

Diseases of Warm-Season Grasses

Bermudagrass, Centipedegrass, Zoysiagrass, and St. Augustinegrass

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This guide is designed to help you identify the most troublesome diseases associated with warm-season turfgrasses. These include such grasses as bermudagrass, centipedegrass, St. Augustinegrass, and Zoysiagrass. A description of the major disease symptoms, a listing of specific management practices that can be used to prevent or reduce turfgrass energy by disease, and a chart to indicate when the disease is most likely to occur are presented.

- [Brown Patch](#) *Rhizoctonia* spp.
 - [Centipede Decline](#)
 - [Dollar Spot](#) *Sclerotinia homoeocarpa*
 - [Fairy Rings](#) *Mushroom-type fungi*
 - [Gray Leaf Spot](#) *Pyricularia grisea*
 - [Leaf Spot](#) *Helminthosporium* spp.
 - [Rust](#) *Puccinia* spp.
 - [Slime Mold](#) *Mucilago, Physarum, Fuligo* spp.
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Disease development is dependent on susceptible plants, a favorable environment and a pathogen. Diseases will not occur unless all factors are present simultaneously over a certain period. Management practices that favor a healthy turf such as planting improved, adapted cultivars, proper fertilization, and timely watering (for example, avoiding late evening watering) can prevent or limit turf injury by diseases.

Inspect your lawn frequently to detect diseases early. Correct identification of a disease may require the assistance of a qualified individual. Environmental stresses, improper lawn care practices, and insect pests often display symptoms that resemble diseases. If a fungicide is necessary, correctly identify the disease, select the proper fungicide, follow label directions, and apply it at the correct rate and time.

Contact your county extension agent, another qualified individual, or refer to the *North Carolina Agricultural Chemicals Manual* for additional information.

Brown Patch (*Rhizoctonia* spp.)



Turf Affected

Bermudagrass and St. Augustinegrass

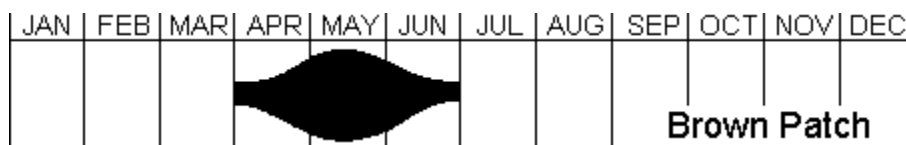
Symptoms

Circular brown areas up to 20 feet in diameter that develop during cool, wet weather in the spring or fall. Leaves wilt and die, resulting in large brownish tan areas. Brown patch usually is present in bermudagrass at time of spring greenup.

Management

Provide good drainage and avoid excessive nitrogen fertilization. The turf usually recovers in warm, dry weather.

Time Disease Occurs



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Centipede Decline



Turf Affected

Centipedegrass

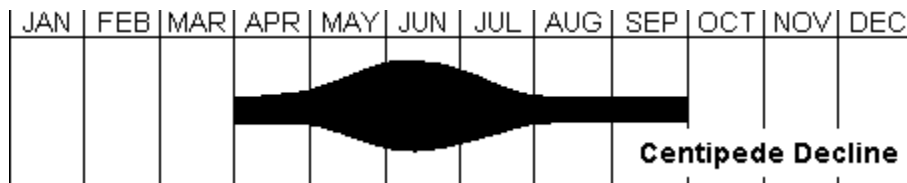
Symptoms

Circular dead areas appear in the spring and continue to enlarge during the summer. Grass at edges of areas may yellow, wilt, and die during stress periods.

Management

Maintain soil pH between 5 and 5.5 and avoid excessive rates of nitrogen (use 1 lb N or less / 1,000 sq. ft. / year) and phosphorus fertilizers. Ensure adequate potassium in summer and fall. Maintain the turf at 1 inch mowing height and apply iron to foliage if yellow. Avoid drought stress. If nematodes are causing the decline, irrigate as needed or select another type of grass.

Time Disease Occurs



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Dollar Spot (*Sclerotinia Homoeocarpa*)



Turf Affected

Centipedegrass, Bermudagrass, and Zoysiagrass

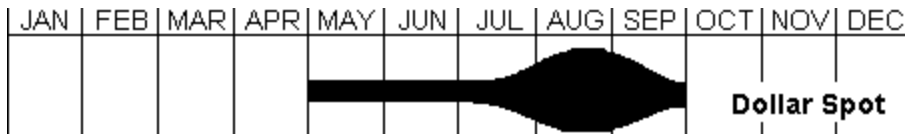
Symptoms

Straw-colored patches 2 to 6 inches in diameter develop in late summer. Light tan lesions with reddish brown margins develop across leaves.

Management

Adequate fertilizer will help the turf overcome this disease. Irrigate turf as needed to avoid drought stress.

Time Disease Occurs



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Fairy Rings (*Mushroom-type fungi*)



Turf Affected

All types

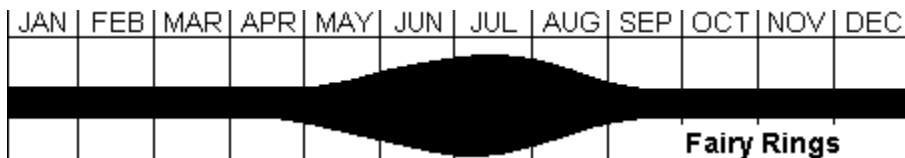
Symptoms

Large arcs or rings of very green grass, dead grass, mushrooms, puffballs, or a combination of these symptoms.

Management

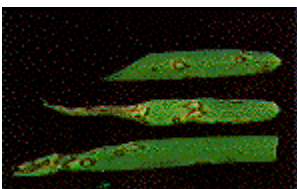
Remove organic matter (stumps, waste lumber) from soil before planting. Power rake to remove thatch when it exceeds 1/2 inch. Remove soil cores, spike or force water into affected areas to allow nutrient and water penetration. Avoid overfertilization in an attempt to mask the green rings. Soil fumigation or rototilling and replanting may eliminate fairy rings.

Time Disease Occurs



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Gray Leaf Spot (*Pyricularia Grisea*)



Turf Affected

St. Augustinegrass

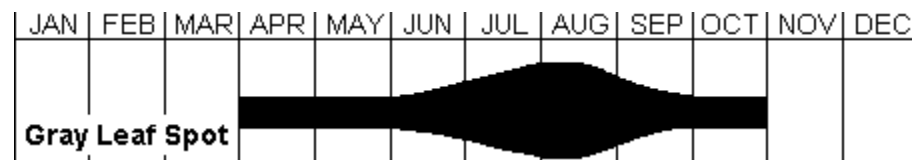
Symptoms

Oval or circular tan lesions that are bordered by purple to brown margins develop in warm, wet weather. Leaves wither and die if many lesions develop, giving the turf a brownish color.

Management

Avoid excessive fertilization with nitrogen when warm, humid weather is expected. Avoid late afternoon and evening watering. Prune trees and undergrowth to improve air movement and light intensity.

Time Disease Occurs



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Leaf Spot (*Helminthosporium* spp.)



Turf Affected

Bermudagrass

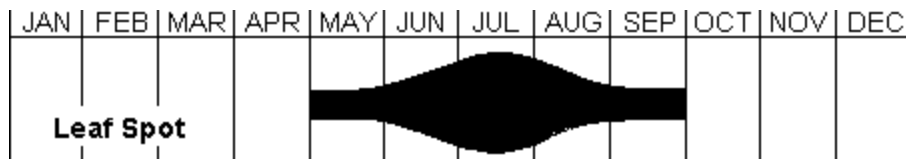
Symptoms

Dark, circular, or oval-shaped lesions develop on blades and stems. Some lesions become red, purple, or tan with dark margins. Turf appears yellow to brown if the disease is severe and becomes thin.

Management

Fertilize properly and avoid close mowing in late spring and summer. Keep mower blade sharp. Water deeply but infrequently and avoid prolonged leaf wetness.

Time Disease Occurs



Leaf Spot

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Rust (*Puccinia* spp.)



Turf Affected

Zoysiagrass

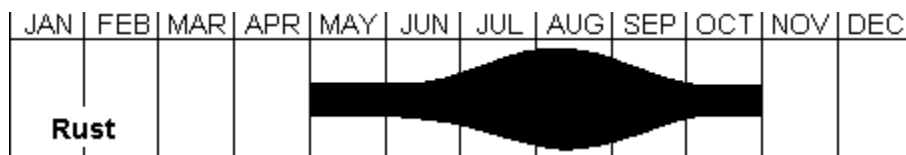
Symptoms

Small yellow specks on leaves and stems that develop into orange or red pustules. Heavily infected lawns take on orange or reddish hue and the turf becomes thin and weak. Rust is most often a problem in lawns with too much shade.

Management

Ensure adequate fertilization and dispose of clippings when symptoms are evident. Remove excess shade and maintain good soil moisture. Several fungicides can be used to help control the disease.

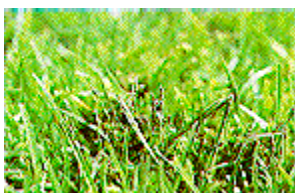
Time Disease Occurs



Rust

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Slime Mold (*Mucilago, Physarum, Fuligo* spp.)



Turf Affected

All grasses

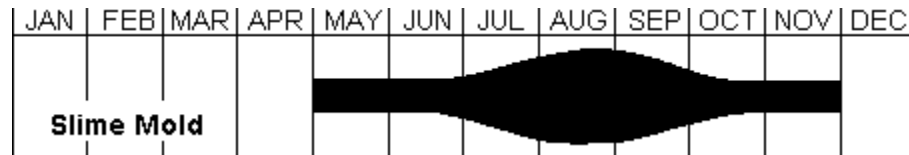
Symptoms

White, gray, powdery fruiting bodies that cover leaves in patches 6 to 12 inches in diameter during warm, wet weather. Fungus usually disappears during dry weather.

Management

Remove by brushing, mowing, or washing the turf. Slime molds are not considered harmful and do not require fungicide treatment.

Time Disease Occurs



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Spring Dead Spot



Turf Affected

Bermudagrass

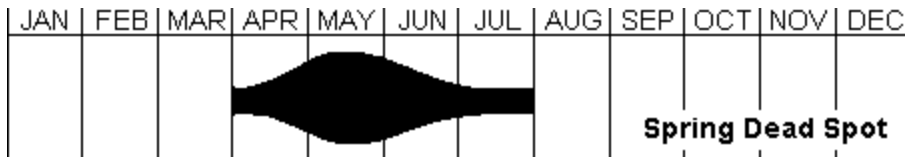
Symptoms

Dead spots appear in the spring as grass resumes growth, usually after lawn is at least 3 to 5 years old. Spots expand for 3 to 4 years, often developing into rings, and then disappear. Infected areas recover slowly and weeds frequently invade these areas during the summer.

Management

Avoid excessive nitrogen fertilization and do not apply nitrogen after late August. Raise mowing height and ensure adequate potassium in the fall. Reduce thatch by aerifying and pulvarizing soil cores. Some fungicides can be used in the fall to control this disease.

Time Disease Occurs



Spring Dead Spot

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Nematodes (sting)



Turf Affected

All grasses

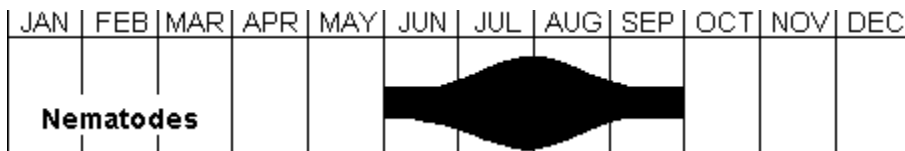
Symptoms

Turf becomes thin and does not grow well following fertilization and irrigation. This occurs most often in sandy soils. Roots are shallow and may be killed. Have soil samples assayed by the North Carolina Department of Agriculture to determine if nematodes are a problem.

Management

Plant the best-adapted turfgrasses and ensure adequate fertilization and irrigation to help overcome nematode damage. Nematicides are not labeled for use on residential turf.

Time Disease Occurs



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Integrated Pest Management

The Sensible Approach to Lawn Care

Many pest problems that cause your turf to look bad--diseases, weeds, insects and animals. If you are really unlucky, you may have all of them at one time.

So what do you do? Use a pesticide? Or, make changes in cultural practices? Both methods, or some others as well, may be needed. The balanced use of all available methods is called INTEGRATED PEST MANAGEMENT (IPM).

The idea is simple. It encourages the use of all available prevention and control methods to keep pests from reaching damaging levels. The goal is to produce a good turf and minimize the influence of pesticides on man, the environment and turf.

IPM methods include:

1. Use of best adapted grasses.
2. Proper use of cultural practices such as watering, mowing, and fertilization.
3. Proper selection and use of pesticides when necessary.

Early detection and prevention, or both, will minimize pest damage. saving time, effort and money. Should a problem occur, determine the cause or causes, then choose the safest, most effective control or controls available.

When chemical control is necessary, select the proper pesticide, follow label directions, and apply when the pest is most susceptible. Treat only those areas in need. Regard pesticides as only one of many tools available for turf care.

To learn more about integrated pest management, pest identification, turf care, and proper use of pesticides, contact your county Cooperative Extension Center.