

The Best Practice Guide to UK Plum Production Silver Leaf

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Background

Silver leaf is a fungal disease of wood and leaves caused by *Chondrostereum purpureum* Pouzar, having a wide host range of woody trees including stone and pome fruit (principally plum and cherry, but also infecting pear, apple, apricot), as well as non-fruit trees, such as birch (1; 2; 3; 4; 5). It is more common on older trees, with spores entering the tree mainly via **pruning wounds and other fresh wounds** in living or recently dead woody tissues (4). However, infection can originate in the nursery.

Symptoms and disease cycle

Symptoms of silver leaf usually appear during the summer, the main symptom being the development of a **silvery sheen on the leaves (Figure 1)**. These symptoms can persist for several or many years with subsequent branch death and **gradual dieback** of the tree before the branch or tree dies. **Small bracket-shaped fungal fruiting bodies** (usually 1.5 - 3 cm across) with a white woolly upper surface and purple-brown lower surface develop later once the branch is dead (**Figure 2**). Another tell-tale symptom of silver leaf is **discoloured sapwood**, with the centre of infected wood developing a dark stain, eventually leading to decay (4). The silvering of leaves is caused by a mycotoxin released by the fungus, which is taken up by the vascular system of the leaf. Silvering symptoms have other causes including cold, drought or other non-disease stress ("false silver leaf"), but in these cases there will be no internal wood staining. Spores produced by the bracket shaped fruit bodies are spread in wind and rain and invade trees through wounds especially pruning cuts.

Contributing Factors

Wet, damp conditions favour this disease.

Control Treatments/Prevention

Avoid pruning in the autumn and winter, as this is when spore production by this fungus is greatest and pruning wounds take longer to heal at this time of year. Instead, carry out pruning in late spring-early summer, and ensure pruning equipment is disinfected between cuts. While the branches are living with silver leaf they are not a source of infection but need to be removed promptly once they die as this is when the fruiting bodies are produced and become a source of inoculum. Do not leave grubbed trees or logs at the side of orchards as these are a massive source of silver leaf inoculum for any new orchards or other orchards nearby. Dispose of infected pruned wood by burning and disinfect pruning tools to avoid spreading the disease. Monitor orchards for signs of silver leaf throughout the growing season.

Commercially available **protective wound sprays**, such as BlocCade (a non-pesticidal spray applied to cuts and wounds to seal them) should be used promptly to reduce the risks of wound infection. This pathogen is easily

outcompeted by other microorganisms (4), which accounts for the efficacy of the soil saprophyte *Trichoderma viride* as a biological protective control against silver leaf when used alone or in combination with fungicide (7; 8) but this agent is no longer approved or available.



Figure 1. Silver leaf infected plum leaves.



Figure 2. Fruiting bodies of *Chondrostereum purpureum*, the fungal causal agent of silver leaf

Caution

The information contained within this Best Practice Guide is correct to the best of the authors' knowledge at the time of compilation but it must be understood that the biological material/systems and the regulatory framework referred to within these guides are subject to change over time. Anyone looking to make use of the information should check it against prevailing local conditions.

All pesticide recommendations and approvals are subject to change over time and the user of this Guide is reminded that it is his/her responsibility to ensure that any chemical intended for use by them is approved for use at the time of the intended application. The user is reminded that they must carefully read and follow the label on each chemical before applying any treatments.

References

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