

In Oregon, the disease exists largely, and it is there concluded—"That the causes of gummosis are not always the same, or apparently not. It is probably a disease of the physiological nature, and affects nearly if not all of the stone fruits. It may appear in either of two forms, local or constitutional. Locally in the form of gum pockets on trunk or branch in isolated situations. The constitutional form may also show gum-pockets, but these will be found upon examination of cross-sections of the wood to be connected with each other by a series of gum-filled cells in the wood, which may be seen with the eye as dark brown lines or cells. Either local or constitutional gummosis is most likely to affect trees which have been quite dry at one time and wet at another.

"Mr. Newton B. Pierce suggests the following:—Cut out as much of the diseased Treatment bark as possible, and spray the trees with Bordeaux mixture."—*Report of Recommended. the Oregon State Board of Horticulture.*

I have received very favourable reports concerning the treatment of gummosis, by a free use of wood ashes applied to the soil on which the trees stand, especially when combined with mulching to retain moisture, and although this may appear a very indirect way of treating the disease, it is one I strongly recommend. If wood ashes are not available, air-slacked lime and muriate of potash can be used instead, in the same way.

Powdery mildew (*Podospheva oxyanthra*) is reported from Victoria, Saanich, New Westminster, Ladner's Landing and Vernon.

Powdery mildew appears usually about mid-summer, as small round whitish blotches, which soon enlarge and run together on the leaves and young shoots of most varieties of fruit-trees. It spreads by means of spores, immense numbers of which are produced and disseminated; wherever there is light and sufficient moisture present, they germinate and start the disease anew. It is usually more abundant on young trees than old ones, and is especially destructive to nursery stock.

The powdery appearance is caused by the presence of large numbers of minute white spores, known as conidia or summer spores. The disease is carried over winter on the leaves, etc., in spores contained in small black cases, called *perithecia*, which are just visible to the naked eye. The mycelium or vegetative portion of the fungus is external.

Spray with diluted Bordeaux mixture or the carbonate of copper solution, making the first application when the leaves are about half grown, and repeat three or four times at intervals of ten days.

Treatment.

This well known disease (*Sphaerotheca mors-arva*) of gooseberries of English varieties, is common all through the lower Province, and the past season has been very injurious in the Okanagan District. It is noted that in Nanaimo there is little injury from this disease, and as a consequence the choice varieties of gooseberries are largely grown there. The reason of this comparative exemption has not been satisfactorily explained. This fungus usually appears in spring upon the leaves and buds, first showing as a sparse, cobwebby covering, which later appears white and powdery, from the production of summer spores. The young berries are also attacked, sometimes being dwarfed or misshaped. As the summer progresses, infested leaves and fruit become browned, and covered with a thick growth of the fungus mycelium. The summer spores are very light, and blow about with the wind; when one falls upon a damp gooseberry leaf or fruit, it germinates by sending out a slender tube, from which the mildew spreads. As these summer spores are unable to survive the winter, the fungus produces what are called winter spores, consisting of small round cases, from which project about a dozen short, delicate appendages. These are the outer spore cases, and contain flattened oval bodies called the inner spore cases, within which are spores which germinate in the spring. Gooseberry mildew is often very difficult to control, chiefly because preventive measures are begun too late.

Spraying with Bordeaux mixture should commence very early, just as soon as the leaf buds burst, and be repeated at intervals of a week or ten days for three or four applications; if

Remedies.

further treatment is required after the fruit is well formed, use a spray made with sulphide of potassium (liver of sulphur), at the rate of $\frac{1}{2}$ oz. to 1 gallon of water. A winter spraying of gooseberry bushes before growth starts, with