

ventative treatment must be given in the spring, as these treatments would have no effect on the borers themselves.

AN EFFECTIVE WASH

A great variety of washes have been used for preventing the female beetles from laying their eggs upon the trees. the following is probably as effective as any that can be safely used without injury to the bark (after having removed all loose bark with a dull hoe or scraper).

Dissolve one-half gallon of soft soap or five pounds of whale oil soap in one-half gallon of hot water, and add a half-pint of carbolic acid. When mixed, add five gallons of warm water and enough lime to make a whitewash of about the consistency of paint. Finally, stir in one-fourth pound of Paris green. Apply the wash with a stiff brush, covering the bark thoroughly and completely, and filling all cracks and crevices. Another application should be made in about three weeks' time.

The use of something that will not only protect the trees from the attack of the

borers, but also from the heat of the sun, is more useful and economical than a simple wash. The parts of trees injured by heat are more liable to the depredations of borers than the healthy, uninjured portions, and so anything that will prevent sunscald and will at the same time keep off insects, will be a double benefit to the tree.

Take some wood veneer, such as is used in basket-making, or birch bark, and wrap around the trunk of the tree beginning just below the surface of the ground and extending upwards for about two feet. Bank the base of this up with some soil to prevent the insects getting in that way, and fill the top with cotton wool. See that there are no openings along the length of this covering where insects could get in. If applied in the fall this covering would also protect from mice. A small amount of money and a little time spent in looking after the trees that you now have will be much better spent than it would be in buying and setting out new trees.

Black Leaf 40 and lime-sulphur (1-10), \$1.35.

Black Leaf 40 and lime-sulphur (1-30), 80 cts.

Black Leaf 40 and lime sulphur (1-30), and lead arsenate, \$1.04.

KEROSENE EMULSION

Kerosene at 17 cts. per gallon.

Soap at 5 cts per lb.

Cost of 40 gallons of spray, 78 cts.

WHALE OIL SOAPS

The cost of the different makes will range from about sixty to seventy-five cents for forty gallons of the diluted wash.

I have purposely omitted mention of several mixtures of which a good deal is heard, because I consider the cost prohibitive.

A number of years ago it was confidently stated that the dormant spray of lime-sulphur was a specific against all kinds of aphid eggs. This has since been disproved both by experiment station workers and practical men all over the country, even when the spray is deferred until the buds are bursting and the aphids hatched, only a small percentage are destroyed. It is significant to note in this connection that in British Columbia last year, whereas the amount of lime-sulphur used fell off forty-one per cent., there was an increase of twenty-four per cent. in the sales of Black Leaf 40, indicating that the growers considered aphid the chief pest, and found control during the growing seasons most satisfactory.

APPLY IN TIME

Though in bad years more than the one spray will be found necessary, one thing must be recognized, and that is, that the spray must be applied before the aphids have had time to curl the leaves, or subsequent sprayings will be of little value, even with the use of a fairly high pressure. In spite of its relative high cost, I am inclined at the present time to recommend the Black Leaf 40, as from the standpoint of efficiency, cost, convenience of application, ability to mix with other sprays, it has, in my own experience, proved most satisfactory. I do not believe that when there is reason to fear an attack of aphids a grower would be justified in "taking a chance," and risking no spray. By doing this, he would stand to lose, not only a large proportion of his crop, but also the time and money he had spent in cultivating, pruning, thinning, and all other operations incidental to the production of his crop. I am convinced that most of the cases of non-success that have been reported by those using this spray have been the result of two factors: First, not spraying until the leaves have curled, and second, insufficient pressure.

Orchard Aphids and Their Control*

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THE rot form of orchard aphids is the most troublesome, and I have been informed by several Nova Scotia fruit growers they have been troubled with it, especially in young trees. The best treatment known for this form is tobacco waste, which can be obtained from tobacco factories at small cost. Nursery trees can be protected from the aphids by laying a line of dust in a furrow on either side of the tree loosely covering

with earth. Larger trees can be protected by removing the earth to a depth of about four inches for a radius of three feet around the tree and putting in about a peck of the tobacco waste. It is most convenient to do this in the spring when plowing. Throw a furrow away from the tree on each side, having a man follow the plow with a hoe and scraping away the earth for a short distance around each infested tree.

COST OF DIFFERENT SPRAYS (40 GALLONS)
Black Leaf 40 and soap, 55 cts.

*Extract from an address delivered at the last annual convention of the Nova Scotia Fruit Growers' Association.



Nests of the Tent and Forest Caterpillars which have done so much damage of late years. The eggs of these caterpillars may be found in little lumps around the ends of the branches of the trees early in the season. Cut them off before they hatch out. If you neglect to do this an early spraying will quickly destroy them.
—Photo by Rev. Father Leopold, La. Trappe, Que.