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 spring to 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. 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
Conidia of *Erysiphe graminis*.

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.

**Management**

1. **Genetic Host Resistance.** 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.

2. **Cultural Practices. a. 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 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. **b. 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. **Chemical Control.** 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 OSU Extension Bulletin L-187, *Management of Turfgrass Pests*, for the most current recommendations for the management of powdery mildew on turfgrass. This publication can be obtained from your local OSU Extension office; from OSU Extension’s eStore at [http://estore.osu-extension.org/](http://estore.osu-extension.org/); or the OSU Extension Publications Office, The Ohio State University, 216 Kottman Hall, 2021 Coffey Road, Columbus, Ohio 43210-1044; phone (614) 292-1607.