



THE OHIO STATE
UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

TURFGRASS DISEASE – INFORMATION CHART

Remember the main reasons for brown grass are adverse weather, poor soils and improper maintenance. The table addresses infectious diseases caused by fungal pathogens.

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DISEASE NAME	SUSCEPTIBLE GRASS	SIGNS & SYMPTOMS	ENVIRONMENTAL FACTORS	* MANAGEMENT STRATEGIES
<i>(Pathogen name, the fungus)</i>	<i>(All capital letters indicate most common affected grasses.)</i>	<i>(Signs are the fungus or a part of the fungus, symptoms are the result of the infection on the plant, abnormal appearance or growth.)</i>	<i>(Temperature & Moisture conditions that favor disease development.)</i>	<i>(This is the first line of defense and tool to manage disease. After these have been implemented and depending on the circumstances then fungicide applications may be considered.)</i>
Brown Patch/ Rhizoctonia Blight <i>(Rhizoctonia solani)</i>	TALL FESCUE PERENNIAL RYEGRASS BENTGRASS Kentucky bluegrass Fine Fescue (JUVENILE TURF PLANTS)	- Irregular to circular patches (6"-2') - Patches variable shades of tan to brown - Outer edges of patch may be darker - Irregular shaped lesions on leaves - Gray to white fungal growth may be present when turf wet and high humidity - May be confused with <i>Pythium</i> blight	Hot/Wet Days > 80 to mid 90s and warm nights, mid 60s +. Abundant water, wet soils. High humidity, at night and/or days. Lawns with shade or partial shade. Sites with limited air movement. Cloudy, slow drying conditions.	1) Avoid excessive Nitrogen fertilization, esp. in summer. 2) Avoid excessive watering & poor drainage. 3) Increase air circulation by removing surrounding vegetation & increase sun light. 4) Manage to prevent lush succulent turfgrass plants. 5) Lower mowing height of tall fescue to increase drying. 6) Select more resistant cultivars to the disease.
Dollar Spot <i>(Clariireedia jacksonii)</i> C3 <i>(Clariireedia monteithiana)</i> C4 <i>(Clariireedia homoeocarpa)</i> C3 <i>(Clariireedia bennettii)</i> C3 Before 2018 Referred to as <i>(Sclerotinia homoeocarpa)</i>	BLUEGRASS BENTGRASS Fine Fescues Perennial Ryegrass Tall Fescue Most Warm-Season Grasses (C4)	- Circular tan patches/spots (1-6") - Leaf lesions light tan with dark edges - Leaf lesions go across leaf blade (a band) - White fungal growth may be present in early morning when dew present.	Moderate days 60 to low 80s Prolonged periods of wet leaves. Dry Soil – results in slow growth and poor recovery from damage by disease. High humidity in turf canopy.	1) Avoid fertility deficiencies especially Nitrogen. 2) Choose a more resistant grass species. 3) Manage watering to minimize time leaves are wet. 4) Water to increase growth if soil is dry. 5) Select more resistant cultivars to the disease.
Fairy Ring <i>(Soil borne Basidiomycete fungi)</i>	All Turfgrasses	- Dark green or brown circles (1-20'+) - Grass in dark green ring may grow taller - Rings may turn brown and die - Mushrooms may grow in the ring - A white fungal mat may be present in the thatch area of the ring and smells musty	Grow over a wide range of temps. And soil moisture conditions, often favored by moist soils. Brown turf may develop in prolonged hot dry periods. May be seen in all seasons.	1) Improve water penetration in the root zone by aeration, deep watering, and using wetting agents. 2) Increase fertilization to “mask green rings”. 3) Remove infected soil and replace with clean soil & sod or seed the area. 4) Renovate the lawn by rototilling up the soil.
Gray Leaf Spot <i>(Magnaporthe oryzae)</i>	PERENNIAL RYEGRASS Tall fescue (in S.E. USA) (Confirmed on Tall Fescue in Ohio 2018.) (Confirmed on Fine Fescue in New Jersey 2018) St. Augustinegrass (in S. USA)	- Starts as v. small dark spots/flecks - Leaves often quickly wither and die - Irregular patches to large areas die - P. ryegrass affected, other grasses and weeds are usually not affected. - Over-all appears as drought stress - No fungus (mold) is found on plants	Prolonged hot and humid weather patterns in late summer and fall. Long summer stress conditions for cool season grasses. Moist soils, (turf may appear wilted as from drought <u>but soil is moist</u>).	1) Plant resistant varieties or avoid perennial ryegrass. 2) Avoid lush turfgrass, use moderate fertilization. 3) Manage watering to minimize time leaves are wet. 4) Use resistant grass species, i.e. Kentucky bluegrass. 5) Minimize turf stress; reduce compaction, avoid chemical injury (herbicides).
Leaf Spot/Melting Out <i>(Drechsler & Bipolaris spp.)</i>	KENTUCKY BLUEGRASS (Common bluegrasses) Fine fescue Perennial Ryegrass Tall fescue	- Initially small dark spots on leaves - Spots enlarge in size - Center of spots may be a lighter brown - Can be quite variable in color and shape - Leaf sheaths can be entirely infected - Crowns rot, turf thins - “melting out”	In Cool/Wet conditions but can also occur in Moderate & Warm temps. The KEY is prolong wet conditions. There are many different leaf spots <i>(Leaf Spotting usually in spring & fall, Melting Out in summer.)</i>	1) Raise cutting height. 2) Mow frequently to avoid stressing turf. 3) Avoid excessive nitrogen. 4) Avoid frequent watering and wet turf. 5) Select more resistant cultivars to the disease.

DISEASE NAME <i>(Pathogen name)</i>	SUSCEPTIBLE GRASS	SIGNS & SYMPTOMS	ENVIRONMENTAL FACTORS	* MANAGEMENT STRATEGIES
Powdery Mildew <i>(Erysiphe graminis)</i>	KENTUCKY BLUEGRASS Fine Fescue	- White or gray colored powdery appearance to leaf surface (does not easily rub off). - Leaves may yellow and turf stand thin.	Moderate/High humidity. Shade. Areas of poor air circulation.	1) Reduce shade. 2) Increase air circulation 3) Use resistant Kentucky bluegrass varieties.
Pythium Blight <i>(Pythium species)</i>	PERENNIAL RYEGRASS BENTGRASS Kentucky bluegrass (JUVENILE TURF PLANTS) (Rather uncommon on mature high cut turfgrasses)	- May start as small dead spots. - Leaves at first may be dark/black/greasy. - Plants that are dead and dry are brown/tan - Fluffy gray to white ‘cottony’ fungus may be present when disease is active. - Spots may run together and have an irregular shape, turf quickly dies, brown. - May be confused with brown patch.	V. Hot/Wet (This is a water mold, abundant water is required). (Days high 80s to 90s ++ and warm nights 70 and above). Often found in low wet areas, with poor drainage.	1) Improve soil drainage. 2) Increase air circulation by removing surrounding vegetation. 3) Avoid excess watering. 4) Avoid high rates of Nitrogen and lush growth. 5) New seedling often affected in hot wet conditions
Red Thread <i>(Laetisaria fusiformis)</i>	PERENNIAL RYEGRASS FINE FESCUE Kentucky bluegrass Tall Fescue & Bentgrass	- Patches appear as tan, light pink or reddish - Leaf tips and edges of leaves have fine pink or red strains of fungus present. - Size of patches variable (2-12”).	Moderate/Wet Foliage. Prolonged periods of wet leaves. Poor quality soil. Soils with low phosphorous.	1) Follow a complete fertilization program, avoid deficiencies in <u>nitrogen</u> and <u>phosphorous</u> . 2) Promote growth by aeration, proper watering, etc. 3) Use more resistant cultivars.
Rust <i>(Puccini species)</i>	PERENNIAL RYEGRASS KENTUCKY BLUEGRASS (Some varieties of Key bluegrass are susceptible, some resistant)	- Starts as small yellow flecks on leaves. - Flecks enlarge, to form rust colored raised spots (pustules, spores rubs off on shoes...) - Over all turf yellows and thins.	Moderate/Wet Foliage, Dry Soil (Dry Soil – slow leaf growth so poor recovery from damage). Poor quality soil, compacted soils.	1) Avoid fertility deficiencies especially Nitrogen. 2) Use resistant varieties of Kentucky bluegrass & perennial ryegrass or turf type tall fescues. 3) Water if dry, promote growth. 4) If soil compacted aggressively core aerate. 5) Improve poor soils by topdressing with compost.
Slime Mold <i>(Myxomycete species)</i>	All Turfgrasses	- Small pin head size balls/ debris on leaves, vary in color yellow, white, gray, purple, etc - Cosmetic problem, rubs off leaves.	Moderate to warm temperatures. Prolonged wet foliage.	1) Mechanically remove by raking or mowing. (Causes no injury, only cosmetic.)
Snow Mold / Pink <i>(Microdochium nivale)</i>	CREEPING BENTGRASS Perennial Ryegrass Kentucky bluegrass Tall fescue	- Infected grass in patches, bleached, matted - Grass appears slimy when wet. - Patches may run together to form large irregular affected areas. - Crowns are often alive for recovery.	Cool wet winters. Saturated, unfrozen, soil for long periods is ideal for development. No snow required. Occurs in winter and spring.	1) Avoid lush turf going into winter, keep mowing to prevent long grass going into winter. 2) Rake and remove leaves. 3) Control drifting snow, prevent piles of snow. 4) Provide adequate drainage, surface and subsurface.
Summer Patch <i>(Magnaporthe poae)</i> & Necrotic Ring Spot <i>(Ophiosphaerella korrae)</i> These are Patch Diseases	KENTUCKY BLUEGRASS Fine fescue	- Begins as dark wilted spots like drought stress (1-3”) and enlarge to patches (about 12” in diameter or larger). - Shapes are variable, crescents, streaks etc. - Outer edge of circles/patches are brown with green centers are common. - Crowns and roots usually die.	Warm/Extremes in soil moisture (fluctuating wet to dry). Poor quality soil, compacted, clay, buried stone and debris etc... Usually occurs on sodded lawns with poor site preparation (the turf has a weak or limited root system).	1) Avoid low mowing & thatch buildup. 2) Aggressively core aerate 2-3 + time per year. (pull 10 - 12 core per sq. ft.) 3) Water frequently to avoid water stress. 4) Use very slow-release fertilizer. 5) Renovate the damaged areas with resistant grasses, such as p. ryegrass or turf tall fescue but may not blend. 6) Maintain soil pH between 6 & 7.

* For fungicide recommendations check the web site below or check with the county cooperation extension officer and State Land Grant University in your area.

For additional information look under publications at - turf-disease.osu.edu