Researc

Research to pinpoint a certain time in the fall to use fungicides to suppress dollar spot the Ohio, and Carl Wittenauer, CGCS, at The Golf Club in New Albany, think he's on to something. Fungicide application programs much following season. Although Kresina, golf course superintendent and Wittenauer haven't changed their fungicide application programs, superintendents should apply fungicides to suppress dollar spot the fall when superintendents should apply fungicides to suppress dollar spot the following season. Although Kresina and Wittenauer haven't changed their fungicide application programs much based on Boehm's research so far, they think he's on to something.

Kresina and Wittenauer hadn't heard of spraying for dollar spot in the fall before working with Boehm. "I was doing the opposite of what Mike was suggesting," Kresina says. "The thought was there was no reason to put something down until signs of dollar spot appeared, which wasn't until the spring. But by October, it was very difficult to control. The fact that it was lasting that long was crazy. It wasn't making sense. When I talked to Mike, I wasn't sure where he was going, but it seemed logical."

Wittenauer had suspicions. "I'm a PCNB user for snow mold, and I've always questioned whether there was some benefit to that fall spray in the following spring," he says. "There seemed to be some correlation."

Kresina says superintendents in the Cleveland area spray for snow mold, and if they're using a fungicide that's effective for dollar spot control and they hit a certain window, they probably didn't see dollar spot in the spring. However, they didn't know they were suppressing dollar spot with the fungicide application for snow mold.

### FIELD ASSESSMENT

At The Golf Club, Boehm's research is being done on the tee end of a fairway. Kresina leaves one-third of the fairway untreated and two-thirds treated, which he marked.

"When you take a study and put it on a golf course, then it becomes real world," he says. "Mike didn't give me any restrictions except putting down fungicides (in a certain area). It's interesting to see results from not applying fungicides, one application, two applications, three applications and four applications."

Kresina says the most difficult part of the research is pinpointing exactly when the fall applications should be applied.

"I can't spray all through the fall and spring because we'll go broke," he says. "We need to pinpoint two times in the fall for effectiveness in the spring."

But temperatures have impacted the results of the study negatively.

In the fall of '03, Mike nailed it, but the following years, the weather was different, and the results weren't consistent," Kresina says.

Kresina says there are things in the fall — such as wet weather, which causes muddy turf conditions, and aeration — that can make it difficult to apply fungicides. And adding fungicide applications in the fall can cause change in timing, number of fungicide applications.
season. On average, the reduction of dollar spot severity was about 50 percent – better in some cases. Although significant from a scientific standpoint, this level of disease suppression wouldn’t likely be considered commercially acceptable to most golf course superintendents. One month later, on July 22, treatments three through seven, 10, 12, 13, 16, 17 and 19 continued to have significantly less dollar spot than the nontreated controls. (Data not shown.)

The results from the study clearly revealed single fall and early spring preventive applications of fungicides significantly reduced dollar spot severity the following season.

**FALL 2003 TO SUMMER 2004**

In September 2003, Amy Niver, a master’s degree student, and Mike Boehm, Ph.D., designed two follow-up studies as a continuation of the study conducted by Young-Ki Jo. Latin joined at this time. There were 18 treatments in the first 2003/2004 study. A detailed list of the treatments used in the experiment is listed in Table 2.

The first six treatments weren’t treated with any fungicide in fall 2003. The second six treatments received three applications of a combination or tank mix of chlorothalonil (3.2 ounces of Daconil Ultrex per 1,000 square feet) and propiconazole (1.0 ounce of Banner Maxx per 1,000 square feet) on Sept. 26, Oct. 17 and Nov. 7, 2003, respectively. The last six treatments received a single application of the chlorothalonil/propiconazole combination Sept. 26, 2003.

The thinking behind this approach was to have the turfgrass going into winter with different levels of pathogen activity, not necessarily disease. Specifically, the hypothesized dollar spot fungus would be the least active in the plots sprayed with the three applications of fungicide, active in the nontreated plots and somewhere in between in plots receiving only one application of fungicide. Latin confirmed suspicions by having a mild dollar spot epidemic late in fall 2003 and was able to document (data not shown) that disease pressure was moderate in the nontreated plots and absent in all plots that received any type of fall fungicide application.

On May 6, 2004, a single application of Banner Maxx, Daconil Ultrex or a combination of the two as described above was applied to half the plots. The goal was to overlay the treatments imposed in fall 2003 with an early spring preventive application. Another such application was intended to be made on the other half of the plots later in May, however, central Ohio and much of the Midwest and East was hit with a serve dollar spot epidemic about May 8. Because the intent of the study was to evaluate the impact of preventive fungicide applications on dollar spot, it was decided not to make these late May applications.

Each treatment was replicated four times per location. The experiment was performed simultaneously at three locations – the OSU Turfgrass Facility, Brookside and the Purdue University Turfgrass Research and Education Center in West Lafayette, Ind. (Data not shown.)

The results of this study supported early findings in that fall and spring applications of fungicides significantly reduced disease.