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"Anything lower than 0.1 inch is an accident waiting to happen."

TOM ATHY, OMAHA CC

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Kinsale and aerifies in the spring and fall. He runs a grade-and-verticut machine at least once a year with a possible move to twice annually.

"What I feel that does is gives us a very firm putting surface because it's removing excess thatch from our putting surface, and I think that's a real key," Sutton says. "That adds not only to the ball speed but also to the difficulty of sticking a shot on the green. That's a challenge to the low- and high-handicappers."

Sutton also singles out the implementation of L-93 on his greens.

"The development of some of the new grasses has helped green speeds. L-93 is a denser, tighter growing grass that gives a better putting surface. It's also a grass that does tolerate being mowed at an eighth-of-an-inch. It handles it very well, and you can actually go lower with it."

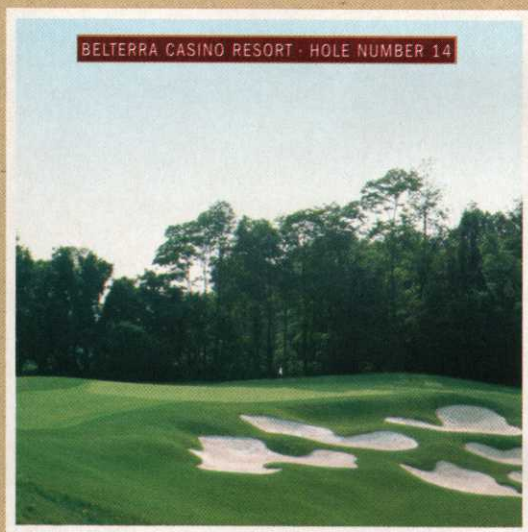
As for heights of cut, Athy says they generally range across the country in the 0.125-inch to 0.1-inch range. "Once in a while you

hear of lower heights," he says. "But most of us feel that the superintendent is either fudging the number or has just recently updated his resume. Anything lower than 0.1 inch is an accident waiting to happen."

Disaster might have already occurred, says Sutton, had it not been for mild summer conditions in 2003 and 2004. Similarly moderate temperatures might allow superintendents to remain at 0.1 inch or lower.

"But I'm wondering when we have our first hot-dry or hot-wet summertime what's going to happen with some of the very low mowing heights," Sutton says. "That's going to be a big test in the future."

"My course is only 1 year old ... and with the undulations on my greens, (golfers) are probably going to think that they're rolling a lot faster anyway. But I hear it from other superintendents in the (Columbus) area that are now mowing down at a 0.1-inch. We're still at 0.125-inch right now, but I'll probably go a little bit lower this year to try it." ■



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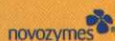
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Prevent Defense

The best way to control dollar spot on greens is to not let it surface in the first place, technical experts say

By Larry Aylward
Editor in Chief

Technical experts from some of the nation's top chemical companies put their money on preventive control to successfully treat dollar spot on putting greens. The remaining option, curative control, could be a losing bet for superintendents who want great-looking greens throughout a golf season, they say.

It's vital not to get yourself behind the eight ball when managing dollar spot, says Kyle Miller, senior technical specialist for BASF Turf & Ornamental. That means not waiting for dollar spot to begin in the first place.

"Dollar spot is a tough disease to control [after it has started]," Miller adds. "So if your courses have strong [management] programs to keep dollar spot out from the start, your lives will be much easier."

The big problem is that dollar spot leaves blemishes on putting greens, which need time to heal. Hence, the greens can look unsightly in spots and lack a uniform putting surface. The bigger the dollar spot problem, the worse a green will look and play.

And if the greens aren't healthy, superintendents can take it to the bank that golfers will complain about them.

"There will be lesions on the greens, and

they will take time to grow back," says Dave Ross, turf and ornamental technical manager for Syngenta Professional Products. "So [superintendents] will have to live with that."

Dollar spot is more severe in some areas of the country than others. "[In some areas], dollar spot can damage turf all the way down to the soil," Miller says. "In other parts of the country, dollar spot injury is more on the surface."

In areas where dollar spot is more severe, such as on the East Coast and in the Mid-Atlantic, it can take up to three weeks for turf to heal and for greens to return to their normal uniformity.

Perhaps dollar spot wouldn't be so much of an issue if it weren't for the pressure the industry — golfers and superintendents included — has placed on itself for having near-flawless golf course conditions. "We've created an image in the United States that we want perfect putting greens," Ross says. "Obviously, that's part of the problem."

But the pressure on superintendents to deliver the best putting greens possible is not the sole reason that Ross, Miller and other experts advise them to adhere to preventive

In some areas where dollar spot is more severe, it can take up to three weeks for turf to heal.



PHOTO COURTESY OF OKLAHOMA STATE UNIVERSITY

programs for treating dollar spot. The bottom line is that preventive programs make more economic sense than curative programs, the experts say.

Preventive programs will help superintendents save time and money in the long run because such programs will enable superintendents to use less fungicides. Yes, we did say less.

Locked up

By treating preventively, superintendents can keep the tiger in the cage, so to speak, says Rich Hanrahan, senior technical development manager of fungicides for Bayer Environmental Science. The key is to keep the disease population below the critical mass, Hanrahan says. That's achieved by knocking the population

back with preventive applications. "You want to knock back the population so it doesn't explode on you," he adds.

Ross also believes superintendents should take action to stop the disease from starting. "Because once you do, you'll allow more inoculant to be produced, you'll have many more spores, and you'll allow more opportunities to move that disease around your golf course and infect other areas," he adds.

Hanrahan says more superintendents are turning to preventive programs because they've found that dollar spot has become tougher to manage curatively.

"They've found they do have to put in more time, effort and material to manage it [cura-

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"[In some areas], dollar spot can damage turf all the way down to the soil."

KYLE MILLER, BASF



"You want to knock back the population so it doesn't explode on you."

RICH HANRAHAN, BAYER ES

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tively]," Hanrahan says. "And then they still might not be able to get rid of it."

It's a misconception to think that more pesticide is used and more money is spent on preventive programs than curative ones, the experts say.

"Curative" doesn't really mean what it sounds, Ross says, pointing out that a superintendent who treats greens with dollar spot will have to make more than one curative application.

Preventive programs also equate to lower application rates. "Almost every fungicide you look at is going to say, 'For curative applications, use the highest labeled rate.'" Miller says.

Ross notes that the preventive rate for a Syngenta brand fungicide is 2 ounces compared to 3.5 ounces for the curative rate. "So it's going to take almost twice as much product to stop a disease than it is to prevent it in the first place."

Preventive applications not only require lower doses, they can be applied more days apart. "You can stretch out an application further because you're not really dealing with the disease — you're dealing with the pathogen population and keeping it below that critical level," Hanrahan says.

Anticipation

John Price, an account manager for Dow AgroSciences, points out that dollar spot is most threatening between late April and early July when temperatures climb to 75 degrees Fahrenheit or above. The threat of the disease wanes in the hot summer months but returns in the fall.

But dollar spot control goes in hand with superintendents' ability to forecast when the disease might break out. So the challenge is for superintendents to anticipate dollar spot, Price says.

Their instincts to do so will improve over time, like once a superintendent has spent several years at the same course. "The person who's in his first year at a course and is inexperienced is more apt to struggle than someone who has been at that course for five years," Price says.

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Price's advice to superintendents to help them better predict dollar spot flare-ups is to keep a close watch on air temperature and moisture patterns, as well as know the history of dollar spot breakouts on the course.

The lay of the land, the number of trees and air movement on a course all dictate disease pressure. "There are certain places on a course where there will be more trouble than others places," Price notes.

When to treat for dollar spot differs from region to region. "It varies from place to place, but as a general rule I say to get one or two sprays down before your typical disease period begins," Hanrahan says.

Early spring and late fall preventive treatments are crucial to control dollar spot on greens, Miller says.

It's vital to make a fungicide application in the early spring about two weeks before the usual first application. Miller says studies reveal that early applications lessen dollar spot occurrence.

A late fall application is also crucial, Miller says, to rid turf of any remaining dollar spot inoculum left over from the summer.

In essence, superintendents must make two extra fungicide applications during the year if they adhere to Miller's idea of a preventive program. Miller realizes some superintendents might gripe at the cost associated with two extra fungicides sprays, but he points out the sprays only encompass on average about 3 acres of greens, not 30 acres of fairways. "In the grand scheme of things, I don't think the money outlay is that significant," he says.

What else?

There are other things to keep in mind in the battle against dollar spot, the experts say.

Ross warns superintendents to stay within label guidelines when treating dollar spot. Some superintendents think they need to spray preventively with a higher rate than what the label recommends. "That would be a waste of product," he adds.



"We've created an image in the U.S. that we want perfect putting greens."

DAVID ROSS
SYNGENTA

Price stresses that dollar spot be treated preventively on all fronts, not just with fungicides. Superintendents should adhere to proper fertilization as well as other cultural practices to keep the disease at bay. "I'm a big proponent of total management, not just being dependent on one tool," Price adds.

Regarding proper application for total effectiveness, Miller advises superintendents to avoid applying contact fungicides on dew-covered turf, even if they want to spray early to beat the golfer rush. That's kind of like painting your house when it's raining, he adds.

"Dollar spot is a foliar disease," Miller says. "You need to make sure that the contact fungicides reach the turf foliage where the disease has the

potential to occur. If you're spraying dew-covered turf, it's possible some of that product could roll off and not be as effective, especially if it's a contact fungicide like chlorothalonil.

"There isn't one formula for controlling dollar spot," Miller adds. "There are some best practices, but superintendents really need to experiment on their own courses to find what works best for them."



"I'm a big proponent of total management, not just being dependent on one tool."

JOHN PRICE, DOW AGROSCIENCES

As bad as dollar spot can be, superintendents could have it worse, Ross points out.

"The nice thing about dollar spot is that it's not like some diseases that kill larger patches of turf; it occurs in smaller areas of turf," he says. "So even in a bad situation, you can plug sod into spotted areas." ■

Poa Shakedown

Clemson professor offers 10 tips on how to disarm annual bluegrass

By Thomas Skernivitz
Managing Editor

As *Poa annua* paranoia creeps across U.S. courses nearly as fast as the invasive turfgrass itself, some clubs are implementing player checkpoints at the front gate. And whereas *No Shirt, No Shoes, No Entry* once was enough to weed out most of golf's bad element, the bigger worry these days is what's on those soiled shoes.

"Some courses have gotten so picky that they request golfers — before they allow them on the golf course — to wash off the bottom of their shoes and their clubs to help prevent the spread of *Poa* from previous courses played," says L.B. (Bert) McCarty. "That's kind of going to an extreme, but there are some courses that are bound and determined to not have *Poa* on their golf courses."

McCarty is just as intent to help those courses come clean. The professor of horticulture at Clemson University has researched *Poa annua* and its ever-growing impact on the sport.

"Certainly, the players know what *Poa* is today much more so than they did years ago," McCarty says. "The commentators on TV have picked up on *Poa* — good and bad — and, of course, when they start talking about it on TV at major tournaments, then Joe Blow golfer picks up on it and thinks he has a problem now. And when they know there's a prob-

lem, then of course, they start tapping on the superintendent's back more so than if they hadn't recognized it."

Compounding the situation, putting greens have become more susceptible to *Poa* because of decreased mowing heights combined with increases in mowing frequency, soil compaction and the amount of sunlight hitting the soil. Meanwhile, newer fungicides have aided *Poa* growth, while some mercurial- and cadmium-based fungicides that once kept *Poa* in check have been banished.

"Trying to keep *Poa* populations under control throughout a golf course is hard to do," McCarty says. "Out-of-play areas, in bunkers, on the lips of bunkers, around irrigation heads — those are areas that *Poa* can get very prolific. And obviously it can get tracked onto greens by machinery, golfers, a pitching wedge. ..."

The Roundup-Ready Creeping Bentgrass technology currently being tested would definitely aid the battle against *Poa*, McCarty says, but no one knows for sure when the product will receive regulatory approval. "We thought it would be here in '03, and here it is '05," he says. "We're hoping it will be here in '06 ... but maybe '07?"

Until then, *Golfdom* asked McCarty to expound on the 10 tips on how to control *Poa annua* on golf greens that he offers in his book, "Best Golf Course Management Practices."