

# GROWTH REGULATORS FOR POA CONTROL

Two chemical means can be used to control *Poa annua*, or annual bluegrass, in other grasses. One of the means is by using turf growth regulators.

by Terry McIver, associate editor

**M**any golf course superintendents and other landscape managers consider *Poa annua* their biggest hurdle. Left to plant itself wherever it so chooses, this winter annual can become a handicap to the beauty and playability of golf courses, and the beauty of lawns.

When it's healthy and seedless, poa can be a pleasure for golfers. Its upright growth pattern provides a great fairway lie. Unfortunately, it lacks the endurance of most weeds, and its negative qualities—low disease immunity (anthracnose, summer patch, dollar patch), low heat tolerance and seedhead formation—outweigh the positives. The result is the summer devastation of many poa-intensive courses.

Germinating in the fall, poa remains dormant during early and mid-winter, and germinates again in late winter or early spring.

*Poa annua* needs little encouragement during its formative weeks. It grows and spreads easily, and flourishes best in compacted soil and shady areas.

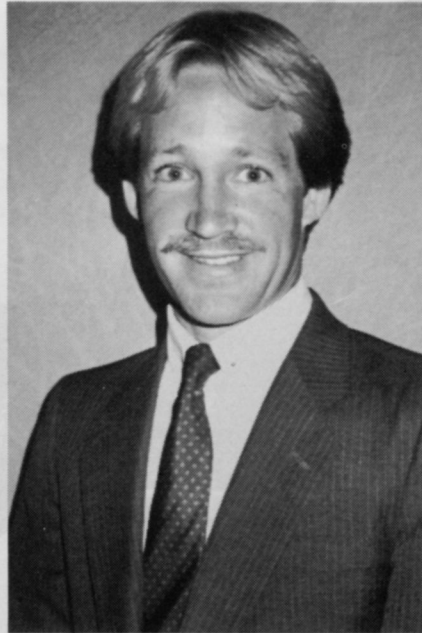
According to Cornell University's Norm Hummel, Ph.D., poa is well able to tolerate the lower oxygen content of compacted soil typical of high-traffic golf courses.

Dave Chalmers, Ph.D., Virginia Tech says poa's growth characteristics make it a mixed blessing for golf course managers. He asks the question, "What more could you ask for than a grass that reseeds itself?"

"Many courses have poa as their predominant grass," says Chalmers. "How they deal with poa depends on what level of quality the managers want their courses to attain."

How do we control *Poa annua*? Hummel says that a vigorous poa management plan should include mowing with lightweight mowers to cause less soil compaction than with tractors, and clipping removal, taking away the seed source.

Frank Dobie of Ohio's Sharon Country Club believes grass pickup



**Scott Niven: "Cutless controls the poa, we have fewer clippings, and use less water."**

has a minimum effect on seed control, considering the 10,000-20,000 poa seeds per square foot. Dobie believes that removing clippings means less heat caused by decomposition, giving bentgrass a more competitive edge.

Other proven poa fighters include:  
● On-time aeration with flexible tine equipment, to further reduce compaction;

● Deep and repeated irrigation, to stimulate deeper-rooted species, such as ryegrass, bentgrass and Kentucky bluegrass;

● Delayed fertilization in the spring, to deny poa the energy it needs to get a leg up on the perennials; and

● Low phosphorus fertilizers (poa thrives on high amounts of phosphorus).

Chemical tools used to fight poa are growth regulators and selective herbicides.

Hummel believes the two materials available to best combat *Poa annua* are Scott's TGR, a turf growth

regulator (paclobutrazol), and Prograss, a selective herbicide effective on newly-germinating, pre-emergent grass or newly post-emergent bluegrass (see sidebar).

Here are growth regulators labelled for this function:

## Scott's TGR

"Poa is a universal problem. Scott's TGR retards *Poa annua* while the bentgrass is stimulated," says Larry Widdell, senior project leader of research and development for TGR manufacturer O.M. Scott & Sons Co. "You thereby get a gradual reduction of poa post-emergence with sequential applications."

Widdell says that, in research conducted by O.M. Scott, bentgrass populations increased from seven to 90 percent in August, after May and June applications of TGR.

The product is registered for use on fairways, bentgrass greens, collars and roughs. "More research is needed before Scott's TGR can be recommended for tees," cautions Widdell. "Long-term, permanent suppression of *Poa annua* on these high-traffic, high-wear areas may be more difficult. Many tees, in fact, are nearly 100 percent *Poa annua* and conversion to other grass types would require much overseeding or possibly divot fill-in with a mixture of seed and sand."

Scott Niven, property manager for the Stanwich Club, Greenwich, Conn., and president of the Metropolitan Golf Course Superintendents' Association, says TGR has a strong effect on poa, immobilizing it so it can be overcome by the bentgrass.

Niven has tried TGR after the spring green-up and between mid-August and/or mid-September.

"It (TGR) does work," admits Niven, "but the biggest obstacle you have to overcome is a disgruntled club membership; if the course contains a high amount of poa, golfers must be told that the course will be yellow for six to 10 weeks."

Dobie reports that lately, Scott's

TGR has been used as a retardant by some course managers.

"It's put on a fertilizer carrier and taken up into plant roots. It causes a retardation of all plants, but it retards the poa for a longer period of time than Embark. The bent recovers sooner and spreads."

The Sharon Country Club has used TGR experimentally on one fairway. Prior to the experiment, the poa/bent ratio was 50/50. That ratio has improved considerably, to a full 90 percent bent growth.

Dobie is not using TGR on putting greens, but a number of golf course superintendents have, including Ken Aukerman of Weymouth Country Club in Medina, Ohio.

"I applied TGR on four greens last fall at normal rates," says Aukerman, "and it killed the poa too effectively, resulting in brown spots. Then it rained, and there were yellow areas on the greens. But by spring, they greened up beautifully."

Aukerman treated all the Weymouth greens this fall, and, as predicted, they started to green up on the 21st day following treatment. Now, the Weymouth greens consist of a mere 10 percent *Poa annua*, as opposed to 90 percent before the applications.

Niven did much experimental work with Embark a number of years

ago, and says that that product is best prescribed for seedhead control rather than poa control.

Niven recommends using Embark in early spring, just before seedheads

form. It will effectively stop seeds for four or five weeks. If, however, a manager attempts to correct a bad first application by a repeat treatment, there

*continued on page 32*

## A herbicide for poa

For many golf course managers, Prograss, from Nor-Am Chemical, remains the product of choice for controlling *Poa annua*.

"Nothing worked on *Poa annua* until we tried Prograss," says Roy Hourigan of the Harmony Landing Country Club in Goshen, Ky.

"We used it on one ryegrass fairway in the late fall of 1985. We applied two treatments a month apart at a gallon per acre. After the second application, I could tell the poa was starting to die. By the time I slit-seeded and got a stand in the spring, my fairway was about 90 percent ryegrass."

Hourigan has used Prograss on all Harmony's fairways since 1986, and says some areas have converted from nearly 100 percent *Poa annua* to about 80 percent ryegrass.

"We'll use it at the lower rate every fall as a maintenance program."

"We tried Prograss on our fairways and roughs in the fall at a ½-lb. per acre rate," says Niven, who applied it on ¾-inch bent fairways. There was minor discoloration, but the poa looked thin by the end of November. By April, it was overcome completely. We used it at a higher rate on bluegrass roughs, with equally good results."

Prograss was originally labeled for ryegrass, overseeded Bermudagrass and bluegrass, but recently expanded its use to fairway height bentgrass.

"We're very optimistic about Prograss's performance," says Don Maske, district manager for Nor-Am. "A number of superintendents whose courses have bentgrass fairways are trying the product and expanding further into a Prograss program."

—Terry McIver □

# POA 'PROBLEM' IN THE EYE OF THE BEHOLDER

by Eliot Roberts, The Lawn Institute

**A**n annual bluegrass, often referred to as *Poa annua*, comes close to being a universal grass. It can be found from east to west and from north to south wherever there is sufficient moisture for seeds to germinate, produce a new plant which can flower and yield a few more seeds.

Only a very short growing season is required to produce seed. Even under close mowing of golf putting greens, annual bluegrass will seed and perpetuate itself nicely.

As long as temperatures are cool and moist, annual bluegrass flourishes. When temperatures increase to produce the slightest stress on the plant, annual bluegrass weakens quickly. Shallow roots and disease

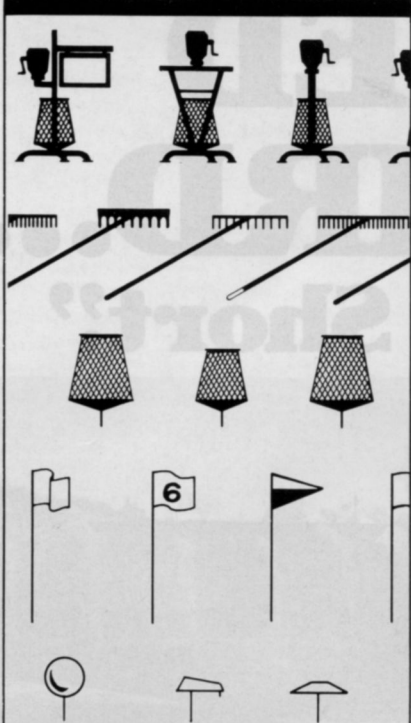
susceptibility are often cited as causes for this growth recession and ultimate demise of annual bluegrass-infested turf.

For as long as turf managers have been in existence, there have been two schools of thought for dealing with annual bluegrass. The first is to live with it. Keep it alive by providing for its needs in times of stress. This often has meant frequent light watering to keep it cool; use of fungicides and applications of fertilizer formulated to help it resist wilt. Low nitrogen and phosphorus with high potassium during the summer months work well. At other times of the year, practices that favor other basic grasses are emphasized to help establish a healthier, more competitive turf that will crowd out the

annual bluegrass. Unfortunately, most of these practices, such as core cultivation, thinning to control thatch and adjusting clipping heights, also favor annual bluegrass.

### Killing it

The second school of thought has been to kill it by whatever means will work best under local conditions. Many different types of chemicals have been tested with varying degrees of control. But annual bluegrass is such a heavy seed producer that soils contaminated with seed are hard to clean up. Thus any practice takes a long time to really show progress. Growth regulators are being used to cut back on seed production that in time helps reduce annual bluegrass



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More research is needed before TGR will be recommended for tees, says O.M. Scott's Larry Widell.

is the potential for excessive yellowing due to over-application.

Dobie says that he has also used Embark on Sharon Country Club's fairways for the last five years, to inhibit the growth of seedheads in the spring.

"It has worked effectively for inhibition and has slowed the poa down," says Dobie. "We've also been mowing the fairways for the past four years with the triplex greensmower. The combined practice has increased the course's bent growth up to 50 percent."

According to Dobie, the suspicion is that Embark's growth retardants cause poa to be stronger during the summer months because the poa

plant doesn't expend carbohydrate reserves. When poa growth retards in the spring, bent growth also slows, but it recovers faster. Soon the bent encroaches on the poa.

Dobie says that as an added benefit, seeding into a fairway one or two days after Embark is applied causes seeds to germinate before the poa recovers, and the new plants do not take in the Embark.

### Cutless on horizon

A long-awaited, soon-to-be-released regulator is Elanco's Cutless, which selectively inhibits growth. Experimental results have been quite positive in selective growth inhibition. Hummel says Cutless has performed well in golf course experiments, resulting in about a 90 percent bentgrass concentration where there was once 50 percent poa.

Cutless treatment can involve three to four years of continuous application, with several spring and fall applications used in conjunction with plant growth regulators. According to Hummel, the growth regulators in Cutless can knock the poa back, but will not kill it completely. However, courses can expect six good weeks of effective poa control.

"You can spray it on any time of the Year," advises Niven, "at 1/2-lb. per acre. But it will yellow the turf at rates exceeding 1 1/2 pounds per acre. Cutless has more flexibility to be used throughout the year at lesser rates."

"All things considered, Cutless is our choice," admits Niven. "It controls the poa, we have fewer clippings due to slower growth, water savings because the plant is healthier and requires less water, and we get broad-leaf control as an added benefit." LM

**"WHEN I HEARD ABOUT U.S. SAVINGS BONDS' COMPETITIVE RATE... I COULDN'T BELIEVE MY EARS."**

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