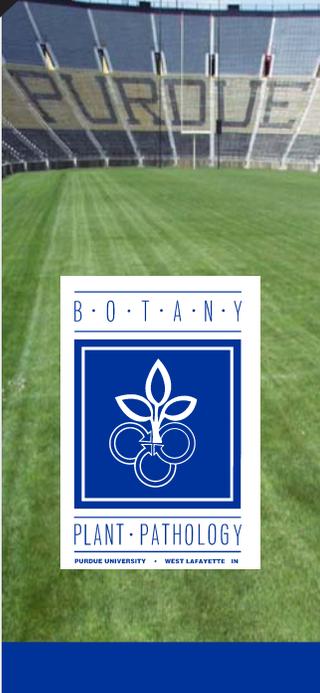


# Turfgrass Disease Profiles



## Red Thread

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**R**ed thread is a foliar disease that usually occurs on taller mown turfgrasses during spring and fall. The disease is often associated with malnourished, low quality, slow growing turf, but the effects of the disease are largely cosmetic. Red thread symptoms create an undesirable appearance, but crowns and roots are not infected, so plants are not killed and turf eventually will recover.

Red thread takes its name from the antler-like structures (sclerotia) produced by a fungus (*Laetisaria fuciformis*) on the tips of infected leaf blades. The red or pink sclerotia (Figures 1 and 2) are visible without magnification and are useful for identifying the disease in the field.

From a distance, red thread symptoms appear as circular patches of tan or pink turf about 4-8 inches in diameter (Figure 3). The pink color is caused by the sclerotia and/or flocks of pink mycelium on leaf blades (Figure 4). Other diseases, including dollar spot, pink snow mold, and especially pink patch, have field patterns and symptoms that resemble red thread, and are active during similar environmental conditions. However, after close inspection, red thread is easily distinguished from other diseases by the presence of the sclerotia.

Red thread most commonly affects Kentucky bluegrass, perennial ryegrass, and tall fescue. Outbreaks usually occur in low maintenance turf stands such as residential lawns, golf course roughs, and some low budget athletic fields. Red thread development is most common where turfgrass nutrition is poor and there are other factors that promote slow growing turf.

Deficient nitrogen fertility levels can result in serious outbreaks. Disease development occurs over



Figure 1



Figure 2

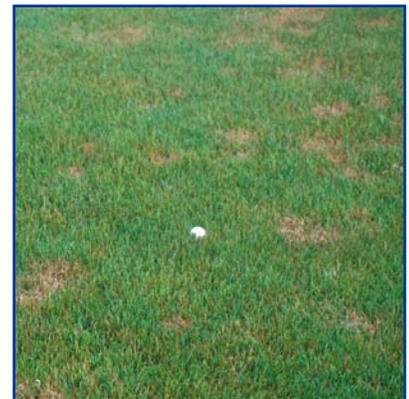


Figure 3

Gray Snow Mold  
Pink Snow Mold  
Leaf Spot/Melting Out

### Red Thread

Dollar Spot  
Brown Patch  
Gray Leaf Spot  
Anthracnose  
Pythium Blight  
Leaf Rust  
Powdery Mildew  
Slime Mold  
Fairy Ring  
Take All Patch  
Summer Patch  
Necrotic Ring Spot  
Rhizoctonia Large Patch

a relatively wide range of cool conditions (40-70° F), typically in the spring and fall, especially during long evening dew periods.

The red thread pathogen survives winter as sclerotia residing in the thatch and soil layers. Maintenance practices — such as mowing — move sclerotia and mycelium from infested and infected leaf blades, and spread the pathogen to unaffected areas. Existing patches expand in a radial pattern by mycelial growth.



Figure 4

### Disease Control Options

#### Nonchemical Approaches

Genetic resistance to red thread infection is limited. Turfgrass varieties with different levels of red thread susceptibility are listed on the National Turfgrass Evaluation Program (NTEP) Web site: <http://www.ntep.org>.

The most important nonchemical (cultural) control option involves implementing an adequate nitrogen fertility program. A good fertility program implemented over two to three years will drastically reduce further red thread problems. Other cultural practices that promote healthy turf and vigorous growth also help suppress red thread. Outbreaks may be reduced further by avoiding irrigation practices that extend dew periods (such as watering in the late afternoon and early evening).

#### Chemical Control

Fungicides may be used to control red thread, especially on high maintenance turf. Effective fungicides include strobilurins (Heritage 50WG<sup>®</sup>, Compass 50WG<sup>®</sup>, Insignia 20WG<sup>®</sup>), benzamide (Prostar 70W<sup>®</sup>), and dicarboximides (Chipco 26GT<sup>®</sup>, Curalan 50EG<sup>®</sup>).

Because dollar spot and pink snow mold threaten turfgrass during the same time, carefully select products that protect against a broad range of disease threats. Also, repeated applications of fungicides will be unnecessary if cultural control options are implemented. After a remedial treatment to suppress an unacceptable situation, the disease

can be managed in the future with proper attention to nitrogen fertility.

#### Red Thread Control for Residential Lawns

Fungicides are not usually advised for red thread control on residential turf for various reasons. A red thread outbreak signals a more important problem concerning the lawn's health and vigor. In almost all cases, practices that result in a well-nourished, actively growing lawn also will suppress red thread. With even a modicum of care, turf will recover to some extent because red thread does not affect turfgrass crowns so will not kill the plants.

There are situations when fungicides for red thread control on residential turf are warranted. In those cases, effective fungicides should be applied by licensed applicators when the pathogen is active.

#### More Information

A good place to start a long-term plan for red thread control is Purdue Extension publication AY-22, Fertilizing Home Lawns, available at <http://www.agry.purdue.edu/turf/pubs/ay-22.pdf>.

Other turf-related publications are available on the Purdue Turfgrass Management Program Web site: <http://www.agry.purdue.edu/turf/publicat.htm>.

*All photos by Philip Harmon and Richard Latin.*

