

Turfgrass Disease Profiles

Leaf Spot/Melting Out

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Until recently, leaf spot and melting out were classified as a single disease and referred to as Helminthosporium leaf spot. Leaf spot and melting out actually are different diseases with similar symptoms and pathogen characteristics.

They both attack Kentucky bluegrass, perennial ryegrass, and tall fescue, and appear to cause the most damage to golf course roughs, sports turf, and residential lawns. Both pathogens can affect all parts of the plant (leaves, shoots, and roots). The major apparent difference between the two is that the melting out pathogen is active during cool, wet weather, while the leaf spot pathogen infects during the heat of the summer.

Symptoms and Disease Characteristics

From a distance, the symptoms of both diseases resemble a diffuse pattern of off-color turf (Figure 1). Close inspection of leaves from affected plants reveals decaying leaf blades with purple/brown lesions (Figure 2). These diseases can damage large areas of turf if favorable conditions persist (Figure 3).

The symptoms of leaf spot closely resemble gray leaf spot disease on perennial ryegrass (for more on gray leaf spot, see Purdue Extension publication BP-107-W, *Gray Leaf Spot*, www.extension.purdue.edu/extmedia/BP/BP-107-W.pdf).

Melting out (caused by *Bipolaris sorokiniana*) typically appears in April and May during cold, rainy weather. High nitrogen fertilization during the middle weeks of spring also favor the disease.

Leaf spot (caused by *Drechslera poae*) is a summer disease that requires long dew periods, warm evening temperatures, and ample precipitation to establish and spread. Close mowing can aggravate disease outbreaks by increasing stress on plants and allowing spores greater access to crowns and roots.

Neither pathogen results in gray or white mycelium growing on leaf surfaces. Instead, the disease is spread by wind-blown and rain-splashed spores. Both pathogens survive among infested debris in thatch and the turf canopy.



Figure 1

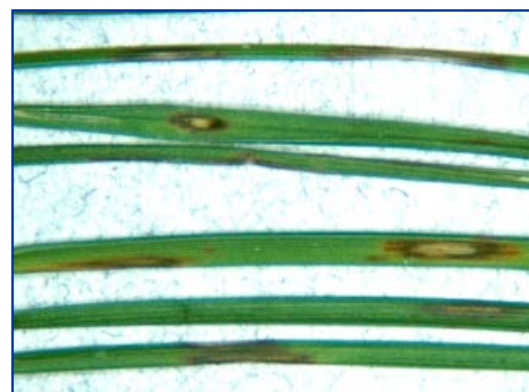


Figure 2



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

Yellow Patch

Cultural Control Options

There appears to be good, reliable genetic resistance to leaf spot and melting out infection in Kentucky bluegrass varieties. Over-seeding damaged areas with resistant varieties (for Kentucky bluegrass stands) offers the least expensive option for long-term disease control. Resistant varieties and their ratings are listed annually by the National Turfgrass Evaluation Program (NTEP) at www.ntep.org.

Avoiding excess nitrogen fertility in early spring and midsummer will limit the severity of disease outbreaks. Raising the mowing height and relieving other stresses (like redirecting traffic away from affected turf) also will reduce disease severity and help hasten turf recovery. Also, avoiding irrigation during the late afternoon and early evening during the heat of the summer helps restrict the development and spread of leaf spot.

Fungicides for Disease Control

In situations where rather severe outbreaks of either of these diseases occur in the same location in successive years, fungicide application may be necessary to suppress disease development to tolerable levels. QoI fungicides (strobilurins) such as Compass[®], Disarm[®], Heritage[®], and Insignia[®] are very effective against these diseases. Iprodione (Chipco 26GT[®]) and chlorothalonil also will help suppress disease development.

Application timing is critical for satisfactory fungicide performance. Apply sprays at the first sign of the leaf spot stage of the diseases, or apply them preventatively when disease-favorable weather arrives. Once large areas are blighted to the point of crown infection and plant death, the disease pressure will be too great to be confident that a single application will provide adequate control. Even repeated fungicide applications may be only marginally effective in such cases.

Before selecting a fungicide, double check that your diagnosis is accurate. Leaf spot resembles the gray leaf spot disease of perennial ryegrass, which is caused by an unrelated pathogen. Only the QoI fungicides are effective against gray leaf spot, melting out, and the leaf spot disease. Fungicides that are highly effective against leaf spot may have little or no effect on gray leaf spot. Also, an application for melting out control in April will have no effect on leaf spot development in July and August.

Home Lawn Help

Leaf spot and melting out can cause serious problems on residential lawns. Mowing at a height less than 2 inches and applying the bulk of nitrogen fertilizer in spring will increase the vulnerability to disease outbreaks. Therefore, raising the mowing height and applying most of the nitrogen fertilizer in the fall will contribute to a healthier lawn that is less prone to these two diseases.

Avoiding early evening irrigation during July and August also will reduce the chance for leaf spot establishment and spread. If a problem persists, the best approach is to over-seed with resistant varieties.

Fungicides are expensive and can have especially variable results if not applied at the most appropriate times. Note that chlorothalonil may not be applied to residential turf. Consult a professional lawn care contractor regarding fungicide application for leaf spot and melting out control.

Other turf-related publications are available on the Purdue Turfgrass Management Program Web site: www.agry.purdue.edu/turf/pubs/index.htm.

