

Cause and Prevention of Silver Leaf in Orchards

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SILVER LEAF or silver blight (*Stereum purpureum* Pers.) is widespread in orchards throughout New Zealand. It occurs also in Australia, Canada, South Africa, Europe, and North America. The disease attacks many different plants, being common in New Zealand on almonds, apples, apricots, cherries, currants, gooseberries, nectarines, peaches, pears, plums, and quinces, as well as on many ornamental shrubs and trees such as laburnum, lilac, poplar, silver birch, and willow. It has not been found on indigenous plants.

THOUGH silver leaf attacks pip fruits, its effects are not as severe as on stone fruits. In New Zealand apple orchards it probably causes about 1 per cent. loss, on pears its effects are less marked, but with apricots and peaches the loss is well over 10 per cent., and even more in the case of plums. It probably causes as

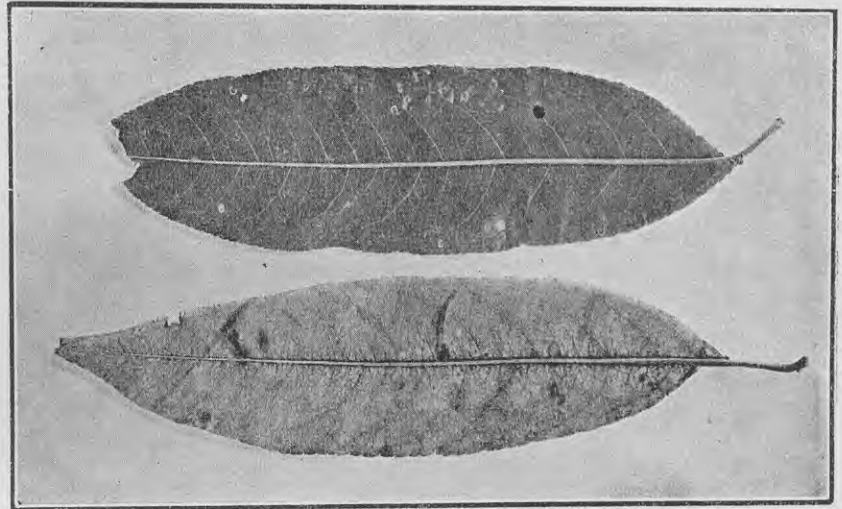


Fig. 1—The under surface of a healthy leaf and a silvered leaf of a Solway peach. Two-thirds natural size.

great a loss as any other orchard disease, with the possible exception of black spot, but its severity is not readily noticeable, probably because of its gradual onset. A serious feature of the disease is that it cannot be controlled by spraying.

Appearance in the Field

Silver leaf attacks shoots, stems, and roots of woody plants. The first indication of infection is a silvering of the leaves, which change in colour,

becoming greyish tinged with green, and tend to curl slightly at the edges (Fig. 1), so that an infected tree is discernible at some distance.

Silvering shows as a rule first on one or two small branches, and extends rapidly until all branches on a limb become infected; it then spreads to other limbs until all are infected. Leaves fall prematurely, and branches become bare and stand out prominently. Sometimes leaves silver simultaneously over the entire tree—an uncommon manifestation of the disease.

When the disease is confined to a single branch infection has taken place through some injury on that branch, but when silvering is general over the entire tree the causal organism has gained entry through stem or root. Infection is usually followed by death of branch or tree, though occasionally trees recover. They are not then immune to further attack, however, and may succumb to a later attack of the fungus. Death of an infected branch or tree may occur within a few weeks after silvering first appears, but trees usually live for one or more seasons after becoming infected.

Infected wood becomes brown, discoloration being first noticeable at the point where the organism gained entry (Fig. 2). Browning is not so noticeable in young shoots, appearing there as discoloured streaks which diminish in size and number toward the apex. Occasionally no change in colour of the wood occurs in shoots bearing silvered leaves.

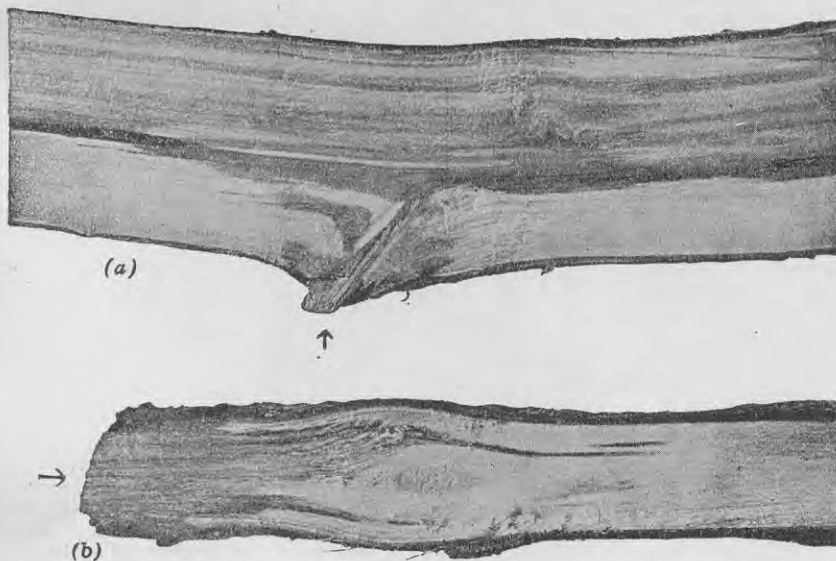


Fig. 2—Wood infected with *Stereum*: a, A willow branch showing the area discoloured by the fungus (median section through Fig. 8a); the arrow points to the place of entry through the stub of the branch; two-thirds natural size. b, A shoot of a peach which was showing silvering in the leaves; the arrow points to the place of entry of the fungus through the unprotected stub of the branch; natural size.