Powdery Mildew on Turfgrass

O & T Guide TD-3

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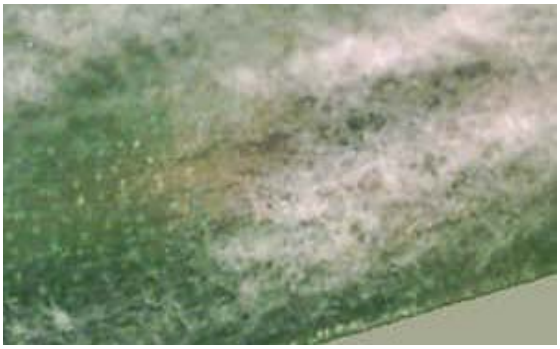
Causal Agent and Hosts: Powdery mildew on turfgrass is a foliar disease caused by the fungus, *Erysiphe graminis*. This widely distributed pathogen occurs on all turfgrass species, but the disease is generally most severe on Kentucky bluegrass and some fescues.

Symptoms: Powdery mildew infects only the foliage of susceptible plants. It is first seen as isolated colonies of fine, whitish mycelia on leaves and leaf sheaths. The colonies enlarge rapidly and coalesce to cover much of the leaf surface with a largely superficial, white mat of fungal mycelium. The disease results in large areas of the turf appearing as if they were dusted with powder. Older leaves are more susceptible to attack than the young succulent growth. Heavily infected leaves turn yellow, and then tan or brown, as they die. Colonies of powdery mildew darken as they become older, and tiny black fruiting bodies (cleistothecia) may form in the mycelial mat. Although powdery mildew does not kill the plants, infected plants are weakened and are easily killed by other stresses, such as drought, low temperatures, or other diseases.

Conditions for Disease: The fungus survives as mycelium in living, infected plants or as cleistothecia embedded in plants or plant debris. The fungus is spread by airborne spores which can move great distances in air currents.

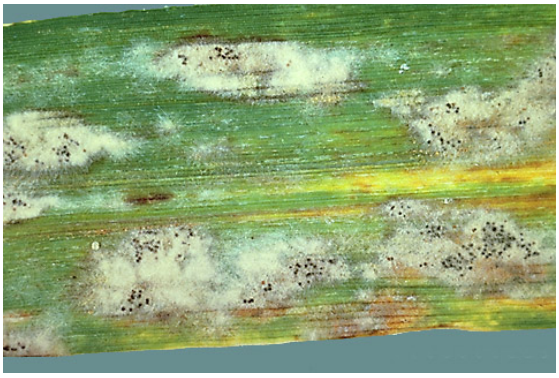
Cool (60°-72° F), humid, cloudy weather favors the development of powdery mildew. The disease is most severe in shaded areas with poor air circulation. New plantings in the shade are especially susceptible to the disease.

Powdery mildew on turfgrass. Photo: Kansas State Research and Extension.



Close-up of the powdery mildew fungus. Photo: J. Sedbrook, Colorado State University.

Powdery mildew spread over a large area of Kentucky bluegrass. Photo: A. McCain, University of California.



Black fruiting bodies (cleistothecia) in mycelial mats of powdery mildew. Photo: D. Mathre, Montana State University.

Management: Cultural practices which help to reduce the occurrence and severity of the disease include:

- Selectively prune and carefully place ornamental shrubs and trees to allow good penetration of sunlight to the turfgrass. This measure may also help reduce the humidity over the turfgrass by increasing air circulation.
- Maintain appropriate fertility levels.
- Avoid heavy nitrogen applications.
- Follow proper irrigation practices.
- Avoid watering at night.
- Avoid light, frequent watering.
- Maintain turf at the tallest height recommended for the grass species.
- In areas where the disease is particularly severe, fungicides, or the use of resistant cultivars or alternative shade-adapted ground covers may be required.