

Prepared Spraying Materials

The Maine Agricultural Experiment Station is now mailing Bulletin 154 which contains analysis of Paris greens and prepared Bordeaux mixtures as sold in Maine in 1907. The following extracts and conclusions of interest to Canadians as well as Maine growers, are taken from the bulletin:—

"The ideal Paris green would carry a maximum amount of arsenious oxide in combination with copper; it would have as little as possible of free arsenious acid, so as not to burn the foliage; and it would be in the finest possible powder in order that it may readily remain in suspension when mixed in water and that it may be more thoroughly distributed."

All of the Paris greens sold in Maine were found to carry sufficient arsenic. One largely used brand was found to be poorly made as shown by the coarse particles and an excessive amount of soluble arsenic. "The reported cases of burning of foliage and failure to kill the potato bugs reported from some users of this green may perhaps be explained by these analyses."

The commercial Bordeaux mixtures are discussed from the standpoint of their chemical compositions, their effectiveness and economy. "The large grower rarely, if ever, can afford to purchase prepared Bordeaux mixture at any price at which they have been or can be offered. To say the least, freshly prepared Bordeaux mixture is in as fully as good form to serve as a fungicide as old mixture. It apparently adheres to foliage better than old. There seems, therefore, to be little or no reason for the large grower to use ready made wet Bordeaux mixture. The experiments conducted at the station clearly indicate the unwisdom of dust spraying for potatoes. Until some marked advance shall have been made in the preparation of commercial Bordeaux mixtures, wet or dry, they do not seem to fit in to the economical and effective combatting of the fungous diseases of the potatoes."

Remedies for Cutworms

Last year, much alarm was created by outbreaks of the variegated cutworm in various parts of Ontario. A serious outbreak of this pest occurred in British Columbia in 1900. The caterpillars attack clover crops, tobacco, corn, tomatoes and other vegetables, and they climb fruit trees and destroy both leaves and fruit. The following remedies are suggested by Dr. Chas. J. S. Bethune, O.A.C., Guelph:

"The most effective remedy for these nocturnal marauders is the poisoned bran mash, which is made by mixing half a pound of Paris green in 50 pounds of bran (the proportion for larger or smaller quantities is 1 to 100); the poison should be added to the dry bran little by little and stirred all the time till the whole is tinged with the green color, then add water sweetened with sugar or molasses till the mixture is sufficiently moistened to crumble nicely through the fingers. If bran cannot be procured, shorts or flour may be used and for field work may be distributed dry by means of a seed drill. The mash is sprinkled about the plants at sun-down and after dark the worms come out and eat it in preference to the vegetation and then go off and hide, usually in their places of concealment. Paris green, half a pound to 40 gallons of water may be used on many plants with much advantage."

"When the worms are very numerous

and are moving on from one field to another, their progress may be checked by ploughing a deep furrow ahead of them—two about four feet apart would be better—in these, post holes are bored or dug from 12 to 16 feet apart. The furrows should be made in the morning so that the sides may be dry and reliable by night fall. The worms fall into them as they march and being unable to climb up the loose sides they travel along the furrow and fall into the post holes; there they will be found in dozens or hundreds in the morning and can easily be killed. Where the soil is stiff clay, this plan will probably not be so effective, as the worms may be able to climb up the sides and go on their way; reliance will then have to be placed in the poisoned bait. Where very numerous a heavy roller may be employed with advantage, if the soil, or crop will permit of its use. It must be remembered that live stock or poultry must not be allowed in any place where the poison is scattered."

Winter Killed Peach Buds

In bulletin No. 74, entitled "Winter Killing of Peach Buds as Influenced by Previous Treatment," and issued by the agricultural experiment station at Columbia, Mo., there is much valuable information for peach growers in Ontario. The results of experiments and conclusions drawn are summarized as follows:

"It is well known that the vigor of growth of a peach tree can be increased by heading back, by cutting off a considerable portion of the ends of the branches in late winter or early spring, when the fruit buds have all been killed."

"This is an excellent treatment to enable trees to recover from injury to the wood by severe winters."

"The fruit buds formed on this vigorous growth of new wood in sections north of Missouri are more liable to injury from the cold of the following winter."

"The buds on this vigorous new wood, however, finish their resting period later and are therefore not so readily started into growth by warm periods in winter to be killed by cold periods following."

"In Missouri, especially the southern half, there is in nearly every winter warm weather to start the buds into growth to a small or large extent."

"In most of Missouri then, fruit buds on trees that have made rather a vigorous growth, caused by reasonably severe heading back or by cultivation, are the less liable to winter injury. This has been true in the experiment station orchard and in others during each of the last two years."

"Heading back may be too severe, however, since in any year the fruit buds most likely to come through the winter safely are those at the base of the whips of new wood, and if the heading back has been too severe the growth will be so dense that no fruit buds will be formed at the base of those whips."

"In the experiment station orchard the trees having the smallest percentage of buds killed were those trained to a spreading, open head, and forced by pruning and cultivation to make a vigorous growth."

"The fruit on trees with spreading heads does not rot so badly as that on trees with dense heads."

"The fruit on trees making rather a vigorous growth, unless the growth is too vigorous, is larger than that on trees making smaller growth. This is true except with early varieties, where a tree making a rather small wood growth bears the better fruit."

"In the station orchard where only one side of a tree was thinned, the side not thinned had from five per cent. to 40 per cent. more of its fruit buds killed by a temperature of six degrees F. below zero on Feb. 5, 1907."

"Many varieties, like the Elberta, Crawford,

Oldmixon, and others, the fruit buds of which are known to kill badly, do so because they finish their resting periods early and are, therefore, easily pushed into slight growth on warm days in winter."

"Varieties of Chinese Cling and green-twigged types (excepting the Elberta, which has more the character of the Persian race) are generally late in finishing their resting periods and are therefore better adapted to climates like that of Missouri."

Coopers' Fluids

Many expressions of satisfaction with the new spray fluids, V₁ and V₂, are being received by Messrs. Wm. Cooper and Nephews, 506 and 507 Manning Chambers, Toronto. Among the letters received recently are the following:

H. A. Farrow, Bowmanville Ont.: "Upon examination I find that my trees sprayed with your V₁ present a much cleaner and better appearance than those unsprayed."

Robert Collacott, Bowmanville, Ont.: "I have examined my trees after spraying with your V₁ Fluid, and find them very clean and healthy. The bark louse has, without doubt, been successfully treated."

J. K. Allen, Newcastle, Ont.: "I have used five gallons of your V₁ and V₂ Fluids on my orchard of 450 apple trees. The orchard now looks very healthy and clean, the foliage particularly being full and healthy, and there are very few, if any, live bark-lice on the trees now."

F. F. Barker, Burlington, Ont.: "I used the gallon you sent me on young trees, currant bushes, tomato plants, and found it effective, especially with the potato bug, which completely collapsed, and were quite dead within five minutes from sprinkling, and this was from actual test. I, therefore, presume that the effect on smaller insects would be greater still."

White and Grace, Port Dalhousie, Ont.: "We applied the V₁ Fluid during the first week of April, to pear, apple, plum and peach trees to see what effect it would have on the San Jose scale, with which all the trees sprayed were more or less affected. The bulk of our trees were sprayed the last two years and this year with the lime-sulphur wash. So far as we can judge at present, the trees sprayed with your V₁ Fluid are absolutely free from scale, and present a singularly healthy appearance, while for ease in handling and great covering capacity, your fluid is far preferable to the lime-sulphur wash. We expect to make a test of your V₂ Fluid this season and will report the result."

Canning Small Fruits

Make a syrup for each quart of blackberries, of one cup of sugar and one cup of water, skim it and let boil 10 minutes, then put in the fruit and allow it to boil eight minutes.

Red raspberries may be put up in the same way, or if you wish to spend a little more time and have the fruit as perfect and fragrant as when fresh picked, put it in jars, cover and set into boiling water, leaving it there about 10 minutes. If the berries settle, put in more. Then pour in boiling syrup till the jar is filled to overflowing.

Before considering the purchasing of nursery stock elsewhere, the fruit growers of British Columbia will do well to get the catalogue of Mr. M. J. Henry, Vancouver, B.C. Mr. Henry grows a large assortment of fruit and ornamental trees and plants.