

Ounce of fungicide worth a pound of cure

Jim Ellis, grounds superintendent at Lincolnshire Fields Country Club in Champaign, Ill., feels very strongly about turf disease prevention at the 20-year-old course he has worked on since 1977.

Disease prevention on fairways began only five years ago when Ellis and the previous superintendent began overseeding with ryegrass to change the stand composition.

"The main reason," Ellis explains, "was to help combat what was known at that time as Fusarium blight. However, we also found that the ryegrass gave us excellent competition against *Poa annua*. Because ryegrass is generally vigorous at the same time as the poa, we've been able to hold our own and even decrease the annual bluegrass in some areas."

On the other hand, Ellis has no desire to totally eliminate the original Kentucky bluegrass either. Otherwise, he believes that Pythium blight would take over as a major disease. Hence, he tries to maintain a mixed stand "that will withstand the summers a little better" by overseeding with both species on a regular basis.

"In the past, we were on a treatment program that called for addressing problems as they appeared," Ellis recalls. "In other words, for budgetary reasons, we would do everything agronomically possible to discourage disease, and then treat those areas that became critical. That was essentially the practice for the first 15 years of this course.

"What we are trying to do now is slowly expand our budget in the area of fertilizer and fungicides to where we can get as much use as possible out of a good systemic product. Then if we still get a disease problem we hit it again."

While Ellis admits he has used just about every fungicide on the market, he currently limits his arsenal to a half dozen contact and systemic products—the mainstay of those being Rubigan, Bayleton and Cleary's 3336.

"We basically have two systemics that would be relatively expensive on a weekly basis," he says. "However, because they provide control for three to four weeks, the cost per day is very reasonable. So we may use Rubigan one week, and the next week we may come in with a contact fungicide for another problem," he adds, noting that fertilizer is often applied in the same application. Ellis says he was introduced to Rubigan in his quest for a chemical that would

prevent and control dollar spot, which, year in and year out, had been his biggest problem.

"One of the first uses of the product was on a fairway, where we set up test strips in cooperation with Elanco, to evaluate its effectiveness against the disease," he says. "Although there were already active dollar spots on the course, our goal was to see if we could prevent further outbreaks."

According to Ellis, the product not only stopped the disease, but turned the appearance of the turf around. "You could see exactly where the sprayer nozzle quit and where the check strip began," he says. "Not only did it clear up the dollar spots, but the turf that was treated actually looked greener. We've found since then that we also get some suppression of *Poa annua*."

More recently, though, Ellis has been experimenting with Rubigan to control the summer disease previously known as Fusarium blight.

Researchers have found that infection starts below the ground rather than on the leaves of the plant. Hence, a revised approach was taken to treatment and control. "Characteristically, we don't see patch disease symptoms show up until the end of July or the first part of August," says Ellis. "That's when you begin to see the textbook frog-eye pattern. That is, you have healthy grass in the center of a full or partial ring of dead or dying grass, surrounded by more healthy grass. As the disease becomes worse, the rings start running together until you end up with one big mottled area."

Referring to research done on his own course in cooperation with the University of Illinois, Ellis adds, "I believe at this point that the primary pathogens are actually working on the roots of the plant. What we are seeing on top may even be other pathogens that are attacking the weak grass plant; and that's when we are seeing the leaf damage. It also explains why you can't get complete control of it with a contact fungicide."

Having worked with both fungicides and patch disease for several years now, Dr. Joe Vargas, turfgrass pathologist at Michigan State University, readily concurs. "Part of the key is applying the fungicide early enough," he says. "By that, I mean May or early June before the disease has a chance to become established." He insists it is equally

important to select a fungicide that has proven effective against the disease you are going after. "Because of environmental conditions in our part of the country, it is pretty easy to identify them," he says, referring to the northern states. "We typically see necrotic ring spot on Kentucky bluegrass, summer patch on annual blue-



Dr. Vargas recommends an early application of herbicide.

grass and take-all patch on creeping bentgrass. However, as you move south, you may also see summer patch on Kentucky bluegrass. This summer we even saw summer patch on ryegrass. So you are never sure what you're dealing with. In most cases, the only way to tell the difference is to plate them out in the laboratory."

Rubigan, however, has been effective in suppressing all five pathogens.

Speaking from the experience on his own course, Ellis has to agree. Since the spring of 1986, he has been applying Rubigan as part of a program to prevent disease on tees, greens, approaches and those fairways that have exhibited the frog-eye pattern in past years. "The way I see it, no one can expect total control when we're not even sure of the problem," he says. On the patch diseases, Ellis notes that Rubigan is not quite as effective.

"It's not the night and day difference you see when you use it on dollar spot, but you can still see where it has been active," he says. "So everyone's line of thought is that the product does have some control of the problem. However, at this point there are still a lot of questions concerning rates, timing of applications, how deep to water it in and how much the different pathogens are affected by all of the above." **LM**