

# Silver leaf disease

GWF263

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Silver leaf disease gets its name from the effect it has on infected trees. It is a killer disease that mainly affects plums, but some related ornamentals are also susceptible.

**Q** What is silver leaf?

**A** True silver leaf is a fungal disease (*Chondrostereum purpureum*) that affects a number of plants, notably plums. It's the most common plum killer.

**Q** How do I know if my plants have silver leaf?

**A** Affected plants often show a silvering of the foliage. However, many plants with the disease don't have silvered foliage and the first sign is die-back of branches. This starts out in one part of the tree. Sometimes, but not always, the disease gradually spreads until the whole tree becomes affected.

Infected branches at least 2.5cm in diameter will show a brown stain in the wood when cut, particularly when the cut surface of the branch is wetted. Infected branches may gradually die back as the fungus spreads throughout the plant, eventually causing death. Occasionally, partially affected plants may recover from silver leaf without treatment.

**Q** Does it produce toadstools?

**A** Toadstools aren't produced but bracket fungi are. The spores are produced in fruiting bodies which are flat or bracket-shaped, between 2-10cm across, and overlapping like tiles. These are

often numerous on the infected wood.

They are a bit variable in appearance. When wet they are fleshy, but shrivel up in dry weather. They start off purple in colour, especially when damp, but become brownish with age and when they dry out. Sometimes the surfaces can be covered in hairs and zones of different colour shades. They can appear on the dead side of trees that are still alive, on tree stumps and on logs.

**Q** Does this disease have to be reported?

**A** No, it's no longer a notifiable disease.

**Q** Why do the leaves turn a silvery colour?

**A** A toxin produced by the silver leaf fungus in the branches and trunk causes the upper leaf surface to separate from the layer beneath. This gives the leaf a silvery appearance due to changes in light reflection from the leaf surface, although there is no fungus inside the leaves.

**Q** Is a silvering of the leaves always due to infection by the silver leaf fungus?

**A** No. False silver leaf is a condition that can affect some plants but is not due to fungal attack, though the upper leaf

membrane separates from the layer beneath in the same way. False silver leaf is due to stress, caused by factors such as pest attack, unseasonably cold or hot weather, drought or malnutrition. It does not cause branch dieback or produce bracket fungi.

Plants that are growing vigorously in optimum growing conditions are less likely to suffer from stress and rarely show symptoms of false silver leaf. Improving the feeding, watering and mulching of the plant may get rid of these symptoms.

**Q** Which plants are susceptible to silver leaf attack?

**A** The plant most susceptible to silver leaf attack is the edible plum variety 'Victoria' on a 'Brompton' rootstock. Other susceptible plants include fruit trees, hawthorns, currants, gooseberries, laburnum, poplar, Portugal laurel, roses, eucalyptus and rhododendrons. Pears appear to be less susceptible than other fruit trees.

**Q** How does silver leaf infect plants?

**A** Spores of the silver leaf fungus enter plants through wounds such as pruning cuts, snags and frost cracks. Damaged tissue takes about a month to heal sufficiently to provide a barrier to silver-leaf fungus spores. Once the spores

have entered the plant, a mass of fungal threads are produced which kill the living wood as they spread. The fungus also produces a toxin which proceeds upwards through the plant in the sap, affecting leaves and branches above the point of infection.

**Q** How does silver leaf spread between plants?

**A** It is the spores of the silver leaf fungus that spread the disease between plants. These are produced from September to May. The spores are carried by the wind and are often released during damp weather.

**Q** When can I prune fruit trees that are at risk from infection?

**A** Prune between June and August. This is when fruit trees produce a gum in the plant tissues which prevents the spread of silver-leaf fungal threads. Any spores which enter and germinate during this time are unlikely to go on to cause silver leaf symptoms.

Outside these months, avoid pruning susceptible plants, especially if plants infected with silver leaf are nearby. If you must prune, because a tree is damaged in a gale, immediately paint cut surfaces with a tree wound paint or ordinary household emulsion paint.

**Q** What should I do if I suspect silver leaf disease on my tree?

**A** It is important to confirm that the symptoms are being caused by true silver leaf and not false silver leaf. Diagnosis can be confirmed by cutting through a branch that is at least 2.5cm in diameter, then wetting the cut surface. Look for a brown stain in the wood.

If you find a brown stain, cut further down the branch until you reach where the brown stain ends. All the wood above the last of the stain will be infected. If the whole tree is silvered, and a brown stain is found in a branch (where it joins the trunk), the fungus has also affected the tree trunk.

**Q** How do I deal with it, once I am sure it is present?

**A** If true silver leaf is confirmed, all infected wood should be removed to at least 10cm below where the brown staining ends, and burnt. If you leave the branches lying around, the fungus will go on developing and spores will be released, infecting more trees.

Pruning should be carried out without leaving any snags. Keep spores out of wounds by painting with a tree wound paint or a household emulsion paint. Pruning tools should be disinfected after each tree has been pruned. Wipe them clean, and then dip them for a moment

or two in household disinfectant.

When whole trees are silvered and true silver leaf is confirmed, you could leave the tree for a further season, just in case the plant is able to recover. But if other susceptible plants are nearby, it may be safest to remove the tree to reduce the risk of the disease spreading. Try also to remove the stump.

**Q** How else can I reduce the chances of infection?

**A** If fruiting plum trees are to be replaced and new plants bought in, choose a variety on a rootstock that shows a high resistance to silver leaf. Plum 'Victoria' is one example; it shows high resistance if grown on the rootstock 'Pixy'.

Stores of firewood logs and old tree stumps, particularly of poplar, should be inspected at intervals for signs of silver-leaf fruiting bodies; if these are found, dispose of the wood as soon as possible. In case your firewood is infected with the fungus, don't risk storing it in the fruit garden.

Improve the growing conditions of susceptible trees by feeding, mulching and watering. Plants that are healthy and growing well are less likely to die back when infected with silver leaf, and may even recover spontaneously.