DISEASES

Leaf spot and melting out diseases no. 2.909

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Quick Facts...

Leaf spot and melting out are diseases of stressed turf caused by several species of fungi that used to be classified in the single genus *Helminthosporium*.

The first symptoms of leaf spot are small, purple to black specks on the leaf blades.

Melting out starts as a black to purple leaf spot and works its way to the plant base and attacks the roots and crown.

Both diseases grow in dry periods alternating with cloudy, wet weather and cool moderate temperatures.

The diseases can be controlled by proper cultural practices that maintain healthy grass.

Leaf spot and melting out diseases are caused by several species of fungi that used to be classified in the single genus *Helminthosporium*. Most plant pathologists use this name because it is commonly accepted by turf professionals. There are two diseases in this "Helminthosporium" leaf, crown and root disease complex. The first disease is that of a leaf spot caused by the fungus *Bipolaris sorokiniana*. The second disease, melting out, is the more serious of the two and is caused by the fungus *Drechslera poae*. Both fungi attack cool season turfgrasses (Kentucky bluegrasses, ryegrasses, and tall fescues). The leaf spot disease appears during cool moist weather, spring or fall, while the melting out disease is active during warmer weather.

Symptoms

Leaf Spot. Symptoms first appear as small, purple to black specks on the leaf blades (Figure 1). These spots become elliptical in shape and may be surrounded by a dark purple border. Tissue in the center of the spot may die and turn a beige or straw color. If the spot extends across the leaf, the blades wither and die.

Melting Out. This disease also starts out as a black to purple leaf spot but as the disease progresses, the fungus works its way to the plant's base and attacks the roots and crown. Basal tissues near the ground become dark brown and rot. This stage is called "melting out" because the grass gradually thins and "melts out" the diseased area. The turf appears yellowish, thin, and shabby with irregular patches of dead grass. When these areas are raked the dead grass plants are easily removed.

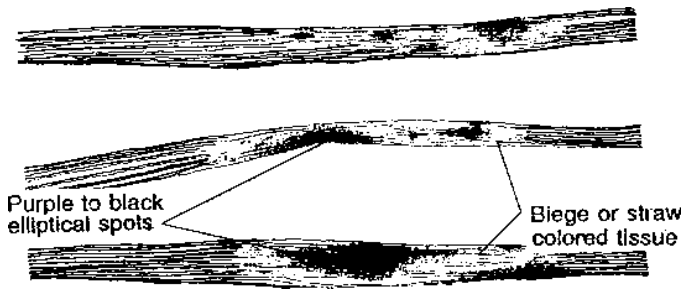

Figure 1: Leaf spot and melting out diseases on grass.

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Table 1: Cultivars susceptible to leaf spot and melting-out diseases.

Kentucky Bluegrass			
Arboretum	Delta	Mystic	Sodco
Argyle	Enita	Newport	South Dakota
Bayside	Garfield	Palouse	Troy
Campina	Geary	Park	Vantage
Cougar	Glade	Piedmont	Vieta
Delft	Kenblue	Prato	Wabash
Ryegrass			
Citation	Game	NK-100	Pennfire
Eton	Linn	Paramount	Pippen

Table 2: Cultivars resistant to leaf spot and melting-out diseases.

Kentucky Bluegrass			
A-20, A-34	Brunswick	Fylking	Nassau
Able I	Cello	Galaxy	Nugget
Adelphi	Challenger	Georgetown	Parade
Admiral	Charlotte	Haga	Plush
America	Cheri	Holiday	Princeton 104
Aquila	Classic	Kimono	Ram II
Aspen	Columbia	Majestic	Rugby
Banff	Eclipse	Merit	Shasta
Barblue	Enmundi	Mona	Somerset
Bonnieblue	Enoble	Monopoly	Sydsport
Bono	Ecsort	Mosa	Touchdown
Bristol	Farblue		Trenton
			Windsor
Ryegrass			
Belle	Cupido	Gator	Ranger
Birdie II	Delray	Manhattan II	Repell
Blazer	Dasher	Omega II	Tara
CBS II	Derby	Palmer	Yorktown II
Citation II	Diplomat	Prelude	
Tall Fescue			
Adventure	Bonanza	Houndog	Olympic
Apache	Galway	Jaguar	
Fine Leaved Fescue (somewhat resistant)			
Atlanta	Biljart	Reliant	Valda
Aurora	Enjoy	Scaldis	Waldina
Bighorn	Lovisa		

About the Fungi

The pathogens responsible for leaf spot and melting out survive from year to year as spores or mycelium (fungal threads) in dead plant debris, in the thatch layer, and in infected plant parts.

Both diseases are favored by dry periods alternating with cloudy, wet weather and cool to moderate temperatures. The diseases are enhanced by the use of susceptible cultivars (Table 1), excessive nitrogen fertilizer, excess water, and a very short mowing height.

Control

Leaf spot and melting out are diseases of stressed turf. The severity of the disease can be controlled by proper cultural practices that maintain the grass at optimum vigor.

Cultural control

1. Use resistant varieties when establishing or reestablishing a lawn. (See Table 2).

2. Core aerate the lawn once a year (spring or fall) to help reduce thatch build-up and improve soil condition.

3. Mow grass as necessary to maintain a height of 2-1/2 to 3 inches. Make sure mower blades are sharp. Never remove more than one third of the grass blades at a time.

4. Water to a depth of 6 to 8 inches as infrequently as possible without creating water stress. Water in the morning or mid-day so the surface of the leaf blades dry as fast as possible.

5. Avoid excessive applications of nitrogen fertilizer, which induce tender, succulent growth and more susceptible tissue. Apply nitrogen according to soil test results or at the rate of 1 pound per 1,000 square feet four times a year: mid-May, June, September and two to three weeks before hard frost. Never apply more that 4 pounds of nitrogen per 1,000 square feet in an entire year.

Chemical control

Fungicides are rarely needed to control leaf spot disease. However, if melting out disease has occurred in the same areas repeatedly over a number of years fungicide use may be warranted. Broad spectrum fungicides such as chlorothalonil (Daconil 2787), iprodione (Chipco 26019), or mancozeb (Fore) should give adequate control. **Chemicals are most effective when combined with the use of cultural controls**.

Remove loose thatch before treatment. If a preventive spray program is used, apply the first fungicide at the first sign of leaf spot once the grass begins to grow in the spring. Additional applications may be made according to label directions as need develops. Turf should not be drought-stressed prior to spraying, or irrigated immediately after application. Be sure to follow the instructions on the fungicides label for specific rates to use and timing of application.

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