

We have produced cultures of the canker or "dead spot" fungus and have inoculated healthy trees, which have produced typical "spots" at the point of inoculation; these spots have increased in size and run their cycle of growth, and in turn again produced their spores.

As an ordinary preventative, autumn spraying would probably be sufficient, but in severe cases both should be used. All dead spots should be cut out and burned, for they hold myriads of spores that only await a favourable opportunity to produce new infections. The midsummer spray to use on bearing trees would be five ounces copper carbonate and three pints ammonia in 45 gallons water.

Preventives. On young trees, or trees not in fruit, six pounds sulphate copper, six pounds lime, 50 gallons water. The autumn spray should be six pounds sulphate copper, ten pounds lime, 50 gallons water. It will be noted that these sprays are about one-half stronger than the ordinary Bordeaux mixture, as advised for use in British Columbia.

In British Columbia I have observed that dead spot does not occur in the interior valleys, and either not at all or to a very slight extent in orchards of the lower Province situated on soils containing plenty of lime, such as clam-shell beaches, where there is good under drainage. It is now pretty well established that many soils on which orchards are planted contain a very small percentage of lime, and again the question of proper drainage of orchard land has not received the attention required. I have frequently noticed that fruit-trees are standing in soil where the water table during the winter months is almost or quite level with the surface. Now, whatever direct treatment is made to trees affected with "dead spot," it is most important that these matters should receive attention. Healthy trees cannot be expected, unless they are surrounded with what may be termed proper "sanitary conditions," and supplied with the elements of plant food necessary to promote healthy growth. Where wood ashes are available in sufficient quantity, they should be used freely in the orchard, and if not obtainable, lime and muriate of potash in their place, and, if convenient, well worked in with the harrow or cultivator in early spring, as far as the roots of the trees extend.

In planting new orchards, care should be taken not to plant the trees too deeply. I draw attention to this as I find it is rather a common error, and one very difficult to remedy later on.

On soils inclined to be wet, it is better to plant on or near the surface and mound up the soil over the roots of the trees.

For young trees, stable manure should be applied very cautiously, as it stimulates wood growth to an undue extent. On some rich soils it has been observed that frequent cultivation has had the same effect.

In regard to these matters orchardists should study their soil and local conditions, the aim being to produce a fair amount of new wood on trees every year, which will harden and ripen up properly in the fall, and avoid the production of overgrown sappy shoots, which apparently indicate a condition of the trees highly favourable to the development of "dead spot."

Give your fruit-trees as nearly as possible "ideal conditions," by planting on soil suitable for the purpose, and supplying proper care, cultivation and plant food; then, if disease appears, treat them with remedial applications designed to destroy the intruding disease or parasitic growth.

This name has been applied to the gumming of stone fruit trees, especially of the cherry, which prevails to a greater or less extent all over the Province, and has caused the loss of large numbers of young trees. A great difference of opinion exists among

Gummosis. practical fruit-growers as to the disease itself or its exciting causes. Indiscriminate pruning is no doubt the cause of gumming of the cherry tree in some cases, and Downing's rule in this respect should be followed—that is: "Prune as little as possible, and only to remove a dead or crossing limb, and this should be done in midsummer." Over cultivation is another exciting cause, and frequently results in the production of too luxuriant a growth, but perhaps the chief reason of the "gumming" in the lower parts of the Province is the unsuitableness of location, the land being too wet in winter and too dry in summer and early fall.

Many trees have been set, which were fore-doomed to fail, being already infected, and intending planters cannot be too careful in the selection of healthy stock, and of land naturally fitted for cherry growing.