

# Dealing With a New Invader: Gray Leaf Spot

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In late August, most superintendents in central and northern Illinois are starting to look forward to a relaxing fall season. By then, the heat of summer has usually passed and cooler nighttime temperatures tend to revive the weary cool-season turfgrasses. Too bad 1998 was not a normal year.

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*When gray leaf spot is suspected, it is important to take immediate action. To illustrate, this area was covered by a healthy crop of seedling perennial ryegrass just 72 hours before this photo was taken.*

*As evident by the foreground, the only way to protect stands of perennial ryegrass from gray leaf spot is to treat them with fungicides.*

*The reddish-brown lesions of gray leaf spot can be seen on mature plants with the naked eye. Nonetheless, it is always best to have a turfgrass pathologist confirm the diagnosis.*



During late August and September, one course after another rolled over and died as if they had been sprayed with Roundup® from a demented crop duster who was taking his lifelong frustrations on the links out on innocent superintendents. The cause of the problems experienced by most courses was not related to vandalism, as the true culprit was gray leaf spot (*Pyricularia grisea*). The fungal pathogen is extremely virulent on perennial ryegrass and is responsible for devastating losses on tees, fairways and rough.

Prior to 1998, gray leaf spot outbreaks were mainly concentrated in the Mid-Atlantic region with only a few isolated cases documented in central Illinois. As of this August, it had taken up residence all across Illinois, Iowa, Kansas, Missouri and Nebraska and should be considered a serious threat to all courses growing perennial ryegrass.

Because of the disease's rare occurrence during the 1990s, it has received relatively little attention from the scientific community. As a consequence, there are more questions than there are definitive answers. For example, will nitrogen applications during the fall make the situation in 1999 better or worse? Will raising the mowing height help the turf ward off infection? How much money should be earmarked in next year's fungicide budget for gray leaf spot control? Excellent questions, but there do not seem to be any concrete answers.

In tough situations such as this, it is often best to start with what is known rather than focus on what is left to speculation. For those turf professionals that may not have seen gray leaf spot as of yet, its visual symptoms begin as reddish-brown spots appearing on the leaf blades. From shoulder

level, the early stages of gray leaf spot look like faint reddish-brown patches approximately eight to twenty-four inches in diameter. As the disease quickly progresses, large areas of infected turf appear to be wilting. But unlike normal afternoon wilting, the turf does not respond to irrigation. In many cases, the symptoms of gray leaf spot can be easily confused with brown patch or Pythium.

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On seedling perennial ryegrass, the symptoms are less obvious in the early stages of disease development, the reason being that the leaf blades are very slender, and the lesions cannot be easily seen with a naked eye. A distinct twisting of the leaf tip is probably the easiest way to identify seedlings infected with gray leaf spot. This twisting causes individual plants to look like small fishhooks. Suffice to say, the later stages of gray leaf spot on seedling perennial ryegrass are identified

by complete crop failure. Knowing when to scout for gray leaf spot is a clouded issue because of the lack of scientific data. Specifically, no one seems to know the exact pattern of weather conditions that causes the disease symptoms to develop. In Indiana, the disease has been identified in mid-June. However, based on conversations with USGA agronomists and turf pathologist east of Illinois, the timing of most sightings is mid-August through early September. The end of gray leaf spot season is also fuzzy. While most summertime diseases become dormant with the first signs of fall, gray leaf spot activity has been reported as late as early November in Pennsylvania.

The best course of action if gray leaf spot is suspected is to immediately send a turf sample to Drs. Randy Kane or Hank Wilkinson to confirm the diagnosis. **Immediately** is the operative word as seedling stands of perennial ryegrass have been completely lost in a time span of 72 hours.

Controlling gray leaf spot with fungicide applications is a mix of good news and bad. The good news is that the fungus can be effectively controlled with several fungicides on both preventive and curative treatment schedules. The bad news is that either course of action can be very expensive.

Based on my personal travels, it appears that the most potent preventive treatment is multiple applications of Heritage at the rates recommended by the manufacturer. Courses that were fortunate enough to have applied Heritage for the control of brown patch and Pythium during mid-July and August have seen little or no gray leaf spot in treated areas through the end of the season. On a curative basis, Daconil tank-mixed with Banner has been

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effective on both mature and seedling perennial ryegrass. When it becomes necessary to treat on a curative basis, the spray intervals may have to be compressed beyond what is stated on the product labels and continued through the end of October.

Looking ahead, the future of perennial ryegrass tees, fairways and rough in the Mid-Continent region appears to be up in the air. While gray leaf spot can be controlled with fungicide applications, the cost thereof can be substantial when summertime temperatures persist thought late September, as they did during the 1998 season. For those low-budget courses that heretofore have not had to spray perennial ryegrass fairways, this situation is particularly troubling as it may increase the cost of golf beyond the means of their players.

For those that no longer feel that they can afford the cost of maintaining perennial ryegrass, there are, in reality, few options. Kentucky bluegrass is one and creeping bentgrass is the other. Unfortunately, each of these options has their own Achilles' heel and would require course closure during a fall season to establish. Determining which of the options is best, if any, is a subject for another article.

For those that have suffered from the extraordinary destructive powers of gray leaf spot, I can only hope that the golfers have been understanding and will support whatever future steps are necessary to prevent similar circumstances from reoccurring during 1999 and beyond. Having been surprised by gray leaf spot myself, dealing with this new invader has been a truly humbling and frustrating experience. 

## MAGCS College Tournament


Brian Bossert  
Bryn Mawr C.C.

A full field enjoyed a brisk, sun-filled day at Seven Bridges Golf Club on October 13. A big thanks to Don Ferreri and their staff for hosting the event. The Penn State Nittany Lions came away with first place in the annual college championship. Bob Kronn, Ed Fischer, Joel Purpur and Dave Blomquist made up the winning team, and Dave brought along a life-size Joe Pa to witness the event. The squad from Southern Illinois (Tim Davis, Jim Knulty, Tommy Robinson and Dave Schlagetter) finished a close second. The defending champion and perennial powerhouse group from Danville Area Community College came in third.

Bob Kronn and Ed Fischer were low for the day in the two-person

scramble event. John Meyer and Bruce "I only played four times this year" Schweiger finished first in the low net division. Jim Keith took long putt, Jeff Leuzinger the long drive, Rich Daly the straightest drive and Joe Betulius closest to the pin. Congratulations to all the winners!

Additionally, a local pantry benefited from the generous donations of canned goods and money. A big thanks to all who took part, and congratulations to Peter Leuzinger on winning the raffle prize: a new putter.

In closing, the golf chairman would like to acknowledge that the year was not without a few hitches. The board of the MAGCS appreciates the constructive criticism and has discussed changes and improvements for the events in the upcoming year. 

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