



Experienced superintendents realize there are vital components to consider in fungicide rotation programs.

MARY CORCORAN

Spin Control

Proper fungicide rotation is crucial to a sufficient disease-management program, experts say

BY LARRY AYLWARD,
EDITOR

On occasion, superintendents must play the roles of spin doctors — not of the political kind, but of the fungicide kind.

Many turf experts suggest that fungicides be rotated in disease-management programs so turf afflictions such as dollar spot will not become resistant to the chemicals. Rotating fungicides takes some technical savvy.

What are the key factors to consider when rotating fungicides? And how many fungicides should be rotated?

Indeed, there's a method to the madness when it comes to the practice. Experienced

superintendents realize there are vital components to consider in fungicide rotation. Of course, location and weather have a dramatic impact on their programs.

An important point to remember, says University of Kentucky turfgrass professor Paul Vincelli, is that systemic fungicides, which are absorbed into turf, are at a greater risk for resistance than contact fungicides, which remain on a plant's surface and do not penetrate.

John Carlone, certified superintendent of the Meadow Brook Club in Jericho, N.Y., says the biggest key to consider when rotating fungicides is to rotate chemical groups, such as benzimidazoles, sterol inhibitors (DMIs), dicarboximide and strobilurins. "Then the

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mode of action is rotated, which is the best defense against resistance," he adds.

If modes of action aren't rotated, a turf disease could become resistant to an entire line of products in a chemical group, not just one brand, Vincelli notes. "If there's a resistance to one DMI, there's a resistance to all DMIs," he adds.

Bryan Tipton, certified superintendent of Sutton Bay in Agar, S.D., is interested in the two different resistant-management theories offered from respected turf professors Joe Vargas of Michigan State University and Houston Couch of Virginia Polytechnic Institute and State University. Vargas doesn't believe superintendents need to rotate fungicides to control dollar spot and other diseases, and says superintendents should use the same class of chemicals on diseases such as dollar spot until the disease begins to resist it. But Couch believes fungicide rotation is an essential part of resistance management.

Tipton says he's taken "a little of what both men say" and adopted their philosophies in his disease-management program.

"From experience, I like what Vargas has to offer," he says. "Couch tends to want to rotate fungicides more frequently, which I think may cause resistance to fungicides at a faster pace than sticking with one fungicide and using it until there is a full resistance."

"It's a difficult subject, and both Dr. Couch and Dr. Vargas have good points when addressing the issue."

Tipton also says that treating disease preventively instead of curatively allows larger amounts of fungicide into the environment, which helps diseases build resistance to the chemicals. "The fewer applications that are made, the better the fungicide will perform," he says.

Timing is everything

Vincelli, who spoke about resistance management at the Ohio Turfgrass Foundation Show in December, noted that proper timing of chemicals, as well as adequate coverage and application rates, are crucial components of sound

disease-management programs within fungicide rotation.

Carlone adheres to a 14-day spraying schedule on greens beginning in late April until early October. "I rotate fungicides depending on the time of year and what disease I expect to be most prevalent at the time," he says.

Carlone notes that he adheres to an 18- to 21-day spraying schedule for tees and fairways in April and May and again in September and October. He sprays tees and fairways every 14 days in June, July and August.

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THE MEADOW BROOK CLUB

"I will often spot spray as necessary on greens, tees and fairways throughout the growing season," he adds.

Carlone also advises superintendents to mix adjuvants in spray tanks with contact fungicides to achieve better coverage and performance.

Right stuff

Carlone says chlorothalonil offers the best broad-spectrum control. Terry Bonar, certified superintendent of Canterbury Golf Club in Cleveland, says chlorothalonil is the fungicide he uses most on greens, tees and fairways.

But Bonar adds that he sprays chlorothalonil weekly on greens at a lighter rate than recommended.

"We only spray seven-tenths of an ounce per 1,000 square feet, and the recommended rate is between 3 ounces to 5 ounces," he adds. "But we get good control with it."

Bonar believes the low rate is effective throughout the playing season because he begins his disease management program in mid-April. That's early, considering that the snow could fly in northeast Ohio around that time. Bonar begins the program by spraying greens with 2 ounces of iprodione per 1,000 square feet before switching to the low rates of chlorothalonil.

Carlone suggests superintendents use systemic and contact fungicides in their programs. He advises superintendents to check labels and recent research to make sure they're using fungicides that are rated "highly successful" against the diseases they're treating. For instance, Carlone says he would never use a triadimefon in July to control brown patch because it's not the best choice for that disease at that time of year. On the other hand, as Bonar points out, triadimefon provides excellent control of anthracnose and fairy ring.

Bonar, who says he treats mostly for dollar spot, also realizes that seven-tenths of an ounce of chlorothalonil won't work on brown patch.

"We do get some brown patch if we get a long run of hot, humid weather," he says. "Then we spot spray for it."

Carlone says he rotates nine different fungicides for turf diseases other than pythium. With pythium, Bonar says he rotates a mefenoxam and a propamocarb.

"But we only spray for pythium when conditions warrant — when it's hot and humid," he adds.

Carlone says he's satisfied with the new technology that basic manufacturers have introduced in the past few years to battle turf disease. He's particularly impressed with the class of strobilurins, which provide extended control at low use rates.

While fungicide rotation is a bit of an art in addition to a science, Carlone warns that superintendents don't want to get too cute with their treatment programs.

"Honestly, tricks don't work with diseases," he says. "I've been burned with outbreaks more than once trying to cut corners or save dollars." ■