

TURF TIPS Gray Leaf Spot in Ohio

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Over the Labor Day weekend and the week prior to Labor Day 2014, Gray Leaf Spot was active. Cases were confirmed in several locations in central and southern Ohio. This can be a very destructive disease to perennial ryegrass. If this disease is suspected and you would like confirmation send samples to the OSU Plant and Pest Diagnostic Clinic; ppdc.osu.edu.

Gray Leaf Spot is caused by the fungus *Pyricularia oryzae* (teleomorph *Magnaporthe grisea*) and can be a severe problem in the Midwest on perennial ryegrass. It is also a serious disease on rice called blast. Gray leaf spot can occur on ryegrass athletic fields, golf courses, home lawns and parks. Weather patterns that favor Gray Leaf Spot are warm to hot temperatures, excessive moisture and high relative humidity especially at night, and periodic rainfall.

Symptoms:

Gray leaf spot or Blast gets its name from the devastating scorched appearance it causes on the foliage of turfgrass. Quite literally, severe outbreaks look as if the turfgrass leaves have been scorched with a flamethrower! Initially symptoms of Gray Leaf Spot may appear as drought-like symptoms. Check the soil to see if there is adequate soil moisture. The pathogen kills the plant by causing severe leaf blight. Part of the blighting process involves the production of phytotoxic chemicals, which disrupt the normal biochemical and physiological balance within the plant. Initial symptoms often appear as small pinprick lesions, which often go unnoticed or mistaken as a less aggressive leaf spot disease. Under optimal environmental and host conditions, these small spots quickly turn into water soaked spots, which then coalesce into water-soaked leaf tips which then progress rapidly to twisted necrotic leaf tips. Patches of Kentucky bluegrass, fine fescues, bentgrass and many perennial weedy grasses and annual grass will not be affected. In later stages of disease development, the sward may take on a gray color as a result of the mass production

of spores/conidia by the pathogen – hence its name, gray leaf spot. In most cases the ryegrass will quickly die and appears as drought stress however the soil is wet. In years when there are Gray Leaf Spot outbreaks there is a strong correlation to weather patterns of warm days and nights combined with high humidity and rain fall from the remains of hurricanes that trace through the Ohio valley.

Cultural Management Practices:

- Reduce or limit nitrogen fertilizer in the summer. Avoid quick-release sources of nitrogen.
- Irrigate early morning and avoid evening irrigation. Check the soil moisture level because the disease mimics drought stress. Over watering increases the severity of this disease.
- On athletic fields be wary of using rain tarps during gray leaf spot-susceptible times (mid-August through September in the Midwest).
- Replace damaged areas with a resistant type of turfgrass such as Kentucky bluegrass.
- If ryegrass is planted use new perennial ryegrass cultivars that are developed to be less susceptibility to the disease. Check the National Turfgrass Evaluation Program (NTEP) website for results of field testing; ntep.org.

Here are some improved perennial ryegrass cultivars: All Star 3, Dasher 3, Defender, Derby Extreme, Fiesta 4, SR 4600, Harrier, Derby Extreme, Manhattan 5 GLR, Charismatic II GLSR, Palmer IV, Palmer GLS, Paragon GLR, Panther GLS, Protégé, Regal 5, Repel GLS, Revenge GLX, Fusion and Buena Vista.

When selecting seed make sure ALL CULTIVARS of ryegrass HAVE IMPROVED GLS RESISTANCE. If a cultivar is stated to have GLS resistance this does not mean it is immune and over time susceptibility to GLS can change.

Chemical Management:

Chemical management must be timed to prevent damage. Stopping this disease once established in a sward can be extremely difficult and may result in loss of turfgrass. Some of the most effective products are: thiophanate-methyl, azoxystrobin, trifloxystrobin, pyraclostrobin, and DMI's + chlorothalonil.

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Resistance to fungicides has been reported. No more than two applications of the chemical family's benzimidazole (thiophanate-methyl) or strobilurins (azoxystrobin/pyraclostrobin), for the season, is recommended to avoid the development of fungicide resistance. Read labels carefully for more information. Fungicide programs in most years should be started in mid-July to early August depending on historic patterns of disease development in the area.

Remember disease prevention applications, PRE-DISEASE, are much better and successful than POST disease infection applications.



An athletic field with Gray Leaf Spot (GLS) 2014, Columbus Ohio.



Close-up of infected perennial ryegrass with GLS.

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