Continued from page 33 nozzle type for droplet size in which to apply it.

"For fairy ring, for example, the fungicide needs to be placed in the upper inch or so of the soil profile," Corwin says.

Corwin notes the importance of proper application

"Make sure you have the right spray volumes and nozzles, so the fungicide is applied correctly," she says.

Superintendents should never make assumptions about disease or what fungicide should be sprayed to control it. They need to practice certainty in these cases.

"There are diseases that can take superintendents by surprise," Corwin says.

Corwin also doesn't believe a turf disease will hit 18 greens simultaneously or within a few days, what with the difference in air movement, shade and other factors on greens. Hence, she has never subscribed to the thinking that all 18 greens be treated for dollar spot even if only one of the greens gets the disease. But Corwin admits she has met opposition from superintendents on this

matter, and she understands where they're coming from.

"Superintendents sleep better if they go out and put fungicide on all 18 greens," she says. "They don't want to take the risk."

Spin control

There's also the matter of rotation in a fungicide program, which Gurke says is elementary to a solid fungicide program. Superintendents must rotate fungicides so certain turf diseases won't become resistant to them.

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.

Gurke says his turf disease challenges have more to do with anthracnose and brown patch. So his challenge there is to find a reliable rotation of products to thwart off those diseases.

Gurke says his rotation program differs from greens to tees to fairways. The fungicides most prone to resistance are the ones he uses the least. "I might use them once or twice a season," Gurke says. "I rotate around the chemis-

DOWN WITH DISEASE

Superintendents take various approaches to managing disease on cool-season turf



a preventive approach. However, we can take a curative approach in the fall because the weather doesn't favor dollar spot as much then, and the disease doesn't cause any significant damage."

> Scott Brickley has attacked dollar spot in the spring with boscalid with great success. The golf course superintendent at the public, 18-hole Bunker Hill Golf Course in Medina, Ohio, applies it only once in the spring, and that typically gets him through the year. "We might get a small outbreak in the fall, but we can accept that," he says.

Ted Cox combats dollar spot on bentgrass/Poa annua greens with a preventive program. The superintendent at

Scott Brickley discovered a successful program to combat dollar spot at his Ohio course.

the manager of golf courses

and grounds at the private,

36-hole Oak Hill Country Club

in Rochester, N.Y. "A good preventive plan is better because you

end up using less product. We take

tries apt to cause resistance."

On the other hand, Gurke uses the fungicides least prone to resistance most, such as chlorothalonil, which he says offers strong contact control of several turf diseases.

Gurke never tank mixes the same systemic products from one spray to the next. He also avoids using DMIs from July through mid-August.

"They can get a little hot and cause some phytotoxicity," he says.

Gurke also believes resistance is less apt to occur if fungicides are sprayed at longer intervals. Ten applications of the same product will not be at risk of resistance as much as 20 applications.

"If you're spraying every two weeks between applications regardless of conditions, you're setting yourself up for resistance more than if you're spraying every three to four weeks," he says.

Walter says chlorothalonil has become the cornerstone of his fungicide program. Walter witnessed resistant strains of dollar spot on his course's fairways in 1996. He sprayed propicanizole at the highest rate at three-week intervals, which led to the re-



sistance. Walter then had to eliminate a few fungicides from his rotation.

At the time, Walter also began using chlorothalonil, known to offset resistance better than other fungicides. He uses it every two weeks on fairways and greens.

Walter also tracks his fungicide use from a contact and systemic approach. Contact fungicides control disease by

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the public, 36-hole Running Fox Golf Course in Chillicothe, Ohio, applies propiconazole in spring and alternates chlorothalonil and iprodione throughout the summer.

"Every now and then dollar spot gets ahead of me, so I use a higher rate of what I already use," he says.

Weather is a big factor that determines how Bill Hamilton treats dollar spot, which isn't a significant problem for him. If Hamilton, the superintendent at the 36-hole Silverado Country Club and Resort in Napa, Calif., sees a couple of patches of dollar spot, he looks at the weather report, which will determine whether he'll apply a fungicide.

"In the past, I've taken a cup cutter and removed dollar spot without applying a fungicide," he says.

Brickley had a problem with anthracnose when he arrived at Bunker Hill 15 years ago. He learned what greens were susceptible, then removed trees to open up air movement and created programs to combat anthracnose. Originally, he used thiophante methyl, a curative fungicide. Then he changed the program to more of a preventive one — more of a summer stress program — that includes chlorothalonil and fosetyl-aluminum. Now, anthracnose is a secondary disease.

More than dollar spot or anthracnose, Hamilton's main concern diseasewise is snow mold. With the wet northern California weather, snow mold rears its ugly head regularly.

A good preventive plan is the best way to control dollar spot in the summer, says Jeff Corcoran.

Hamilton treats greens and tees only with PCNB (pentachloronitrobenzene) around Thanksgiving because he's in the process of converting the cool-season turf in the fairways to warm-season turf.

"Right now, snow mold affects the *Poa* in the fairways, but I don't care what happens to the *Poa* because I want to get rid of it," he says.

The one PCNB application is enough for the year if the winter is fairly dry. If the winter is wet, Hamilton retreats the greens and tees and with iprodione, fludioxonil or polyoxin D zinc salt once a month through March, or even into April, because the weather still can be cold and damp then.

"Snow mold will do its thing regardless of the turf's health," he says.

Hamilton says he has no problems with summer diseases. He'll get Waitea patch in the spring occasionally and take a curative approach. "We can see it coming because all my guys know how to scout," he says.

On top of that, Waitea patch cleans up easily, Hamilton says. "It's more of an aesthetic problem to me," he says. ■

Walsh is a contributing editor to Golfdom.