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Spraying Solutions and How They Are Made

SPRAYING is a means to an end. In fruit growing, the end in view is to produce in quantity a grade of fruit that approaches as near as possible the ideal looked for in the particular variety or varieties grown. Spraying helps the grower to do this. It increases the percentage of high-grade fruit by holding within bounds the ravages of insect and fungous enemies.

The practical value of spraying becomes more and more evident as the seasons go by. Insects and fungi are becoming numerous and are constantly changing their habits from one class of plants to another. To combat them successfully, the work of applying spraying mixtures must be done thoroughly and at the proper time. Every portion of the leaf and branch must be covered with the spray. The nature of the mixture that should be used depends upon the kind of insect or fungus to be combatted, and upon the season of the year. For the benefit of the readers of *THE CANADIAN HORTICULTURIST* some practical fruit growers have contributed letters on the preparation and handling of some of these mixtures.

MAKING LIME-SULPHUR WASH

"We hear so much these days of different methods of making lime-sulphur wash," writes Mr. M. G. Bruner, of Olinda, Ont., "that it may be of interest to observe my method, which is as follows: I cook the mixture with a steam boiler, a small one of six horse-power. The first thing I do is to start a fire in the boiler. While the water is heating I weigh out 15 pounds of sulphur, which I sift so that there will not be any lumps put into the barrel. I also weigh out 25 pounds of lime and get it ready. I mix the sulphur with boiling water to a thin paste; when adding the sulphur to this water, I stir continually so as not to form any lumps, as they will not break up in the cooking.

"In the barrel that is to be used for the cooking, I place 10 or 12 gallons of hot water. There should be at least 60 pounds of steam in the boiler). Then I put the sulphur paste in the barrel and afterwards the lime. The best stone lime must be used. In a minute or less the lime will begin to slake. The mixture must then be stirred continually so as to prevent it from sticking to the

bottom of the barrel. A little cold water should be poured in occasionally to keep the lime from boiling over the top. When slaking has stopped, turn on the steam from the boiler. Apply as much steam as can be used without causing the mixture to boil over. Continue to boil for an hour at least. Do not stop until the sulphur is all melted.

"When the cooking is completed, the barrel will be half full or a little more; i.e., if a 45 gallon barrel is used. Fill it up with hot water. Strain the whole through cheese cloth spread over a fine wire strainer. The mixture is strained

40 gallons of water. Have good, fresh, unslacked lime. Put the sulphur in boiling water and mix to a paste, then put the lime in the boiling tub, and cover it with boiling water three or four inches; then, as quickly as possible, throw in the sulphur paste with the slacking lime, and cover it until it begins to stop boiling, then turn on all the steam and stir occasionally; let it boil 45 minutes. We prefer boiling by steam as it is the cheapest and quickest way. The sooner you can get the wash on the trees the better as it goes through the nozzles much more satisfactorily hot than cold; always spray with the wind, and be sure you spray every twig. We have a large vat of boiling water always on hand a little elevated so that all we have to do is to turn on the tap and let it run into the boiling tubs. We would not recommend boiling this mixture with its own heat."

Interesting information is contained in a letter from Mr. W. A. Hunsberry, Jordan Station, Ont., as follows:

"The lime-sulphur wash is one of the best mixtures we have. I have used it for six or seven years and have found it a benefit not only in preventing the scale from attacking fruit trees and as a means of destroying scale, but also in cleaning the bark and making it smooth and fresh. If we strengthen the bark we will have a healthy tree, and will get a larger percentage of first-class fruit. I have noticed also that the smoother we keep the bark the less we are bothered with insects. The rougher the bark the more hiding places for the insects, and the grower cannot get at them so easily; therefore use the lime-sulphur mixture. It will pay for all trouble and expense.

"The mixture should be boiled thoroughly. It will work better in the spray pump and spread more evenly on the trees. Some growers in this locality have used caustic soda. But I do not think that it gives as good results as when the mixture is boiled. The more soluble you get the two ingredients mixed the better it will spread on the trees and work in the sprayer. It should be boiled for one hour and a half."

Regarding the question of treating the San Jose scale, Mr. Robert Thompson, of St. Catharines, Ont., wrote:

"First, get rid of all useless and unprofitable trees and varieties, then

Each Number the Best

The improvement in *THE HORTICULTURIST* within a year is marked, and each number as issued appears to be better than the preceding ones. This improvement is acknowledged by everyone here qualified to express an opinion on it. The column of questions and answers, the experience column, is a valuable one, and will, I hope, increase in length and interest from month to month.

—J. Cavers, Sec'y Oakville Hort'l Society, Oakville, Ont.

into the spray tank, and is then used on the trees.

"The foregoing description applies when a hand pump is used. My boiler will cook enough at one time to fill my power spray tank, which holds 160 gallons, imperial measure.

"I have tried caustic soda, kerosene emulsion and various patent or miscible oils, but none of these are as effective as the lime-sulphur wash when properly prepared and applied. I have not yet tried all the soluble oils. It would be a great boon to fruit growers if they could get a mixture that would be as effective as the lime-sulphur wash and easier to prepare and apply."

The following letter on the lime-sulphur wash was received from Mr. J. W. Smith, of Winona, Ont., the owner of one of the largest peach orchards in Canada, and a man who has had much experience with spray mixtures: "Use 17½ pounds sulphur, 35 pounds lime to