



Sterling Farms superintendent Greg Wojick (left) and assistant Peter Cavanaugh needed six years to convert fairways to 90-95% perennial ryegrass.

PUTTING POA IN ITS PLACE

Successful annual bluegrass control requires sound chemical and cultural practices, along with some understanding from the golfers.

When Greg Wojick became superintendent at Sterling Farms Golf Course in Stamford, Conn., six years ago, the fairways were a catch-all mixture of turf varieties. But the dominant species was *Poa annua*.

"It was nerve-wracking," says Wojick, "because poa just doesn't want to live in the summertime." Now that he has predominantly perennial ryegrass fairways, Wojick sleeps a lot better at night.

Wojick is one of many golf course superintendents in the northern U.S. trying to rid their fairways of what most consider the biggest problem they face. *Poa annua*—or annual bluegrass—is a profuse seeder which germinates in the fall, overwinters in a dormant state, and resumes activity

in late winter/early spring, before most perennial cool-season turf species begin growing. Once established, poa succumbs to stress caused by warm temperatures, moisture, disease and insects.

It often dies out completely during summertime. When this happens, the fairways resemble "one of those Army camouflage trucks you see on the highway," says Wojick. But seed begins to germinate again when weather cools down and continues germinating in flushes until winter dormancy sets in.

The trend toward lower fairway mowing heights in recent years has contributed to the problem since *Poa annua* produces seed and remains competitive at lower cuts. Excessive short mowing, combined with shal-

low irrigation and use of large maintenance equipment, creates an ideal situation for the shallow-rooted annual bluegrass to flourish.

Ecological niche

In short, poa seems to have found its ecological niche on golf course fairways. "Only two other species can stand up to the stress of lower cuts—perennial ryegrass and bentgrass," says Bruce Branham, Ph.D, assistant professor in the Department of Crop and Soil Sciences at Michigan State University. "But most of the older courses have Kentucky bluegrass fairways and if they've lowered cutting heights, they're mostly annual bluegrass."

Though annual bluegrass forms a dense, tight, upright turf and can be a



Foreman Bill Lockwood applies a pesticide to one of Sterling Farms' greens, upon which 65,000 pairs of feet trod per year.

good golf playing surface, the species is plagued with poor agronomic qualities, making it an expensive turf to maintain.

"I've talked to superintendents who spend over a thousand hours hand-watering their *Poa annua* fairways," says Branham. "And, in a difficult year, many superintendents exceed their chemical budgets just spraying fungicides on annual bluegrass."

Branham advises superintendents wishing to control poa in their fairways to use a combination of chemical programs and cultural practices that favor bentgrass or ryegrass. Among the cultural controls he recommends are:

Removing clippings. Clippings contain thousands of seeds, so removing them reduces opportunity for reinfestation.

Using lightweight equipment. *Poa annua* flourishes in compacted conditions. Switching to lightweight equipment such as triplex mowers will reduce compaction and favor growth of desirable species.

Deep, infrequent irrigation. Keeping the course on the dry side encourages growth of deeper-rooted varieties. However, Branham adds, this measure is easier in theory than in practice.

Delayed spring fertilizer application. By applying a later treatment, superintendents avoid giving annual bluegrass a boost before perennial ryegrass starts growing.

Using chemical controls. "Because *Poa annua* is a winter annual, it germinates in the fall and spring, but primarily in the fall," says Branham. "This means you must have a pre-

emergence herbicide in place in the fall.

"The problem is that poa, unlike other grass weeds such as crabgrass, is also a perennial. So every time you have a herbicide failure, you could have 10 to 30 percent conversion to annual bluegrass on your fairway. It doesn't die each year as do annual weeds. This also explains why conventional pre-emergence programs don't work against annual bluegrass."

In his research on annual bluegrass, Branham also has tried plant growth regulators. He has found them to provide sporadic control at best. They cause discoloration to desirable species and work very gradually.

However, Branham has had very promising results in his research trials with Prograss EC Herbicide from Nor-Am. Because Prograss has both pre-emergence and post-emergence action on annual bluegrass, the product both prevents seed from germinating and controls seedling or established plants.

"No matter how good your pre-emergence herbicide is, you'll always have some escapes with it," says Branham. "The beauty of Prograss is that it provides pre-emergence action and picks up those escapes. The timing of Prograss applications is ideal, too.

"While you may see some discoloration from the treatment, it's later in the year, when not as many golfers are playing."

Prograss may be used on ryegrass, Kentucky bluegrass or fairway-length bentgrass with no adverse effects on the desirable species. Rates and timing vary depending on the tolerance of the particular species.

Greg Wojick first used Prograss on a half-acre Par 3 fairway in 1984. He had been overseeding with ryegrass for two years and had a 40 to 60 percent stand. He sprayed Prograss in early August, overseeded two weeks later, and sprayed again a week later.

"The results were astounding," says Wojick. "First the poa got very sick and the turf was thin on that fairway. But after we overseeded, the ryegrass filled in the gaps and everything looked great. It convinced my management that we should go with Prograss on all 18 fairways the next year."

For the last three seasons, Wojick has sprayed one gallon of Prograss per acre on all fairways, followed by an overseeding of 400 to 500 pounds of perennial ryegrass per acre. His second Prograss application is made a month after the first treatment. He now has a 90 to 95 percent stand of ryegrass on all fairways.

Ryegrass instead

Wojick decided to seed ryegrass instead of bentgrass because he wanted permanent grass as quickly as possible. With 65,000 rounds of golf played yearly, Sterling Farms is one of the busiest golf courses in Connecticut. He felt ryegrass would handle the wear-and-tear very well.

Not only is it less nerve-wracking, he adds, but ryegrass is less expensive to maintain. Whereas he previously sprayed fairways with fungicides six times a year, he only treated four times in 1987. He also waters less, practicing the deep, infrequent irrigation recommended for good ryegrass stands.

He applies 3 lbs. of nitrogen per acre per year, and maintains pH at 6.0-6.5 with lime treatments. "Now that I have ryegrass, I think I could easily get bentgrass established if I wanted to," states Wojick. "The *Poa annua* just isn't a problem anymore."

Though he's also used Prograss on roughs, collars and tees, Wojick may skip his fairway applications next year since he feels his poa problem is under control.

As president of the Connecticut Golf Course Superintendents Association, Wojick is in a position to tell many others of the good results he's had on his fairways. However, he also gives them the following advice: "If you have a fairly large percentage of poa, you've got to let your membership know what you're doing before you spray the herbicide. You must realize that the product will work and the poa will die and the fairways won't look good for a while. So let people know you're doing it on purpose." **LM**