

Powdery Mildew

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Identification, Biology & Management

Powdery mildew is a foliage disease, which occurs on virtually all species of ornamental plants. Rose, oak, hawthorn, lilac, sycamore, laurel and crabapple are commonly affected. Heavy infection can cause premature defoliation, growth reduction and render the host aesthetically unpleasing. Powdery mildew may occur at any time during the growing season; however, it is usually most severe in the late summer months. Unlike most foliage diseases, powdery mildew is inhibited by extremely wet weather.

Symptoms

Foliage, stems and flowers become covered with a white-to-grey powdery growth (Figures 1-2) Stunting and distortion of developing leaves and stems usually accompanies these symptoms. Leaves eventually become chlorotic and fall.

Figure 1: Powdery mildew infection on oak



Causal Agents

Six genera of fungi cause powdery mildew on plants. The fungi overwinter as mycelium in the bud or as spores on fallen leaves. Initial infections occur directly from the

overwintering mycelium or windblown spores. Under favorable climatic conditions, the fungus develops on the surface of host tissue producing a mat of white mycelium. It obtains its nutrients by producing specialized peg-like projections called “haustoria” which puncture host cells and absorb its contents. Spores produced on the mycelium impart the powdery appearance to infected plant parts and are responsible for secondary infections.

Figure 2: Powdery mildew on London Plane



Control

The incidence and severity of powdery mildew can be reduced through various cultural practices. Extremely susceptible species should be planted in partial sun and pruned periodically to allow light and air penetration. Fertilisation in the dormant

season i.e. winter will prevent excessive late-summer growth, which is susceptible to damage by powdery mildew. Destroy infected leaves in the autumn to reduce the amount of inoculum available the following year.

Fungicide sprays will effectively control powdery mildew if applied regularly beginning when infection first occurs usually late June/early July.

If fungicides are not an option phosphite sprays and/or soil drenches to stimulate tree vitality are recommended. Bartlett research trials conducted at the University of Reading show phosphites useful in the suppression of this disease.



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.