

Turfgrass Diseases: Quick Reference Guide

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Brown Patch

Causal agent: *Rhizoctonia* spp. (mostly *R. solani* in Georgia, *R. zeae*, *R. oryzae*).

Susceptible turfgrasses: The disease can infect all species of warm- and cool-season turfgrasses, including St. Augustinegrass, zoysiagrass, bentgrass, ryegrass, tall fescue, centipede and Bermudagrass.

Conditions promoting disease: The most favorable conditions for disease development usually occur from late April through October. Brown patch is favored by high relative humidity during the day and a minimum temperature of 65 degrees F at night. Excess soil moisture, extended leaf wetness, and/or high levels of nitrogen increase severity of the disease.

Symptoms: Leaf blades or sheaths are blighted in circular patches measuring inches to feet across. In Bermudagrass, centipede, and ryegrass, patches are brown. In St. Augustinegrass, patches appear straw-colored. Smoke rings may be present in Bentgrass. Webbing may be evident early in the morning.

Control: Correct water problems; don't over-fertilize. Use low amounts of nitrogen, moderate amounts of phosphorous and moderate to high amounts of potash. Avoid nitrogen application when the disease is active. Increase the height of cut and increase the air circulation. Minimize the amount of shade. Irrigate turf early in the day to allow the foliage to dry as quickly as possible. Improve the drainage of the turf. Reduce thatch. Remove dew from turf early in the day. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Dollar Spot

Causal agent: *Sclerotinia homoeocarpa*.

Susceptible Turfgrasses. All species of warm- and cool-season turfgrass are susceptible. Tall fescues, Kentucky bluegrass, perennial ryegrass, bentgrass, centipede, zoysiagrass and Bermudagrass hybrids are particularly susceptible.

Conditions promoting disease: Dry soil conditions, extended leaf wetness and low nitrogen levels in soil.

Symptoms: Circular straw-colored infection centers are only a few inches across, although spots may merge, resembling brown patch. Live blades may have straw-colored lesions along one edge. Lesion moves across blade, causing tip to dieback. Abundant white fungus growth may be seen in these areas during periods of severe disease development which is evident early in the morning when dew is present.

Control: Fertilize as necessary; water adequately. Use an adequate level of nitrogen, particularly in the spring and early summer. Mow grass at regular intervals. Irrigate turf early in the day to allow the foliage to dry as quickly as possible. Reduce thatch. Increase the air circulation. Irrigate deeply and infrequently to avoid drought stress. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Pythium

Causal agent: *Pythium* spp.

Susceptible turfgrasses: Annual bluegrass, tall fescue, perennial ryegrass and varieties of bentgrass, Bermudagrass, centipede, zoysiagrass and St. Augustine grass.

Conditions promoting disease: Excessive soil moisture caused by over irrigation or heavy rain showers. Several *Pythium* species favor temperatures between 32 degrees F and 50 degrees F while others thrive in temperatures between 70 degrees F and 90 degrees F.

Symptoms: Small, irregular spots may enlarge and appear dark and water-soaked in early stages. White, cottony mycelia may be evident. Turfgrass in affected spots dies rapidly, collapses, and appears oily and matted. Webbing may be evident early in the morning in some turfgrass species.

Control: Correct over-watering and/or drainage problems. Apply optimum amounts of nitrogen, phosphorous and potassium. Reduce mowing frequency and use lightweight mowers. Apply low amounts of nitrogen in the spring when roots are forming. Minimize the amount of shade. Improve the drainage of the turf. Reduce soil compaction through aeration by using lightweight equipment. Recommended fungicides can help prevent further infection while corrective cultural measures are taken. Note that correct diagnosis is important because *Pythium* control requires specific fungicides.

Helminthosporium Leaf Spot

Causal agent: *Drechslera* spp, *Bipolaris* spp (formerly *Helminthosporium* spp).

Susceptible turfgrasses: Perennial ryegrass, tall fescue and all varieties of bentgrass, Bermudagrass, zoysiagrass and centipede.

Conditions promoting disease: Low potassium, extended leaf wetness and/or nitrogen levels in soil. *Drechslera* is favored by cool wet weather whereas *Bipolaris* is active during warm weather of midsummer. It occurs in areas that experience more than 10 hours a day of foliar wetness for several consecutive days. Disease is also favored by high amounts of nitrogen and a low mowing height. It also becomes more severe in dry soils.

Symptoms: Small, dark spots or streaks on grass blades and sheaths. Leaf spots more numerous near collar area of leaf blade. Severely affected turfgrass may become brown and thin.

Control: Have soil test done; Reduce turf stress by using lightweight equipment. Increase air circulation to speed turf's drying process. Avoid the application of high rates of water-soluble nitrogen in the spring. Minimize the amount of shade. Irrigate turf deeply and as infrequently as possible. Reduce thatch in the early spring or fall for cool-sea-

son turfgrass and in the summer for warm-season turfgrass. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Fading Out

Causal agent: *Curvularia* spp.

Susceptible turfgrasses: perennial ryegrass, tall fescue and all varieties of bentgrass, Bermudagrass, zoysiagrass and centipede

Conditions promoting disease: similar to *Helminthosporium* leaf spot. Usually weakly pathogenic unless turfgrass is predisposed to high temperatures stress.

Symptoms: Vary with type of grass. Fescue-indefinite yellow/green dappled pattern extending down from leaf tip. Affected area turns brown, then gray, then dies. Reddish brown margin may or may not be present. In Bentgrass, affected parts of blades are tan instead of brown or gray.

Control: Have soil test done; mow during dormancy and remove clippings. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Gray Leaf spot

Causal agent: *Pyricularia grisea*

Susceptible turfgrasses: Wide host range. However is of primary importance on St. Augustinegrass and perennial ryegrass. Bermuda, centipede, bentgrass and various species of fescue are affected.

Conditions promoting disease: High humidity, warm temperatures, high nitrogen levels.

Symptoms: On St. Augustinegrass, gray leaf spot first appears as small, brown spots on the leaves and stems. The spots quickly enlarge to approximately one-fourth of an inch in length and become bluish-gray in color and oval or elongated in shape. The mature lesions are tan to gray in color and have depressed centers with irregular margins that are purple to brown in color. A yellow border on the lesions can also occur. Severely affected blades wither and turn brown.

Control: Avoid medium to high nitrogen levels during mid-summer. Irrigate turf deeply and as infrequently as possible to avoid water stress. Allow water to remain on leaves for only a short period of time. Reduce thatch by

vertical cutting. When possible, plant turfgrass that is resistant to gray leaf spot. Avoid using herbicides or plant growth regulators when the disease is active. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Fairy Ring

Causal agent: mushroom-producing fungi (*Basidiomycetes*).

Susceptible turfgrasses: The disease is particularly damaging on centipede and St. Augustine grass in south and coastal Georgia.

Conditions promoting disease: Presence of fungus and moist, warm weather. Cool wet weather promotes fairy ring of Bentgrass.

Symptoms: Circular or semi-circular band of darker-than-usual green grass. Grass inside ring usually is not as vigorous and may be declining. Grass may be dead inside young rings; a band of dead grass with greener grass in the middle may be seen in older rings. During rainy, moist conditions, a ring of mushrooms may appear.

Control: Spike turf in the darker green area(s) using an aerator. Thoroughly saturate the area with water to leach the fungal toxins further into the soil and away from grass roots. Water and fertilize declining area inside ring appropriately to stimulate new growth. Reduce thatch by vertical cutting. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Take-All Root Rot

Causal agent: *Gaumannomyces graminis*

Susceptible turfgrasses: bentgrass, St. Augustinegrass, Bermudagrass and centipedegrass are susceptible. Bluegrass and fescues are rarely affected in Georgia.

Conditions promoting disease: Take-all root rot typically occurs in wet conditions and in areas with soil pH at pH 6.5 or above. This disease is more severe on less fertile and sandy soils.

Symptoms: Take-all root rot causes wilted circular patches that are brown or bronze-colored and measure up to several feet in diameter. Infected plants have dark-brown roots.

Control: Use acidifying fertilizers. Apply moderate to high levels of phosphorous, potash and minor elements where these nutrients are depleted from the soil. Avoid the use of lime. Improve the drainage of the turf. Reduce thatch. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Rust

Causal Agent: *Puccinia* spp., *Uromyces* spp.

Susceptible Turfgrass: Kentucky bluegrass, ryegrass, bentgrass, zoysiagrass, Bermudagrass and fescue.

Symptoms: Light-yellow flecks on the leaf blades and sheaths. The flecks enlarge, elongate, and turn yellow in color. The infected areas raise above the epidermis and then rupture, releasing spores that are yellowish-orange to reddish-brown in color.

Conditions Favoring Disease: Rusts occur in early spring through mid-summer. Rusts favor moist, low-light areas. Depending on the species, rusts favor temperatures between 65 degrees F and 85 degrees F. Severe rust infections occur on slow-growing turfgrass particularly those with low nitrogen levels and/or plant water stress.

Control: Apply adequate levels of nitrogen. Remove clippings from turf. Reduce thatch. Reduce shade and improve air circulation. Regulate irrigation to minimize the amount of time moisture remains on the leaf surface. Water deeply and infrequently. Recommended fungicides can help prevent further infection while corrective cultural measures are taken.

Slime Mold

Causal agent: various species

Susceptible turfgrass: All turfgrasses.

Conditions promoting problem: Wet, rainy weather.

Symptoms: Grass blades covered with black, bluish-gray, yellow, or tan fruiting bodies. May look like soot on grass. Affected patches of grass do not normally die or turn yellow and signs of the fungi usually disappear within 1-2 weeks. Color of fruiting bodies can range from white, gray purple yellow, orange or red. The fungi are not parasitic, but they may shade the individual grass leaves to the extent that leaves may be weakened by inefficient photosynthesis.

Control: Remove slime mold by mowing. Raking and disposing of the slime mold is usually all that is required. The slime mold will go away in warm-dry weather conditions.

Nematodes

Causal agent: various species.

Conditions promoting problem: No specific conditions; damage more noticeable during hot, dry periods.

Symptoms: Nematodes attack the root system, so above-ground symptoms may include appearance of drought stress or nutrient deficiency. Root system may be stubby, coarse, and possibly blackened somewhat.

Control: Have a soil test done, send root zone soil sample to a Nematology lab to quantify and identify the nematode species. Negative nematode effects will only occur if soil population numbers exceed estimated damage thresholds levels. Fertilize if necessary and water appropriately to keep grass as vigorous as possible. No nematicides for homeowner or landscape are available. Nematicides is available for golf courses on a limited basis. Be aware of restrictions.

Learning *for* Life

The University of Georgia and Ft. Valley State University, the U.S. Department of Agriculture and counties of the state cooperating. The Cooperative Extension Service, the University of Georgia College of Agriculture and Environmental Sciences offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, gender or disability.

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