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RHIZOCTONIA  
DAMPING-OFF,  
BLIGHT AND ROT



# Under the microscope

PYTHIUM  
DISEASE



XDh86

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## GCI's turf experts discuss the southern disease trends you need to know about now for 2013. by Rob Thomas

**H**ome to sweet tea, SEC football and the Magic Kingdom, the South, it has been written, is more than a region — it's a state of mind. While the South has many wonderful things, it also is home to its own set of turfgrass diseases, which no doubt weigh on the minds of countless superintendents.

There are precious few weeks remaining before we close the books on 2012, but it's not too early to look back at the year and take a glimpse at what to expect south of the Mason-Dixon line in 2013.

2012 was a good year early when ample clean irrigation sources were available, though conditions changed, according to Dr. Philip Harmon of the University of Florida plant pathology department.

"Dry weather early in the year limited foliar fungal diseases, but tropical systems and regular rainfall later in the summer promoted summer bipolaris diseases on zoysiagrass and Bermudagrass and diseases like the Pythium root rot and blight that we don't typically see on Bermudagrass most summers," Harmon says.

John Foy, director for USGA Greens Section, Florida Region, took the look back one more month — December 2011 — and noted that there was a "fair amount of disease activity," but agrees with Harmon's assessment as 2012 kicked into full affect.

"It was very dry and warm dur-

ing winter and early spring — no diseases," Foy says.

Many southern states see an increase in play over the winter months due to cooler days and the influx of snowbirds. He says the general concern for superintendents now is to get their turfgrass as healthy as possible heading into peak season.

"Typically this time of year, when we get the change of season, shorter days, the growth of the grass slows down," he warned. "We're starting to see an increase in golfers now. It'll build up through Thanksgiving, then a lull before the January boom."

The timing seems to be good for many as Harmon sees some summer diseases on a decrease, though others are still a concern in certain areas.

"In the last month, we have started to see Rhizoctonia leaf and sheath spot sample numbers decline from their peak for the year on Bermudagrass greens to a few samples from South Florida," he says. "We are also seeing lingering Pythium root rot and Pythium blight issues where excessive rainfall has occurred in the last few weeks.

"Finally Bipolaris leaf blotch, also known as Helminthosporium leaf spot, is showing foliar spots on zoysiagrass fairways and tees and on Bermudagrass fairways, tees, and some greens," he adds. "Large patch has been active in the transition zone and is now (mid-October) becoming active in central Florida on zoysiagrass and seashore paspalum."

While the diseases facing southern superintendents aren't new to the region, Harmon says some could be classified as "emerging." They've been around, but have become more problematic or serious recently.

"Rhizoctonia leaf and sheath spot continues to cause problems that include patches and miniature rings of dead and yellow turf," he says. "The increase in the number of cases could be related to stressful weather conditions in the South, or more local stresses such as low mowing heights, minimal fertility programs and similar problems."

What about new diseases?

"We are still seeing a Fusarium pathogen on seashore paspalum that has not been characterized, but that appears to cause small chocolate brown spots about the size of dollar spot infection centers," Harmon says. "They are frequently associated with pink to orange tufts of mycelium in the early morning dew and occur during temperatures slightly higher than when we typically see dollar spot (before in fall and after in spring)."

DMI fungicides tend to give decent control, while strobilurin products do not, he adds.

Though not classified as a disease, Foy points to nematodes as becoming a problem.

"There's a much more pronounced issue all the way around," he says. "We had a warm, mild winter, so there was very little slowdown of nematode activity."

A big part of the issue is due to loss of many cures — such as Nematicur — that were taken off the market due to health concerns. The residue of the active

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*— John Foy, USGA Greens Section, Florida Region*

## KEY POINTS

- Rhizoctonia leaf and sheath spot decline from their peak for the year on Bermudagrass greens.
- Lingering Pythium root rot and Pythium blight issues remain in regions experiencing excessive rainfall.
- Bipolaris leaf blotch (aka Helminthosporium leaf spot) is showing foliar spots on zoysiagrass fairways and tees and on Bermudagrass fairways, tees, and some greens.
- An increase in the number of Rhizoctonia leaf and sheath spot cases could be related to stressful weather conditions in the South.
- In addition to pest factors, cold-temperature injury plays a role in the Bermudagrass decline on golf course turf.

ingredient – fenamiphos – was deemed not safe to golfers and those working the courses.

As you may imagine, weather often determines the probability and/or severity of many diseases.

“In addition to those [aforementioned] factors, cold-temperature injury seems to play a big role in the Bermudagrass decline or root rot problems on golf course turf,” Harmon

says. “How cold the soil gets, and for how long, play a role as you might expect, but injury can also occur with large, rapid temperature swings like we saw in February this year in Florida. Damaged areas in fairways, tees and greens are slow to recover where *G. graminis* var. *graminis* is present.

“In general, warm-season grass diseases are very much

avored by turfgrass stress due to environment, pests like nematodes and agronomic practices,” he adds. “Any practice that is good for the overall health and vigor of the turf should also reduce the likelihood and severity of disease outbreaks. Increasing mowing heights during stressful conditions and maintaining appropriate fertility levels are two excellent places to start.”

Foy also stressed that superintendents should protect themselves with best practices to maintain healthy turf.

“Superintendents are always under pressure to have faster greens speeds,” he says. “Be careful not to compromise the health of the turf heading into peak season.”

A broad spectrum treatment routine in rotation with common contact and systemic fungicides is key, but also pay attention to the weather and stay on a good program to maintain healthy turf.

It’s not all fire and brimstone. There are some positives coming out of the research labs like Harmon’s.

“For large patch disease of

zoysiagrass, I am seeing some excellent results from premix products that contain a DMI and a strobilurin active ingredient,” he says. “The key to getting good efficacy is to make the applications preventatively about a week before you expect to see symptoms. Keeping notes from year to year on when symptoms occur and paying close attention to soil temperatures also helps clue me in as to when to put out my preventative large patch applications. Two applications are usually adequate to prevent disease. Some breakthrough in the winter or spring may occur, but has not resulted in significant, lasting turf quality issues into spring and summer.

“Limiting late fall nitrogen fertility also helps reduce the severity of zoysia large patch,” Harmon adds.

With the good comes the bad, however.

“Several superintendents submitted Bermudagrass greens samples with apparent moderate-to-severe DMI phytotoxicity this year,” Harmon says, noting that some companies are marketing inexpensive DMI products as safe for Bermudagrass. “My experience has been that most DMI actives will significantly reduce turfgrass quality when the grass is under stress (as most putting greens receiving fungicide applications are). Although they have a place in some programs, the risks should be explained and disclosed.

“My advice is to consult beyond the salesman on the safety of these products, and hopefully these types of practices will self-select out of the market,” he adds.

Give a plant pathologist time and you’ll get an answer to any turfgrass problem. But research requires more than time ... financial support is paramount.



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“The most discouraging trend is the elimination or reduction of many sources of grant funds for turfgrass research,” Harmon says. “It’s difficult to compete against food and energy crops at the national level. In my opinion, without research, the industry is dead in the water. There are some real challenges coming down the pipeline with

regard to water resources and concerns over environmental impacts that will require continued investment in research to overcome.”

Looking ahead to 2013, Foy pointed out that it’s difficult to put a timetable on when to start protecting against certain diseases as it depends on when the weather starts warming up in the spring. Some overseed as early as

March and as late as May, as an example.

“You can’t write a cookbook recipe and say you started a program in February this year and you’ll do the same next year,” Foy says.

Harmon uses a “Yogiism” to describe the uncertainty: It’s tough to make predictions, especially about the future.

“If the climatologists are correct, a slight El Nino year may mean a slightly warmer and wetter winter season,” he says. “That would encourage leaf spot and melting out, pythium root rot and blight, and winter foliar diseases of warm-season turfgrass that can contribute to a tough transition when overseeding. It would also probably move the southern limit of where we see spring dead spot damage a little further north of the typical Florida-Georgia state line.”

Foy pointed out that infection of many diseases often occurs from late spring to midsummer, but symptoms become apparent in late September. By then it’s difficult to get recovery going.

Superintendents should be on the lookout for slowing growth, reductions in vigor or clipping production, and the first sign of disease symptoms, Harmon says.

“Utilizing a plant disease diagnostic service early in any disease problem scenario can really help provide better and more efficient options for disease management,” he says. “Early curative and preventative applications guided by plant disease sample results can reduce the rates and numbers of applications needed to manage turfgrass disease and is the key to doing it without blanket preventative applications of fungicide.”

Harmon suggests utilizing a lab that plates samples out and doesn’t rely solely on microscopy for their diagnosis. Most university labs and some of the better private labs offer this kind of service. Ask your sales reps to foot the bill; several companies will do that and view it as a good way to steward their products, according to Harmon.

As for timing, Harmon advises superintendents to be on the lookout for disease and beware of making assumptions when diagnosing problems.

“When it’s obvious enough to ‘eyeball-it,’ you’re probably pigeon-holed into more expensive curative rates and schedules,” he says. **GCI**

Rob Thomas is a Cleveland-based freelance writer and frequent GCI contributor.

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