



Gray Leaf Spot of Turfgrass: *Pyricularia grisea*

Introduction

Gray leaf spot, caused by the fungus *Pyricularia grisea*, is a disease that affects mainly annual and perennial rye grasses and tall fescue. It has been shown to cause minimal damage in fescues, bentgrasses and Kentucky bluegrass. The disease is of particular significance on the warm season St. Augustine grass and has been common in the Southern states since first being reported in 1971. Recently infections have been found as far north as Long Island, the lower Hudson Valley of New York State, and Pennsylvania. This disease is of great concern to mainly turf managers and less of a concern to homeowners.

Symptoms and Signs

Infections and subsequent symptomatic tissue can appear quite quickly. Damage is usually noticed during the warmer months of August and September. Conditions favoring infection include hot days over 80°F, nights with prolonged cloud cover when humidity is high, and prolonged leaf wetness. Infected leaves may have water soaked lesions and appear chlorotic. The youngest leaves often take on a characteristic fishhook shape. The disease is most severe on young seedlings. Gray to brown lesions range in size from 2-5 cm. At times, a yellow margin may surround the lesion and the leaf blades may have dark brown borders. The large amount of spores (Fig. 1) produced by the fungus creates a "felted" look to the leaf blades.

Damaged spots of turf first appear reddish-brown in color and 2-5 centimeters in diameter. If weather

conditions are hot, humid and dry for extended periods, the damaged spots may grow up to 40 centimeters in diameter. The disease progresses so quickly that large areas of turf can be lost within a few days (Fig. 2). Gray leaf spot symptoms can easily be confused with other diseases such as Drechslera Leaf Blight, Pythium Blight or Brown Patch. Additionally, abiotic problems such as drought stress can mimic Gray Leaf Spot damage.

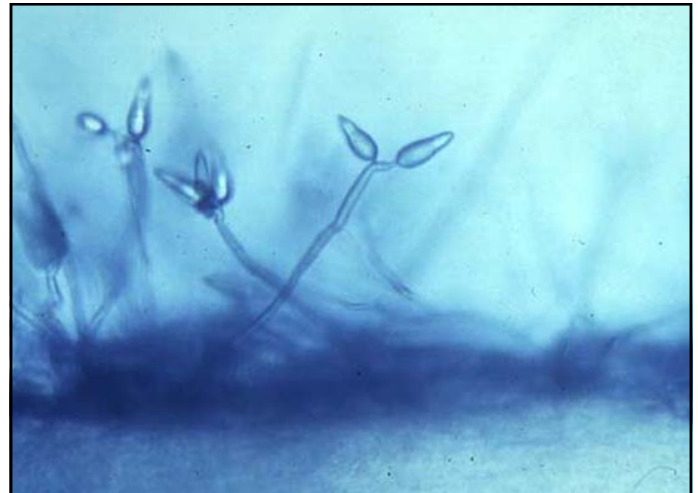


Figure 1: Microscopic view of the conidia of *Pyricularia grisea*. (provided by Dr. Peter Dernoeden, University of Maryland)

Disease Cycle

The pathogen can produce large amounts of infectious spores in a very short period of time causing symptomatic tissue to become evident and decline very quickly. Spores land on a susceptible host and germinate within a few hours. The pathogen then invades the leaf tissue through the cut leaf tips. Symptoms can appear within hours of infection.

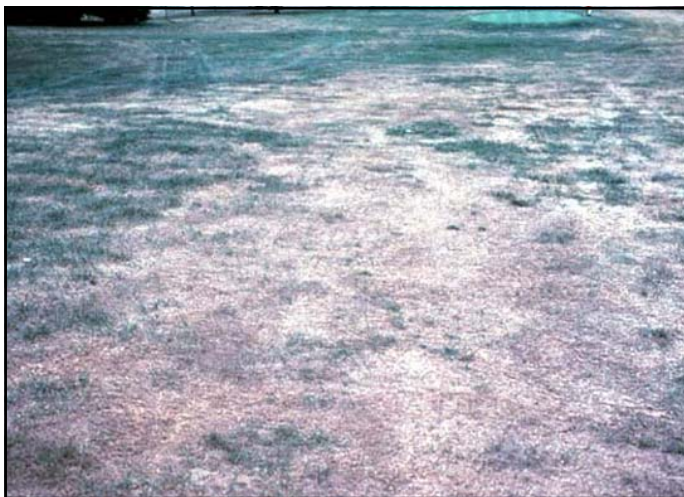


Figure 2: A large area of ryegrass damaged by *Pyricularia grisea*. (provided by Dr. Peter Dernoeden, University of Maryland)

Management Strategies

Where Gray Leaf Spot **has not been** previously diagnosed, be alert when optimum conditions for disease development occur, and monitor (golf course) roughs since disease will likely start there first.

Cultural options include removal of ryegrass species for replacement with a non-susceptible species such as bentgrass. Lower the cutting height since the disease is more severe on higher cut turf. Do not water early or late in the day to reduce prolonged leaf surface wetness.

Where Gray Leaf Spot **has been** previously diagnosed, applications of a preventative fungicide should be applied beginning in mid-July. Otherwise, if fungicide applications are needed, be sure to apply fungicides early in disease development. Once the pathogen has established itself, management with fungicides is quite difficult.

Although the disease is not likely to be a problem on home lawns, if it has been diagnosed, some products that may be available for use by homeowners in New York State may be found in our [turf fungicide table](#).

Commercial applicators please refer to the appropriate commercial pest management guidelines, or contact your local Cooperative Extension office for more information on currently registered products. Be certain any formulation(s) of pesticide(s) you purchase are registered for the intended use, and follow directions on the label.

Reference:

Compendium of Turfgrass Diseases, Third Edition, 2005. R.W. Smiley, P.H. Dernoeden and B.B. Clarke. APS Press.

Created KLS, 1/01; Updated SLJ 3/19

READ THE LABEL BEFORE APPLYING ANY PESTICIDE! Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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