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TURFGRASS DISEASE IDENTIFICATION CHART

Algae

Cyanobacteria

what to look for: Green or bluish-black tangled growth forming a thick mat on the ground surface that can be peeled off when dry. Interference with moisture uptake in turf.

growth period: Spring through fall

susceptible turfgrass: All turfgrass species common to golf and bowling greens, favors compacted soil and thin turf areas in warm and humid conditions



photo by Bruce Martin, Clemson University

Anthracnose

Colletotrichum cereale

what to look for: Irregularly shaped patches that are yellow to brown in color, black centers may also occur. Stem rot from late winter to fall causes easy detachment. The dead foliage and stems also become covered with small spiny growths known as acervuli. Destructive to greens, most evident in areas stressed from heavy traffic, low mowing, lack of fertilizer, or inadequate water.

growth period: Spring through fall

susceptible turfgrass: Annual bluegrass and creeping bentgrass; particularly severe in bluegrass



photo by Jeff Sexton, Madisonville Country Club, Bugwood.org

Bermudagrass Decline

Gaeumannomyces graminis

what to look for: Chlorotic patches (yellow to light green) often 8 to 24 inches in diameter appear initially. Off-color leaf blades may develop alongside green shoots at the edge of the diseased area. Thinned turf with brown, reduced root mass. Signs of dark brown root fungus. Most associated with overly wet root zones.

growth period: All seasons, prone to warm-season transition, rainy seasons, and extended periods of low temperatures and shorter day duration

susceptible turfgrass: Bermudagrass, bentgrass

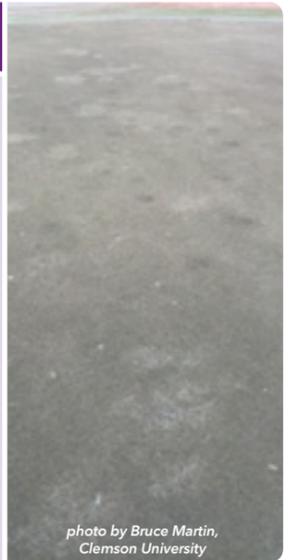


photo by Bruce Martin, Clemson University

Brown Patch

Rhizoctonia solani

what to look for: Somewhat circular patches of brown, tan or yellow blighted grass from 5 inches to several feet wide. Symptoms vary by turf variety, soil and weather conditions. Dark ring known as smoke ring may surround patch in wet or humid conditions (often in morning) signifying active disease development. Leaves typically remain standing.

growth period: Spring through fall, most severe with extended moisture

susceptible turfgrass: All cool-season turfgrass



photo by William M. Brown Jr., Bugwood.org

Curvularia

Curvularia spp.

what to look for: Turf initially shows yellow and off-color patterns and may present dark spots that increase in size. Discoloration extends downward from the leaf tip and infected leaves turn brown then grey as they shrivel and die. Irregular shaped patches of thinned turf occur.

growth period: Winter (particularly during prolonged wetness), spring (in transition zone), summer and fall in Bermudagrass

susceptible turfgrass: Annual bluegrass, Kentucky bluegrass, Bermudagrass, bentgrass, fescue, couch zoysiagrass



photo by Bruce Martin, Clemson University

Dollar Spot

Sclerotinia homoeocarpa

what to look for: Sunken, circular patches that measure up to 2 inches in diameter on golf greens and several inches on higher mown turf. Patches turn from brown to straw color and may eventually combine to form irregular shapes. Infected leaves can present yellow-green lesions with reddish-brown edges. Affected roots darken.

growth period: Late spring and early summer, may appear in early fall (Bermudagrass exhibits symptoms in early spring)

susceptible turfgrass: All cool- and warm-season turfgrass



photo by Barb Corwin, Turfgrass Diagnostics, Bugwood.org

Fairy Ring

Basidiomycete fungi (various)

what to look for: Symptoms vary appearing as darkened or brown arcs, rings or patches that are initially less than 12 inches in diameter, expanding in size each year. Can support the formation of fruiting bodies such as mushrooms and puffballs with or without a strong mushroom odor. Roots present orange discoloration and may have a strong mushroom odor.

Type I and Type II fairy ring symptoms are most common during hot, dry weather in the summer.

Type III fairy ring symptoms are more prevalent during extended periods of wet weather.

growth period: Type I and II: summer during hot and dry weather, Type III: periods of excess moisture

susceptible turfgrass: All species of cool- and warm-season turfgrass



photo by Lester E. Dickens, Bugwood.org

Gray Leaf Spot

Pyricularia grisea

what to look for: Symptoms vary by turf species, but generally appear as small, tan or gray spots on leaf blades and progresses to foliar blighting with a felt-like appearance. Damaged leaf tips will become hooked and twisted. Spots may have yellow or purple margins. Resistance species, such as bluegrass and bentgrass, may appear healthy in otherwise affected areas.

growth period: Summer and early fall (most severe in warm and humid weather)

susceptible turfgrass: Centipedegrass, perennial ryegrass, St. Augustinegrass, tall fescue



photo by Bruce Martin, Clemson University

Melting Out & Leaf Spot

Drechslera spp. / Bipolaris spp.

what to look for: Melting out is active in cool, wet spring; Leaf spot in summer. Both appear as small reddish-brown or dark purple spots on leaves and have stems that rapidly spread. Older spots become "eyespot" (with buff-colored centers and dark margins). Bentgrass can appear blue and matted. If severe, root rot causes patches of turf to thin, yellow and die.

growth period: Melting out is active in spring periods of cool, wet weather. Leaf spot is active in summer periods when the dew period is long.

susceptible turfgrass: All cool- and warm-season turfgrass



photo by William M. Brown Jr., Bugwood.org

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Summer Patch

Magnaporthe poae

what to look for: Symptoms appear suddenly and initially resemble drought stress, presenting as small one- to three-inch patches of pale grass with leaves turning gray, brown or straw-colored. Appearance resembles necrotic ring spot so proper diagnosis is key. Patches may expand and leaves may develop white streaks in response to heat and root damage.

growth period: Emerges in mid-summer with extended high temperatures in excess of 80°F following heavy moisture

susceptible turfgrass: Kentucky bluegrass, fine fescues



Red Thread

Laetisaria fuciformis

what to look for: Appears as 1 inch to 2 feet borderless patches of bleached grass with brownish red formations on leaves, eventually producing pink mycelium masses when water soaked or in the morning dew.

growth period: Occurs in late summer and fall following several consecutive days of wetness

susceptible turfgrass: Most common in fescue and ryegrass



Pythium

Pythium aphanidermatum

what to look for: Greasy, brown circular spots ranging from 0.5 to 4 inches in diameter and then quickly expanding. Leaves appear water-soaked and dark-colored then shrivel. White web-like cottony blight forms and patches frequently group together to form irregular areas of dead turf. Patches may appear bronze or gray in color. The shape of affected areas may form elongated streaks due to the drainage of water. Appears suddenly during hot, humid weather.

growth period: Occurs in areas with prolonged wetness and temperatures above 68°F

susceptible turfgrass: All cool- and warm-season turfgrass



Rapid Blight

Labyrinthula spp.

what to look for: Commonly appears as irregular patches a few inches to a few feet in size. Affected plants will have leaf lesions and appear water saturated. Diseased patches can die swiftly, within 2-3 days, leaving brown and/or orange-colored turf. Stress injury from mowing, treatment or topdressing can escalate disease symptoms. Soil sodium monitoring can aid rapid blight control as salinity above 2.5 dS/m is associated with rapid blight outbreak. Typically affects putting greens or overseeded turf.

growth period: Outbreaks tend to be worse in warm weather between 70-90°F and in overcast, low-sun conditions (soil salinity is the most pivotal factor)

susceptible turfgrass: Common and most damaging in annual bluegrass, roughstalk bluegrass, and perennial ryegrass grown in salt-affected soils



Mini Ring

Rhizoctonia zeae

what to look for: Appears as sporadic yellow rings with the grass inside the rings a darker green color.

Sheath blight symptoms appear on plants on the margin of the ring. Rings begin as plate-size, but can reach several feet in diameter in moderate temperatures with damage turning to bronze patches.

Fungal strands have typical *Rhizoctonia* species branch pattern. Pink and/or orange bulbils can be found on the dead grass tissue.

growth period: Associated with hot temperatures and/or stress (most commonly seen in the late summer through fall)

susceptible turfgrass: Increasingly common in Kentucky bluegrass (can also be present in annual bluegrass, Bermudagrass, creeping bentgrass, perennial ryegrass, tall fescue)



Take-All Patch

Gaeumannomyces graminis

what to look for: Initially appears as circular reddish-brown rings, crescents or spots in bentgrass stands. Infection progresses to yellow and wilted while roots turn dark brown. Other grasses often invade (in mixed grass stands only bentgrass is affected). Infected patches grow as much as 6 inches per year and can encompass several feet. Symptoms are more pronounced in hot, dry weather.

growth period: Late spring, early summer, and periods of stress induced by hot, dry weather

susceptible turfgrass: Bentgrass



Waitea Patch (Brown Ring Patch)

Rhizoctonia oryzae

what to look for: In bluegrass, brown ring patch appears as bright yellow rings (in bentgrass, they appear orangish-brown) ranging from a few inches to a foot in diameter. These circles can combine to present a scallop or honeycomb pattern. As the disease progresses, rings turn browner and become sunken. Common in stressed, dry areas and most damaging to greens with low nitrogen.

growth period: Develops during soil temperatures between 55-60°F then presents in the spring during sustained temperatures of 65-85°F

susceptible turfgrass: Annual bluegrass, rough bluegrass and creeping bentgrass greens



Yellow Patch

Rhizoctonia cerealis

what to look for: Also known as cool-season brown patch. Appears as 5 to 12 inch yellow or light brown rings or patches with yellow margins. Damage is cosmetic, but thinning can occur during prolonged periods of wet weather in late winter and early spring. Leaf lesions rarely occur. Gray "smoke rings" are possible.

growth period: Fall, late winter, spring and in areas with prolonged wetness and temperatures less than 60°F

susceptible turfgrass: Cool-season turfgrass, including bentgrass, annual bluegrass, perennial ryegrass



Large Patch

Rhizoctonia solani

what to look for: Erupts as circular brown areas several inches in diameter. Quickly increases in size and grows together to form irregular patches of blighted grass reaching 20 feet or more in diameter. A thin outer ring of yellow or orange can signal active infection. The damage to individual plants is confined to the foliage leaves and sheaths, which appear water-saturated then wilt and turn brown. Patch interiors become sunken.

growth period: In cool and moist conditions, most commonly when turf is in semi-dormancy (active in fall and spring in transition zones, can be continuously active in warm climates)

susceptible turfgrass: Commonly affects zoysiagrass fairways and tees, other warm-season turf, seashore paspalum, kikuyugrass and Bermudagrass



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