

Leaf blotches

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Identification, Biology & Management

Leaf blotches are common on trees and shrubs and are caused by a range of fungi to include species of *Glomerella*, *Discula*, *Diplocarpon*, *Gnomonia*, and *Guignardia*. Leaf blotches can cause defoliation and may weaken trees and predispose them to other pests. However, it is very rare that these fungi cause twig or branch dieback. When branch dieback occurs, it is usually caused by root disease, girdling roots or a similar root disorder. Consequently, death rarely results from infection by leaf blotch fungi alone.

Symptoms

Damage first appears as small water-soaked blotches on the leaf surface which in most instances turn reddish-brown in a matter of days. Blotches are often surrounded by a yellow border which may fade during development. Small, black spots, pycnidia, also appear on the brown “blotched” infected areas. The size of the blotch varies greatly and while the growth of small blotch may be inhibited by the present of leaf veins, larger blotches often merge together which results in the leaves curling upwards (Figure 1-2).

Figure 1: Leaf blotch on horse chestnut



Causal Agents

Infection is caused by a range of by a range of fungi to include *Guignardia*, *Glomerella*, *Discula*, *Diplocarpon*, *Gnomonia*. Fungi overwinter on decaying plant material. Spores are released in mid-spring and are dispersed to growing leaves mainly by water splash. Blotches appear 10-20 days after infection and the pycnidia appear from June onwards.

Figure 2: Leaf blotch on walnut



Control

Treatments with fungicides are effective, however, few products are registered for control. Consequently, control is primarily achieved through good sanitation measures. Fallen leaves should be collected and removed from the area to reduce the amount of disease available the following spring. During winter clean and/or light thin the crown to improve circulation of air through the crown as dense foliage prevents air movement and inhibits leaf drying after rainfall. In areas where there is history of the disease, resistant tree species should be planted.

Application of phosphite and calcium based fertilisers are recommended ideally based on soil test results. Phosphite and calcium sprays and/or soil drenches have been shown to stimulate tree vitality. Bartlett research trials conducted at the University of Reading show both phosphites and calcium useful in the suppression of leaf blotches.



Established in 1994, The Bartlett Tree Research Laboratories at the University of Reading is the research wing of Bartlett Tree Experts in the UK. Scientists here develop guidelines for all of the Company's services. The Lab also houses a state-of-the-art plant diagnostic clinic and provides vital technical support to Bartlett arborists and field staff for the benefit of our clients.