

Turfgrass Disease Profiles

Pink Snow Mold and Microdochium Patch

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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

Yellow Patch

Pink snow mold is a disease that may affect all cool-season turfgrasses, but appears to be most damaging to creeping bentgrass and annual bluegrass on golf courses. The disease is caused by a fungal pathogen, *Microdochium nivale*, that blights leaves but is not reported to affect roots and crowns.

Juvenile creeping bentgrass (less than 1 year after seeding) is most susceptible to the disease and likely to suffer the most lasting effects. On Kentucky bluegrass and perennial ryegrass in lawns and professional landscapes, pink snow mold is most prevalent on turf maintained at heights of 3 inches or greater. In severe cases on juvenile creeping bentgrass, it is suspected that turfgrass thinning will lead to annual bluegrass infestations within the affected patches. On mature golf greens, pink snow mold appears to prefer attacking annual bluegrass.

Disease Characteristics and Symptom Expression

On short-mown golf turf, pink snow mold symptoms include well-defined, circular patch clusters (Figures 1 and 2). On creeping bentgrass greens, streaks of off-colored turf that follow the green's surface drainage patterns may appear during the spring (Figure 3). During cool, wet conditions, white-pink mycelium may be observed on infected leaf blades (Figure 4). Patches of dead, matted leaf blades also occur on taller mown turf, but often lack a clearly circular pattern (Figure 5).



Figure 1



Figure 2



Figure 3

The pink snow mold pathogen may be active over a broad temperature range (30°F to 60°F), so infection may occur in fall and spring as well as winter. Unlike gray snow mold, snow cover is not necessary for extensive pink snow mold infection (for more on gray snow mold, see Purdue Extension publication BP-101-W, <http://www.ces.purdue.edu/extmedia/BP/BP-101-W.pdf>). However the insulating effect of the snow as well as long matted turf (the result of lush fall growth), extend the duration of temperatures that are favorable for disease development. The phase of the disease that occurs without snow cover is often called Microdochium patch.

The pink snow mold pathogen survives with infested leaf residue in the thatch and decaying turf debris. Radial growth of mycelium from initial infection sites results in the distinct round patches shown in Figure 2. The pathogen produces abundant conidia (spores) at the patch margins. Heavy rains dislodge the spores and surface runoff carries them downslope, particularly on golf greens. The rain-washed spore dispersal results in new infections along the drainage pattern of the green (Figure 3).

Disease Control Options

Resistance to Disease

All cool season turfgrass species are susceptible to pink snow mold infection.

Cultural Control Options

On sports turf and professional landscapes, fall mowing is very important for avoiding problem pink snow mold outbreaks. There is a fine line between mowing too close and leaving the grass too high. Our experience suggests that efforts should be made to maintain taller mown turf at 2 1/2 to 3 inches to prevent the matting that creates a favorable microenvironment for disease establishment and spread.



Figure 4



Figure 5

Spring maintenance also is important to hasten the recovery of affected turf should outbreaks occur during the winter. Any practice (raking and/or mowing) that disturbs and aerates the matted turf will limit further disease development in the spring and allow the turf to recover as temperatures rise. Also, strategically placed snow fences will prevent snowdrifts from forming and remaining on greens and tees for extended periods.

Chemical Control Options

For putting greens, green surrounds and tees, a variety of fungicide mixtures that include two or three different products provide good control during winter. A DMI fungicide should be one component of the mixture. Other components that have been used successfully include dicarboximides, strobilurins, and

fludioxanil (Medallion®). Recent research shows that combination products, such as Instrata®, also may be effective. For fairways and athletic fields, PCNB remains the economical product of choice.

Penetrant fungicides can effectively limit damage caused by the Microdochium patch phase of the disease once turf begins to grow in the spring. Effective penetrants include iprodione (Chipco 26GT®), DMI fungicides (Banner Maxx®, Bayleton 50WDG®, Eagle 20W®), strobilurin products (Compass 50WDG®, Heritage 50WG®, Insignia 20WG®), and thiophanate-methyl products (Cleary 3336®). Many of these products are applied in fall if cold, wet weather persists before turf enters winter dormancy.

Fungicides also effective against dollar spot are recommended for midspring applications (for more on dollar spot, see Purdue Extension Publication BP-105-W, <http://www.ces.purdue.edu/extmedia/BP/BP-105-W.pdf>). A contact fungicide such as chlorothalonil also can be targeted against both pink snow mold and dollar spot in the spring.

Home Lawn Help

Fungicide applications for snow mold control are not recommended for home lawns. From a distance, pink snow mold symptoms on residential lawns are very similar to gray snow mold symptoms (Figure 5 shows turf infected with pink snow mold and some gray snow mold). Cultural control options remain the same for both snow mold diseases on lawns and are intended to limit the duration of environmental conditions that favor snow mold infection and/or encourage turf recovery in the spring. Rake and mow lawns through the fall to prevent the insulating effects of matted grass and accumulated leaves, avoid piling snow on the same side of driveways and walkways through the winter, and rake affected areas in the spring to help aerate the grass and hasten turf recovery as temperatures increase.

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All photos by Richard Latin.

