

Fruit-growers' Problem in B. C.

The fruit-growers of British Columbia are grappling with the problem of selling their produce to the best advantage. This is more particularly so with regard to small fruits, for the reason that the season is short, and if they are not marketed at just the right time, there is considerable loss. The need for an up-to-date and effective selling organization has been felt very keenly in the Kootenay. For the past two years, the operations of the Kootenay Fruit-growers' Association have been practically a failure. A year ago it was felt that a new era had dawned, when the Association signed a contract with a selling expert from Hood River, at a large salary, but the organization was found to be too expensive, considering the limited output, or, in other words, the expense of selling \$25,000 worth of small fruits was found to be about \$5,000.

In addition to this, the Kootenay Fruit-growers' Association sold their fruit through the B. C. Fruit and Produce Exchange, of Revelstoke. Returns through them were very unsatisfactory. One grower, who shipped 540 crates, had received, up to a short time ago, only \$128. Others were in a similar position. When asked for an explanation, the answer came back—some three or four months after the berries were shipped—that they had arrived at Calgary and other points in poor condition.

The confidence of the various associations in the exchange has been much shaken, and the exchange itself has gone into liquidation.

The Provincial Government has appointed Albert F. Griffiths, chartered accountant, of Victoria, a commissioner, under the Public Enquiries Act, with power to take evidence under oath, for the purpose of inquiring into the affairs of the defunct exchange.

A regrettable feature of the difficulty is that growers have lost faith in co-operative effort in some districts. The manager of the exchange claims that most of the losses can be credited to careless packing and bad shipping methods.

Treatment for Brown Rot.

Dealing with brown rot in peaches, the Ontario Agricultural College report says that the first step is the removal and burning of diseased fruit on or under the trees as soon as possible after the picking season. Plum trees should be looked after as carefully as peach trees. Having seen to the destruction of the diseased fruit, care must be taken to see that the trees are properly sprayed. The first spraying, which should be just before the buds burst, may be either with the ordinary lime-sulphur, boiled for one hour, or with Bordeaux mixture. As Bordeaux later than this is dangerous to the peach foliage, some other spray mixture should be used. Experiments at Washington have shown that self-boiled lime-sulphur, of the strength of 5 pounds sulphur, 10 pounds lime, and 40 gallons of water, will not injure the foliage, and will very largely control both the brown rot and the peach scab. As high as 10 pounds sulphur and 15 pounds lime to 40 gallons of water were used, without injury. To make this mixture, put the 10 pounds of fresh stone lime in a barrel, and add about two gallons of boiling water, at once put in the 5 pounds of sulphur, and add a little more boiling water. Stir occasionally to prevent burning, and when not stirring keep the barrel covered with an old rug or sack to keep in the heat. A minimum amount of water will hasten the cooking process. When the boiling has ceased, add enough cold water to make 40 gallons of the mixture. Strain carefully and apply at once, keeping the liquid well agitated all the time, to prevent settling. Arsenate of lead or Paris green may be added, if desired, for the plum curculio.

The first application of this mixture should be just after the blossoms fall, and two more applications should be given after this, at intervals of two weeks between them.

Procuring Trees for Planting.

In our issue of April 22nd, a correspondent, in discussing the question of tree planting, said a supply of trees for reforestation, for stock-protection or wind-break, or for planting on waste land or hillsides, could be obtained from the Forestry Department of the Ontario Agricultural College, the only cost being express to the nearest railway station. Those interested should take note of the fact that an excess of demand over supply caused the Department to withdraw the offer for wind-break planting. It has been found impossible to furnish trees for wind-break purposes.

The prime object of the forestry campaign is to encourage the growth of forest crops on land not adapted to cereal or other farm-crop production. The Government tree nurseries have been transferred to Norfolk County, where it is expected that planting material will be produced in sufficient supply to develop the work along larger lines than heretofore. For ornamentation or protection of farm buildings, however, the Government cannot be expected to supply planting material.

Spray When Blossoms Fall.

In the apple orchard, the application of spraying material immediately following the falling of the blossoms is the most important of all sprayings. None, however, can safely be dispensed with in an effort to produce fruit of maximum quality, free from blemish. Bluestone solution and poisoned Bordeaux mixture are advisable, the former just before the leaf buds open, and the latter just preceding the opening of the blossoms to keep down spores of scab and other fungus, and to kill leaf-eating insects. After the blossoms drop, however, there is a stage at which spraying mixtures must be applied in order to be of greatest service in providing clean fruit. Bordeaux mixture is needed to combat the dread scab spores, and arsenical poisons (Paris green



Right Stage to Spray.

The apple blossoms have fallen and the calyx stands open, so that the new fruit can be most benefited by the application of spraying materials.

or arsenate of lead) can be incorporated to destroy the young of the codling moth before they have done serious damage. The experienced orchardist has learned to be very watchful in applying the spray at the proper time—immediately after the blossoms fall, or even while they are falling, while the little fruit is standing erect, with the blossom end up.

Why is this spraying so important? Because both insects and fungi revel in attacking young and tender tissue. The larvae of the codling moth, as they develop from the egg, usually begin operations by boring into the apple in the blossom end—in the calyx, or perhaps where two apples touch. Scab spores, too, most readily attack themselves in or around the calyx of the apple. It can therefore be understood why special precautions should be taken to give a thorough spraying immediately after the blossoms fall.

The accompanying illustration shows the miniature apples with the petals gone and the calyx open. Fungicides applied at this stage do much to keep down the apple scab, and other maladies of similar nature, while the application of poisons not only does away with insects that eat the leaves, but also lodges in the calyx of the

young fruit, to provide a deadly dose for the destructive codling moth.

The standard treatment is Bordeaux mixture and Paris green. It is easily made and readily applied with modern spraying outfits. The proportions are 4 pounds copper sulphate (bluestone), 4 pounds unslaked lime, and 40 gallons of water, with 4 to 8 ounces of Paris green added. Under average conditions, 4 ounces of pure Paris green is sufficient, but the presence of lime guards against damage to the leaves when larger quantities are used. Care must be taken in the preparation. To make the Bordeaux mixture, dissolve the copper sulphate, by suspending it in an earthen or wooden vessel, containing 1 or 5 or more gallons of water. Slake the lime in another vessel. If the lime, when slaked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper sulphate solution into a barrel, or it may be dissolved in this in the first place; half fill the barrel with water; dilute the slaked lime to half a barrel of water, and pour into the diluted copper-sulphate solution, then stir thoroughly. It is then ready for use. Never mix concentrated milk of lime and copper solution, and do not dissolve the copper sulphate in a tin or zinc pail.

A stock solution of copper sulphate and milk of lime may be prepared, and kept in separate covered barrels throughout the spraying season, but Bordeaux mixture deteriorates with age, and should be used as soon as made. The quantities of copper sulphate, lime and water should be carefully noted.

[Note.—To test Bordeaux mixture, let a drop of ferrocyanide of potassium solution fall into the mixture when ready. If the mixture turns reddish-brown, add more milk of lime until no change takes place.]

The required quantity of Paris green should be made into a thin paste with water, and added to the 40 gallons of Bordeaux.

Green Color in Lime-Sulphur.

Discussing the development of green color in lime-sulphur during boiling, the Professor of Chemistry, in the Ontario Agricultural College report for 1908, says: "It is thought by some who make and use the lime-sulphur wash that the development of a green color is a good indication as to when boiling is complete. We found this color formation to be due largely to the presence of iron in the lime, or to that derived from the vessel in which the boiling was carried on. The fact remains, at least, that, in the absence of iron or some other similar metal, such as copper, lead, nickel, etc., this color does not develop, even after prolonged periods of boiling. Hence, the color change cannot be used as an indicator. The length of time it takes for the color to develop depends upon the amount of iron, etc., which is present. With some limes with which we have worked, the color appeared about the time that the maximum amount of sulphur is in combination, viz., one hour, and, therefore, in such cases serves as an indicator; but, with other limes it did not develop until long after that period, while with others it developed within 20 minutes.



A Spraying Outfit.

Applying commercial lime-sulphur mixture, recommended for oyster-shell scale, fungus and bud-moth, in orchard near Lambeth, Middlesex Co., Ont., leased by the Wiggins-Weld Co., for demonstration and experimental purposes. First spraying commenced April 23rd, 1909.