



Extension FactSheet

Plant Pathology, 2021 Coffey Road, Columbus, OH 43210-1087

Powdery Mildew on Turfgrass

Joseph W. Rimelspach
Department of Plant Pathology

Michael J. Boehm
Department of Plant Pathology

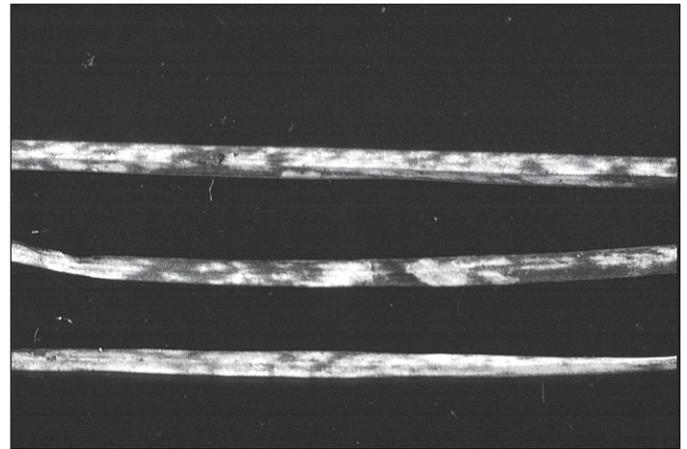
Powdery mildew fungi are found on many native plants, cultivated crops, ornamentals, and turfgrass species. In general, it is not considered to be a serious disease on turf. Powdery mildew occurs on a wide variety of turfgrass species wherever turfgrasses are grown. In Ohio, it is primarily a concern on Kentucky bluegrass although it may also occur to a lesser degree on various fescues. Severe outbreaks on Kentucky bluegrass tend to occur on turf growing in shaded areas during the late spring or mid-fall when moderate temperatures and high relative humidity prevail.

Causal Organism

Powdery mildew on turf is caused by the fungus, *Erysiphe graminis*. This fungus is an obligate parasite which means that it can only survive on a living host or turfgrass plant. Growth of *E. graminis* and development of powdery mildew is favored by 1) reduced air circulation; 2) high relative humidity, but no visible free water on the surfaces of the leaves; 3) low light intensity, and; 4) air temperatures ranging between 60 and 70 degrees F. In Ohio, this fungus survives unfavorable environmental conditions by remaining dormant in infected turfgrass.



Powdery mildew on turf.

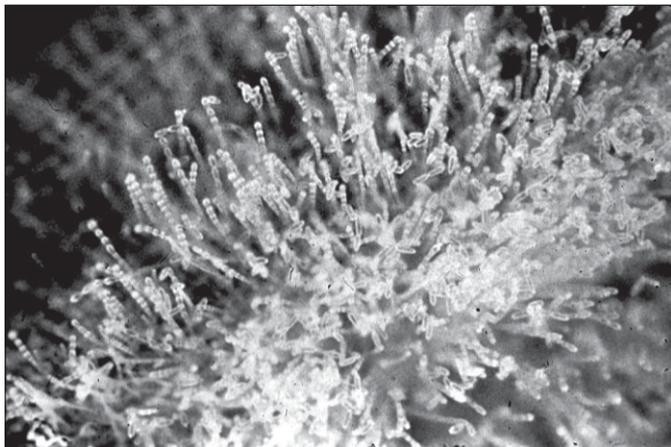


Powdery mildew on leaf surface.

Under favorable environmental conditions, the fungus produces massive amounts of asexual spores called conidia on the surface of infected leaves giving them a “powdery” appearance. Hence the name powdery mildew. Conidia are passively disseminated to healthy turf by wind and if conditions are favorable, infection occurs very shortly (approximately 2 hours) after contact. Fungal growth is restricted to the surface of the leaf with the exception of special sucker-like structures called haustoria that invade the outer leaf cells and allow the fungus to absorb nourishment.

Symptoms

The fungus is usually first seen as isolated wefts of fine, gray-white, cobwebby growth typically confined to the upper surface of leaf blades. This growth rapidly becomes more dense and often involves the entire leaf surface giving the appearance of having been dusted with talc or flour. When the disease becomes severe, the entire turfgrass stand may appear dull white or pale green. Severely infected leaves usually turn yellow and wither and may lead to a generalized thinning of the stand.



Conidia of *Erysiphe graminis*.

Management

1. **Increase sunlight penetration.** Prune trees and shrubs to allow more light to the areas. Shaded areas from buildings will be an ongoing problem. Select resistant varieties as in #3 or change the landscape design to eliminate the turf, i.e. mulch or use a more shade tolerant species of grass such as fine fescue, tall fescue or rough bluegrass.
2. **Reduce the humidity.** Improve air circulation to remove pockets of stagnant air where high humidity is likely to occur. Pruning trees and shrubs will help improve air drainage. Adjust watering so areas stay drier.
3. **Use resistant varieties.** Kentucky bluegrass varieties susceptible to powdery mildew include: Midnight, Merion, and Windsor. Fine fescues are reported to occasionally have powdery mildew but this is seldom a problem in Ohio. Improved tall fescues may be considered for shaded areas since they have minimal problems with mildews.
4. **Fungicide use.** Powdery mildew may be managed with preventative fungicide applications. The key is to apply these materials in a preventative mode before the disease becomes established for these materials will only protect healthy and newly developing leaves. Leaves presenting symptoms will not be affected by fungicide applications. Please refer to The Ohio State University Bulletin L-187 *Control of Turfgrass Pests* for the most current recommendations for the management of powdery mildew on turf. This publication can be obtained from your county Extension office or the Extension Publications Office, The Ohio State University, 385 Kottman Hall, 2021 Coffey Road, Columbus, Ohio 43210-1044; phone (614) 292-1607.

Visit Ohio State University Extension's web site "Ohioline" at:
ohioline.osu.edu

All educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam-era veteran status.

Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension
 TDD No. 800-589-8292 (Ohio only) or 614-292-1868