

Turf Grass TRENDS



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Late summer leaf spots and leaf blights

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DURING THE WARM, HUMID MONTHS of late summer, many fungi are capable of causing various leaf-spotting, leaf-streaking, and leaf-blighting symptoms on turfgrasses. Literally dozens of causal fungi have been identified as problems on lawn and golf course turf under these conditions. All of these fungal pathogens are characterized by a need for warm temperatures and excessive moisture. This article covers the more commonly-observed late summer foliar diseases that occur on residential, commercial and golf course turf—with descriptions of their symptoms, biology and, where possible, recommendations for cultural or chemical controls.

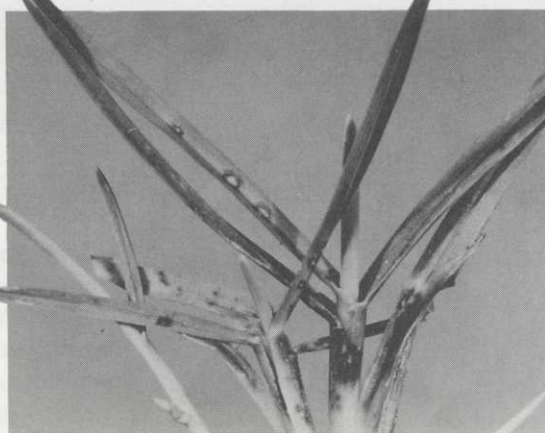
■ Brown Patch

DISEASES ON COOL-SEASON GRASSES falling under the descriptive term “Brown Patch” can be caused by a number of *Rhizoctonia* species: *R. solani*, *R. oryzae*, and *R. zaeae*. All three pathogens can be quite damaging under conditions of high moisture and high relative humidity. Diseases caused by *R. solani* are most damaging when nighttime temperatures are greater than 65–70°F (18–21°C). Diseases caused by *R. oryzae* and *R. zaeae* are most damaging when daytime temperatures are between 85 and 95°F (29–35°C).

Visual symptoms arising from *Rhizoctonia* infections may differ—depending on turfgrass species, cutting height, the degree of fertilization, irrigation, and other maintenance procedures. Despite these different visual manifestations, these symptoms are always found on the leaf blades and leaf sheathes. Although it can occur, little is known about root infections by species of *Rhizoctonia*.

R. solani biology and symptoms

ON CLOSELY MOWED, wet cool-season grasses, infection by *R. solani*, the most commonly observed of the three species, results in large patches of blighted grass that rapidly appear following prolonged periods of rainfall or high humidity, above 50%, and high



Leaf Spots on Kentucky Bluegrass. Up close the first sign of leaf spots and blights is usually a change in color from a healthy green to purple or purplish-gray. Soon leaves turn tan to brown and sheathes turn from brown to black.

nighttime temperatures, above 65°F (18°C). *R. solani* infestations can occur over a wide range of air temperatures, generally from 60–90°F (15–32°C).

During the initial phase of the infection, the blighted leaf blades and leaf sheathes may take on a purple to purplish-gray color. As the leaf blight progresses, the leaves rapidly turn to a color range from tan to brown. Sheath blights turn to a color range from brown to black.

Often—in the morning dew, following periods of high nighttime temperatures and high humidities—a dark purplish to gray-brown border may appear around *R. solani*-blighted areas. This patch margin is frequently referred to as a “smoke ring.” It is a distinctive visual symptom. It occurs when the pathogen is actively growing and infecting leaf blades—in a widening pattern from the original site of infection. This synchronous infection of leaf blades around the periphery of the patch results in a uniform wilting of these marginal plants. Occasionally, during periods of heavy dew, an abundant fluffy mycelium may be evident around the periphery of these patches.

On cool-season grasses that are cut at a two-inch height or higher (i.e., perennial ryegrass, Kentucky bluegrass, and tall fescue), the large patches will develop more slowly. They can range in size

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