticed. The disease is liable to spread from limb to limb, so do not take any risks.

So far as Apple Scab is concerned, neither the fall nor the early spring application seem necessary for control, though they might help slightly. The important sprays for it are (first) the one just before the blossoms open, and (second) just after the blossoms have fallen, and in very moist districts or in wet or foggy weather a third one about two or three weeks later.

INSECT CONTROL

From the standpoint of the control of insects it is probable that fall spraying would give fairly good results though I do not see how it would be quite so effective as the early spring spray before the buds burst. The main insects controlled by this spray are of course oyster-shell and San Jose scales and Blister Mite. A number of other insects are partially controlled by it but not entirely. In my experience it is a very desirable matter in the control of scale insects that the spray should remain on the tree as long as possible in the spring so that it will be there when the young insects appear. In this way, it seems to destroy a large number of these delicate little creatures. This could not take place if the application had been made in autumn as it would be washed off. Some claim that fall spraying is more effective than spring spraying against scale insects, but they have not been able so far as I know to demonstrate this, and the very opposite seems to be the case. We should remember, too, that winter itself destroys over fifty per cent. of most of our hibernating insect enemies, so that they are weakened greatly by the time the spring application is made.

WESTERN CONDITIONS

Why then is fall spraying practised and advocated so strongly in the Pacific States and British Columbia? It is, so far as I can discover, chiefly to keep under control a very troublesome fungous disease known as Apple Anthracnose

Fall vs. Spring Spraying

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OUR eastern fruit growers sometimes ask why fall spraying of apple orchards, which is being largely practiced, I believe in British Columbia and the western states and to a small extent in some of the eastern states, has neither been recommended nor practised in Ontario. It is because we have found in Ontario that our present method of spraying, if thoroughly done, gives us almost perfect control both of insect pests and of diseases. Therefore it is not necessary for fruitgrowers to make an extra application in the autumn after the leaves are all or nearly all off. To do so would mean a good deal of inconvenience, and would greatly increase the cost and labor of spraying, thereby lowering the profits of apple growing and discouraging the growers. Our aim is to secure the best results in the easiest, most practical and economical way.

If the fall application could take the place of our first spring application just before the buds burst, any person who found it more convenient to spray in the fall than in the spring might do so. But we cannot see how it is possible to do

this, because the application is not made until the leaves have nearly all fallen, and by this time it is usually so cold that all growth, both of the trees and of the diseases that attack them has ceased; nature is, so to speak, dormant, or nearly so, and remains this way until the warm days of spring renew activity.

Fall spraying cannot destroy all the spores of disease, for many of them are enclosed in little protected pustules on the bark or leaves or fruit, and these often do not open until spring; moreover, in the spring the wind will bring spores for long distances, and these will lodge on our trees. By this time all the fall spray will have been washed off the trees, hence the early spring application will be just as necessary as ever to keep off our Ontario diseases. This is especially true of Black Rot Canker, which spreads in spring to a very large extent. To ward it off it is very important that before growth begins in the spring the bark of the trunk and main branches be thoroughly covered with lime-sulphur so that any wounds or winter injured areas may not afford lodging places where this fungus can germinate and establish itself.