

Leaflet E

SPRAYING MIXTURES

FOR THE

SAN JOSE SCALE

New York Agricultural Experiment Station
Geneva, N. Y.

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This destructive pest is rapidly spreading into the leading fruit growing sections of New York. In localities where well established, annual spraying for scale is practiced by the more progressive fruit growers. There is no reason why fruit cannot be grown profitably by the careful management of orchards and the intelligent use of known remedies. Trees that are neglected or carelessly sprayed soon cease to bear profitable yields and die prematurely.

In setting out new orchards, especially in localities free of scale, plant only clean stock. Purchase trees only of responsible nurserymen. Become familiar with the appearance of the scale, and watch trees closely for the first evidence of the pest. If suspicious bark is found, have the trees examined by the State inspector of the district, for there is much saving of time and money by the prompt treatment of the scale. In choosing a spray, select one of the remedies that are being used successfully by the progressive fruit growers in your community. Avoid untried sprays, except for experimental purposes on a few trees. Spray only profitable trees and remove trees that are past their prime or give little promise of yielding paying crops. In orchards too closely planted, remove enough trees to permit needed spraying operations. In applying the sprays make thorough applications so that the entire bark is wet by the liquid.

	Lump lime.....	20 pounds
The boiled lime-sulphur wash.	Sulpher.....	15 pounds
	Water.....	50 gallons
	Slake the lime with hot water and make a thin whitewash.	

Stir in the sulphur and boil mixture one hour. Add water to make the required amount of wash and strain the wash through a fine strainer into the spraying tank. Application should be made while the wash is warm. Flowers of sulphur, and light and heavy sulphur flour may be used. **This is the best spray for the average orchardist, and is especially recommended for the treatment of the scale and leaf-curl, the application being made as early as possible in the spring.** Sulphur washes of this strength injure foliage and should only be applied to dormant trees.

The concentrated mixture is **Home-made concentrated mixture.** preferred by many fruit-growers because of the convenience in handling it as compared with the above wash. The concentrated preparations are free from clogging sediment, may be used cold, are storable, and therefore available for use at one's convenience.

FORMULA

Lime	{	Pure CaO.....	36 lbs.
		If 95 per ct. pure	38 lbs.
		If 90 per ct. pure	40 lbs.
Sulphur, high grade, finely divided			80 lbs.
Water			50 lbs.

Directions for making and using concentrated lime-sulphur wash are given in Popular Bulletin 329-330, which may be obtained on application to the Station.

There are a number of commercial preparations of the lime-sulphur wash, which are excellent substitutes for the home-made mixture. They do not require to be heated, and have only to be

tiluted with water, to prepare for use. For the treatment of the scale, these concentrated mixtures should be used a little stronger than is usually recommended by the compounders, at the rate of one gallon of the solution to seven or eight gallon of water. Apply late in fall after majority of leaves have fallen or in the spring before leaves appear.

Commercial miscible oils. A number of these proprietary oil emulsions, known as Scalecide and Kil-o-Scale, etc., are now on the market. These sprays are simple to prepare for use, and are convenient preparations for the treatment of odd trees and small orchards. Spray in the spring as the buds are swelling, during a period of clear weather, using one part of the miscible oil to ten or fifteen parts of water. If the base of the new growth should, during the summer, show quite a little infestation, then spray again in the fall as soon as the majority of leaves have fallen.

Home-made oil emulsions. Dissolve one-half pound of soap in one gallon of boiling water. Remove vessel from near stove and add two gallons of kerosene. Pump mixture continuously through a spray pump until a creamy mass is formed. For a mixture containing 10 per ct. oil, dilute stock material with seventeen gallons of water, and for a mixture containing 25 per ct. oil, dilute with five gallons of water. The 10 per ct. mixture may be used as a summer spray to check breeding of scale, while the 25 per ct. oil emulsion should be applied to dormant trees.

Crude oil emulsion may be prepared in the same manner and is preferred to kerosene for the spraying of dormant trees in the spring. Fruit growers are advised not to employ an emulsion which shows a separation of the oil.