

# NO NEED TO STRESS OUT

**ANTHRACNOSE ALWAYS LURKS ON FINELY MAINTAINED TURF. FORTUNATELY, MUCH HAS BEEN DISCOVERED ABOUT THE DISEASE IN THE LAST TWO DECADES.**

By Guy Cipriano

**A**nthracnose happens. It happens on *Poa annua* putting surfaces ... and sometimes on bentgrass. It happens when soil temperatures soar ... think above 70 degrees. It happens in the Northeast, the Midwest, the Mid-Atlantic ... and in parts of the Pacific and mountain West.

BASF senior technical specialist Kyle Miller calls anthracnose the “ultimate stress disease.” Turf managers sometimes correlate their own stress to the potential of an anthracnose emergence. The disease, after all, appears during the trickiest part of the growing season.

“I often talk about anthracnose as a chronic disease,” University of Connecticut assistant professor Dr. John Inguagiato says. “We have gained the ability to manage it, but it’s always there. It’s always lurking, and if you let your guard down, it’s certainly going to come up again and be a problem.”

Anthracnose has lurked in Inguagiato’s professional life for nearly two decades. He started studying the

disease as a graduate student working under the legendary Rutgers duo of Dr. Bruce Clarke and Dr. James Murphy. The comprehensive work studying cultural and chemical controls continues to improve the quality of greens in the anthracnose belt.

Anthracnose is a crown and foliar disease. Northeast-based turfgrass pathologists see plenty of it. Anthracnose and summer patch are the top two diseases sampled in the UConn lab, according to Inguagiato. Lab results provide a partial snapshot of anthracnose’s prevalence. “People have become pretty good at self-diagnosing the disease,” Inguagiato says. “It’s like dollar spot with self-diagnosis. I don’t ever get a dollar spot sample, but I’m pretty sure there’s a lot of dollar spot out there.”

What should superintendents be looking for? Yellow flecking is a visible symptom of anthracnose on *Poa annua*, according to Inguagiato. Miller suggests being cognizant of weakened turf with patches displaying yellow and orange. “You look at the turf and

you’re like, ‘Wow. It looks sick. It needs some CPR,’” he says. Miller cites traffic, mower, heat, leaf wetness, low soil fertility, close mowing, droughty conditions, wet conditions and slightly compromised root systems as stresses leading to the disease.

Controlling anthracnose requires careful examination of the following cultural practices:

**NITROGEN MANAGEMENT.** Research at Rutgers and UConn has found steady spoonfeeding in the summer and larger applications in the spring provide optimal nutrition for thwarting anthracnose. “Maintaining sufficient nitrogen fertility is really important,” Inguagiato says. “We identified early on that light, infrequent applications — a spoonfeeding approach of one-tenth of a pound every seven days — is really effective in reducing various diseases. We also both have found that putting a little more emphasis in your granular and higher-rate nitrogen applications in the spring was actually more benefi-

▲ Intensely managed cool-weather greens and fairways are susceptible to a stress-related disease such as anthracnose.



The more topdressing that we applied, the less anthracnose — or the less severe — the anthracnose was.” Over time, Inguagiato adds, sand builds up in the upper profile, creating scaffolding around the plant, thus helping it support the weight of a mower and “raising the height of cut a little bit.”

Chemical controls for anthracnose are aplenty and have been studied extensively, although limiting the scope of a program can place turf in peril. “There are some good fungicide chemistries out there, but I don’t think there’s any one chemistry by itself

some differences among the DMI fungicides. Some of the older DMI chemistries like triadimefon or myclobutanil when it was prevalent, even propiconazole, we see some of those to be a little less efficacious against anthracnose, whereas DMIs such as tebuconazole and triticonazole or metconazole are a little more efficacious.”

Options for anthracnose control increased last summer when BASF released a pair of new DMIs: Maxtima® fungicide and Navicon® Intrinsic® brand fungicide. “We have been really pleased with the way Maxtima and Navicon have performed on anthracnose,” Miller says. “We feel like that’s one of its strengths, along with dollar spot control. We feel like we have given superintendents another top tool in the toolbox to battle this disease.”

Once a fungicide rotation is developed, Miller urges superintendents to remain diligent with their summer programs. “Anthracnose is one of those things you don’t want to get behind on,” he says. “You want to stay ahead of the problem. You have to have tight spray intervals. Anything more than a 14-day program is probably not going to cut the mustard.”

Even with carefully adopted cultural and chemical controls, anthracnose will likely remain on the cool-weather disease radar.

“Our turf on golf courses is so intensely managed,” Miller says. “We’re mowing very, very tight and we want fast ball roll, so we sort of set ourselves up for this a little bit. That’s one of the reasons I think anthracnose will continue to be a problem 5, 10, 15 years from now. We’re asking more and more of the turfgrass.”

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▲ University trials conducted in the last two decades have helped the industry expand its awareness of anthracnose.

cial at reducing summer anthracnose than when you put the bulk of that fertility in the fall.”

**MOWING HEIGHTS.** The lower you go, the more susceptible turf becomes to anthracnose. Backing off just a bit, especially in the summer, can protect turf. “We looked at mowing heights just over one-tenth of an inch to .141,” Inguagiato says. “With each incremental change in mowing height, we would actually be able to see visual differences with the amount of anthracnose that was present.”

**TOPDRESSING.** Dispersing sand isn’t just good for playability. Research Inguagiato conducted during his stint at Rutgers indicated topdressing offers anthracnose protection. The results of the research surprised many, including Inguagiato. “The thought at the time was that topdressing caused wounds to the plant and that the fungus was probably getting into those wounds and making the disease greater,” he says. “We looked at different application rates and intervals in the summer.

that can provide season-long control,” Inguagiato says. “We have certainly learned that it takes a rotation of different chemistries. And oftentimes we get the best results when we use tank mixes and pre-mixes of different products that combine two different modes of action in a single spray.”

Based on trials at UConn and other universities, Inguagiato recommends building an anthracnose fungicide program for anthracnose control around chlorothalonil and “some type of phosphonate product.”

“Around that, I think you add in other modes of action,” he adds. “Historically, strobilurins or QoIs have been extremely effective against anthracnose. However, we have seen a considerable amount of resistance to that class of chemistry and the unfortunate thing with the strobilurins is that when you have resistance, you pretty much lose completely efficacy. It’s either all or nothing. If you don’t have resistance, then they can be a great option.

“The DMIs are good against anthracnose. We have certainly seen