Bermudagrass Decline problems? Beware triazoles

By MARK LESLIE

FT. LAUDERDALE, Fla. — Southern superintendents are living "on the edge" in growing Bermudagrass, and one researcher hopes to help prevent them from going over that edge in fighting Bermudagrass Decline.

"There is no way to fight the Bermudagrass Decline except by raising the height of cut," said Monica Elliott, associate professor of plant pathology at the University of Florida's Ft. Lauderdale Research Center. "Fungicides don't work. We've looked at other cultural treatments, too, in terms of increasing fertility and we see no response. The best response is to simply raise the height of cut.

"On a Tifgreen [Bermudagrass] putting green we went from 3/16- to 1/4-inch [height] and it was literally the difference between death and life. That's very subtle — 1/16 inch. But that is how close we are to the edge on Bermudagrass greens down here during the summer months."

Tifdwarf putting greens will tolerate a lower height, but even they won't survive a 1/8- or 5/32-inch cut all summer, she said.

Elliott's four-year research project focused on using triazole fungicides to control Bermudagrass Decline — a root-rot disease, she said. "That is when I discovered the negative response. None of the fungicides improved the quality over the check treatment where no fungicides were used. There was absolutely no positive response."

In fact, she said her research shows superintendents may be exacerbating their Bermudagrass Decline problems if they use triazoles. Although triazoles can work wonders on cool-season grasses, and even enhance their growth, Elliott found quite the opposite in warm-season climates.

"In some cases we see a negative response to triazole fungicides," she said. "They are in the same chemical class as some of the plant growth regulators (PGRs)..."

The Ft. Lauderdale project examined triazoles on Bermudagrass Decline in May through October. But Elliott said: "I suspect we would see a similar response in the winter — which is no response. We might even see a negative response again."

She said using triazole fungicides on Bermudagrass "once in awhile" would be all right. "But when it is used repeatedly, people tend to run into problems," she said, listing a color change (perhaps a greenish brown, or darker green) as well as reduced growth ("sometimes significantly, then the grass starts to thin out and weeds often can come in").

Elliott also warned about combining triazole products, such as a fungicide with a PGR, "because you will get a double whammy.

"There is also some concern with preemergent dinitroaniline [DNA] herbicides that inhibit root growth of grass weeds," she added. "If a turfgrass plant's growth is being affected by a triazole fungicide and you have these herbicides down, too, you may see problems in terms of recovery. The fungicides may be reducing the growth of the plant, which includes the roots, and so you shorten the root system up to the zone where the herbicides are located. Then you can't get the roots to recover on the turfgrass."

Meanwhile, research at the University of Georgia indicates that even on cool-season grasses, some of the new triazoles cause some growth regulation, according to Dr. Lee Burpee, who has conducted the research from the Griffin Station 30 miles south of Atlanta.

"We've looked at triazoles for control on creeping bentgrass with at least some of the triazoles," Burpee said. "When you apply them at the recommended rate for brown patch (usually one of the highest label rates) in June, July and August, we do see growth regulator effects. I can't say all the triazoles, but at least some."

"I think it's dependent on the product. Some are more regulatory than others," Elliott said.

The height-of-cut solution gives the turf a better chance of living even if its root system is poor, she added. "A lot of times, you can try gradually raising heights and explaining to the membership. A couple of courses that have few players during the summer are raising the height, period. When the bulk of the players return in the fall they have turf to play on.

"On public courses you have a problem. A lot of superintendents bounce the height up and down. When the turf starts to look real stressed, they raise the height."

Superintendents needing to maintain fast green speed can compensate for the raised height by such cultural methods as double-cutting, grooming, rolling and top dressing, Elliott said. "You don't want to roll all the time. But when you have to raise the height of cut to save the grass, you can increase the putting speed to keep your job."

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Elliott said she has suspicions about why triazole fungicides do not affect Bermudagrass Decline.

"One is the growth regulation response," she said. Second, a recent paper in an ecology journal reported that common Bermudagrass responds to low nutrition or low light.

"In a low cumulative light situation, which is essentially what we have in Florida in the summer months, Bermudagrass puts all its energy into stolons, not roots... This time of year Bermudagrass is at its best. It has an intensive root system and looks beautiful. Then it seems to gradually decline over the summer. Its best months are March to June. Then in August everything is gone. I think that is why we don't see a response to the fungicide. The plant isn't responding naturally to replacing roots yet."

ONE EXCEPTION AMONG TRIAZOLES

While other triazole-based fungicides regulate plant growth in Bermudagrass, a new product may be coming on the market next year that does not have that effect, according to University of Florida Associate Professor Monica Elliott.

"We don't see a negative response with Bayer's Lynx," she said. "Unlike the others, it does not stop growth."

Lynx, whose active ingredient is tebuconazole, is "progressing along, but not yet on the doorstep" of being released, according to Jim Dotson, Bayer's product development manager for turf and ornamental products.

"We are hopeful of registration [of Lynx] in 1996," Dotson said, "and that depends on EPA [Environmental Protection Agency] review time."