

ordinary whitewash-brush or small pump, using a solution of whale-oil soap or neutral laundry-soap at the rate of 1 lb. to 5 gallons of water. Kerosene emulsion or even paint may be used in the same way. If the washes are applied warm, better results attend the penetration of the waxy covering of the aphides.

On large trees in a commercial orchard satisfactory remedial measures require a great deal of care and perseverance. In cases of severe infestation where the aphid has obtained a substantial foothold, it is well to devote two or three sprayings, exclusive of the ordinary orchard sprayings, directly to the woolly aphid alone. These sprays should be applied about June or at the period when the aphides commence to appear in numbers on the trees. The number of sprayings given at this time of year depends on the degree of infestation and the efficiency of each application. The sprays recommended are as follows:—

(1.) Nicotine sulphate, 40 per cent., $1\frac{1}{2}$ pints; whale-oil soap, 10 to 12 lb.; water, 200 U.S. gallons.

(2.) Nicotine sulphate, 40 per cent., 1 pint; lime (fresh slaked), 6 to 8 lb.; water, 200 U.S. gallons.

Kerosene emulsion (15 per cent. or 1-10), though expensive, is more effective as a control spray than nicotine and soap.

In the autumn, after the crop is picked, apply refuse tobacco stems and leaves to the trunk just above where the roots join the trunk. A 20-lb. sack should be sufficient for ten trees, and the tobacco waste, thus placed, should be left until spring, thereby allowing the nicotine extract to seep down into the soil and reach the aphides harbouring in the crevices of the main roots.

In cases of light infestation the ordinary lime-sulphur sprays with the addition of 40 per cent. nicotine-sulphate solution applied under high pressure, at the time recommended above, will be sufficient to moderate the effects of the aphid.

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This circular has been prepared by R. C. Treherne, Field Officer for British Columbia, Entomological Branch, Dominion Department of Agriculture, at the request of the Horticultural Branch.

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