

Gray Leaf Spot of St. Augustinegrass

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Introduction

Although gray leaf spot is an important infectious disease of warm-season St. Augustinegrass (*Stenotaphrum secundatum*) throughout the southern half of Arkansas, it can also occur on some cool-season turfgrasses such as perennial ryegrass (*Lolium* sp.) and tall fescue (*Festuca* sp.). Gray leaf spot is caused by the fungus *Pyricularia grisea*. It is a seasonal disease problem in St. Augustinegrass that becomes noticeable during hot and steamy weather. It occurs throughout the growing range of St. Augustinegrass but tends to be more common in the southern half of Arkansas. The fungus kills turf plants by causing severe blighting and defoliation of the leaves. It has not been shown to infect the roots of turfgrasses.

Gray leaf spot tends to be more problematic on intensively managed turfgrasses that are fertilized with high nitrogen applications during the summer months. Over-fertilization is a key factor in disease onset and severity. Soil compaction and improper irrigation practices also contribute to disease activity. Extended leaf wetness periods from overhead or late evening irrigations increase disease susceptibility.

This infectious disease can spread rapidly, especially under hot, humid weather conditions. Shady locations with poor air circulation also favor the disease. Gray leaf spot is active under conditions of high relative humidity or persistent rainfall or irrigations during July through September when temperatures are upwards of 85° F.

Symptoms

Damaged turf appears blighted or scorched as a result of widespread leaf infections. Heavily spotted leaves -

wither, giving the turf a thinned appearance and leaving irregular patches or streaks of blighted and chlorotic turf. From a distance, affected turf may resemble drought stress or other abiotic problems (Figure 1). Leaf spots start as small, dark brown lesions that enlarge into an oval or elongated area on the leaves or sheaths. Lesions later appear as a tan, “diamond-shaped” spot with a narrow purple or brown margin. Sometimes the spots have a yellow halo surrounding them (Figure 2). During moist weather conditions, the spots become covered with a gray, velvety layer of spores and mycelium. Numerous spots may grow together to turn the entire leaf brown. Microscopic spores (Figure 3), which measure approximately 21 microns in length, resemble miniature “snowshoes” and are dispersed by splashing water or wind. Spores or mycelium of the fungus may overwinter in turf debris. This plant debris can be a source for new infections in the summer. Subsequent infection may not occur until favorable environmental conditions develop. Extended periods of dry weather may slow disease development and symptom expression.



Figure 1. Blighted areas of St. Augustinegrass with gray leaf spot (courtesy of J. Pierson)

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Figure 2. Leaf lesions of *Pyricularia grisea* on St. Augustinegrass



Figure 3. Spores of *Pyricularia* sp. (courtesy of R. Cartwright)

Management

Cultural management for gray leaf spot should include keeping nitrogen fertility levels low during the summer and early fall. Homeowners should not apply more than 0.5 lb of N/1,000 sq ft during the summer. Drought stress should be avoided by monitoring soil moisture levels during the spring and summer months. Avoid mowing blighted areas during the morning as the disease is more easily spread when dew or excessive moisture is present. Homeowners should monitor lawn irrigation schedules and avoid late evening or night irrigations that may leave the turf wet for long periods. If feasible, time irrigations between

5 and 7 a.m. to reduce leaf wetness periods. Be sure to irrigate deeply but infrequently to avoid the potential for drought stress. Do not mow when the grass is wet. Clipping removal from blighted areas may be necessary.

For new plantings, homeowners should consider selecting a more resistant variety such as Raleigh or Palmetto. No cultivar of St. Augustinegrass is immune to gray leaf spot. Fungicides containing azoxystrobin, chlorothalonil or propiconazole are effective for gray leaf spot when used according to the label. Fungicides give better results when applied preventatively or during environmental conditions that favor disease onset. The use of fungicides can be an important management option for the sod producer. If gray leaf spot does become a serious and persistent problem in residential lawns, homeowners should consider the services of a professional lawn care company. Certain fungicides labeled for disease control may not be used in residential lawns; see product labels for restrictions. Consult Extension publication MP154, *Arkansas Plant Disease Control Products Guide*, at www.uaex.uada.edu for available fungicides for commercial or homeowner turfgrasses.

Additional Information

An effective disease management program begins with an accurate diagnosis. A laboratory exam in conjunction with background information about the turf may be required for an accurate diagnosis. For further information about gray leaf spot and other turfgrass diseases, contact your local county Extension office.

Additional fact sheets available at www.uaex.uada.edu.

Additional information about turfgrass management available at turf.uark.edu.

References

1. - Hagan, A. 1991. *Leaf Spot and Rust Diseases of Turfgrasses*. Auburn Univ. Alabama Cooperative Extension System. Bulletin ANR-621.
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4. - Vincelli, P., and A. J. Powell. 2007. *Chemical Control of Turfgrass Diseases*. Univ. of Kentucky, Cooperative Extension Service. Bulletin PPA-1.