promote deeper root systems. Routine usage throughout hot, dry months delays the onset of symptoms of stress and provides improved turfgrass quality. Fall applications ensure better regrowth in the spring and reduced opportunity for winter dessication. The result is a year-round tool for turf professionals that gives better rooting conditions, more resilient turf, faster re-wets, firmer and faster playing surfaces, and significant water savings.

CONDITION:
- Poor water infiltration into ultra-dwarf bermudagrass or low cut bentgrass varieties
- Lack of penetration into thatch
- Water repellent soils or layers created by over-seeding
- Ponding and runoff
- Recommended Precision Product – Duplex™

Duplex is a multi-purpose surfactant that significantly reduces the surface tension of water enabling it to penetrate through mat and thatch into water-repellent soils, reducing ponding and improving playability after rain. Its unique formulation makes Duplex a convenient, easy-to-apply product that lessens the number of applications and reduces overall watering costs. Finally, Duplex is the only product that combines a soil surfactant with a product that treats hard water ions, allowing the surfactant to be more effective.

MANAGING BUDGET
Golf course maintenance professionals can more effectively manage their budgets by increasing the efficacy and accuracy of pesticide applications with Precision adjuvants, spray pattern indicators and foam markers.

University research shows that Microyl™ increases the efficacy of Drive® herbicide while reducing phytotoxicity.

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Keeping Poa annua out of bentgrass remains a challenge

A weed by any other name would grow as green.

Depending on whom you ask, annual bluegrass, or Poa annua, is a nuisance that should be ferreted out of a golf course or a wonderful grass that makes an attractive playing surface.

“At Oakmont, the Olympic Club, Winged Foot and Westchester – two thirds of the U.S. Open courses – it’s managed as a playing surface,” says David Huff, an associate professor of turfgrass breeding and genetics at Penn State University who conducts research about Poa. “It’s a weed, though.”

Although it can provide a nice playing surface, Poa annua is a remarkably invasive species.

“This organism is just fascinating from a biological perspective,” Huff says. “It grows on every continent, including Antarctica. Here’s an organism that has covered the face of the planet.”

Ron Calhoun, an environmental turfgrass specialist for crop and soil sciences at Michigan State Uni-
versity, says Poa is amazing because it changes to thrive in conditions where it’s growing.

“What’s cool about it is it’s 95-percent inbred,” Calhoun says. “If you have a plant that can survive under a certain set of circumstances, that plant is going to produce seed that will also survive in that situation. You develop your own personal Poa population that’s ideally suited to subenvironments on the golf course. It can produce seed at any mowing height and can be viable quickly. Most seed takes two weeks. There’s some evidence that Poa takes only a day or two. It’s unique among grasses.”

But so far, no one has come up with a marketable seed for Poa.

“If you’re a new course, what do you do?” Calhoun says. “You can’t buy Poa seed. You have to buy aggressive bentgrass seed. You spend thousands, and if you are vigilant from day one, you can try to keep it out. If you try to restore 10 to 40 percent, you can’t do it.”

KEEPIN’ IT REAL

John Zimmers, golf course superintendent at Oakmont Country Club (home of the 2007 U.S. Open near Pittsburgh), has been tending the club’s 100-year-old Poa greens for the past eight years.

“You try to manage what you have,” he says. “We manage our Poa, and we’ve learned what we need to do and keep it healthy, syringing it with lots of aerification and topdressing and drainage. Ours doesn’t do as well in damp conditions because perennials do better in the dry conditions. Our greens hold up well under dry conditions.”

Oakmont’s turf is a perennial Poa that’s a much higher quality than other types found throughout the world, and it doesn’t seed much, Zimmers says.

“It’s slow to grow and recover and slow to move laterally after aerification,” he says. “However, you can cut it shorter than any other grass I’ve seen. It’s the most unique Poa I’ve seen. I can cut below 1/8.”

OUT OF HERE

Ray Viera, superintendent at Hamilton Farm Golf Club in Gladstone, N.J., believes Poa is a disaster waiting to happen.

“As you lower mowing heights and turn up the heat, it’s a collision course,” he says. “It’s not an ideal grass for high-profile places anymore.

When people want fast greens, you’re bound to fail. It’s torture.”

With a grow-in, it certainly takes an enormous amount of planning in preconstruction to keep Poa away, Viera says.

“You have to anticipate when you plant,” he says. “The quicker you deal with it, the less chance a stand establishes. Quick coverage is key. It’s not chemicals. You can’t preout Poa annua on soil where you need to germinate grass. You have to have good watering practices and understand Poa annua is in that ground before you start. You have to keep it clean from the beginning. Then you have to cut it out, then keep it managed with chemicals.”

At Hamilton Farm, Viera has only a small population of Poa.

“We’re on top of it,” he says. “We use Cutless, which is toxic to Poa annua. It’s great for bentgrass regulation. We’ve been using it, and the Poa stays out.”

About one-third of Vierra’s pesticide budget is allocated to growth regulators, which are used to control Poa, among other things, so it’s hard to quantify by dollar amount.

If you spend a lot of money on a new construction or renovation project and plant any number of bentgrass varieties, Poa isn’t a welcome visitor. Take the course at the exclusive Double Eagle Club in Galena, Ohio. It’s a Tom Weiskopf/Jay Morrish design that’s maintained in as near perfect condition as it can be daily. Fewer than 10,000 rounds are played there annually.

“We’re 99.5 percent Poa free on the greens, which is remarkable for 16-year-old greens,” says superintendent Todd Voss.

One of Voss’ first defensive screens is having every person’s golf shoes changed and cleaned.

“It helps us control what spikes our people are wearing, and it has an added benefit of keeping people from bringing in Poa on their shoes,” he says.

When Double Eagle was built, it was a virgin field with mature woods, so there was little Poa on site.

“Our first Poa annua came in through bluegrass sod,” he says. “The sod source is more important than anything else.”

Voss warns others to be extremely vigilant when screening sod and seed sources and suggests starting programs that keeping Poa off a property.

“Statistically, they work, and if you’re trying to go from 60 percent to 20, it can work,” he says. “If you’re trying to go from 3 percent to none, it doesn’t work.”

Even though Voss is determined to keep Poa at bay, he doesn’t condemn the plant.

“What is wrong with Poa?” he asks. “It can be a fabulous grass. The problem with Poa is
the transition. You go through years of being new or renovated, and you start getting Poa. Then when you have about 30 percent Poa, you get those bumpy conditions that no one likes. Then once you get to 60 to 90 percent, those complaints stop. It’s the transition time – that’s the problem.”

Quent Baria, superintendent at Towson Golf & Country Club in Phoen-ix, Md., is a believer in Velocity herbicide for Poa control. “It’s the cornerstone of my program,” he says. “It’s so effective. Three years into the marketplace, I’m surprised it hasn’t had more press. It’s extremely selective and effective.”

But there’s an educational process the membership or clientele must endure when using the product, Baria says. “You’ll be looking at some voids in your turf,” he says. “But that’s a good thing. You have to rely entirely on the creeping nature of the bentgrass to take over where the voids are and you have to be patient.”

If the voided areas are too big, the Poa will come right back, Baria says. “If you don’t use a preemergent the whole time, you’ll just get the Poa back,” he says. “You didn’t acquire it in a year or two, and you probably shouldn’t try to get rid of it in a year or two. I have significantly cleaned it up. I’ve demonstrated I can win the battle in the short term.”

At The Country Club at Castle Pines in Colorado, Sean McCue uses Bensumec and either Velocity or TGR to control Poa. Photo: The Country Club at Castle Pines
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At The Country Club at Castle Pines in Colorado, the 22-year-old course has 10 to 25 percent *Poa* on its greens and 30 percent on the fairways.

“We treat greens, tees and fairways preventively as well as postemergently,” says golf course superintendent Sean McCue, adding that he uses Benumec as the preemergent herbicide and either Velocity or TGR after *Poa* has emerged. “About 20 to 25 percent of my chemical budget is allocated to controlling *Poa annua,*” he says.

McCue says it would be nice to reduce the *Poa* population, but realistically, he doesn’t believe it will happen.

“But agronomically, if we provide nutrition for the desired species, we can reduce the *Poa* with chemical treatments,” he says. “We’re beyond the point of physically cutting it out. Our populations are too large for that to have a positive impact on things.”

**ADVICE**

Calhoun asks those superintendents who are thinking of ridding their golf courses of *Poa*: Have you made a sober assessment of your *Poa* population?

“When it dies, it’s so ugly,” he says. “If you have *Poa*, you have to look at it as a renovation. Some products can give us some control, but it’s hard to take grass out of grass.”

There are postemergent products on the market, including Velocity, but superintendents must be careful with it, Calhoun says.

“Are you going to put that down a week before your member-member?” he says. “It selectively takes out annual bluegrass, but the rub is that it takes several applications. So you have to watch the *Poa* die. It turns the color of a manila folder, and it’s not subtle. If you have more than 20 percent *Poa*, you’re looking at Velocity as a selective renovation. It’s like using Roundup, except you get to keep part of your bentgrass.”

Often, when superintendents approach Calhoun, they either want to manage *Poa*, manage bentgrass or manage what’s there. For 5- to 8-year-old golf courses, Calhoun usually advises aggressive regulator programs that slow the *Poa* more than the bentgrass to give the bentgrass a competitive advantage. Cutless and Trimmit are the two big products for that, he says.

“For the first 25 years they were available, when we applied them in spring and fall, we’d see a lot of injury to the annual bluegrass, but the bentgrass wasn’t really growing at that time of year so there wasn’t any gain,” he says. “At the University of Kentucky, they did research and found you should apply it during the growing season. That gets them to 85 or 90 percent. The last part has to be done by hand.”

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Take Jacklin’s T1, for example. This creeping bentgrass ranks number one in NTEP trials for its rich, dark-green genetic color. T1 was bred to successfully compete against Poa annua, and its aggressive nature and ground coverage make it perfect for use on greens, tees and fairways.

The L-93 variety is another outstanding Jacklin bentgrass. The stress-resistant L-93, with its upright, fine-blade leaves, is a great fit for high-traffic areas. This variety offers superior dollar spot resistance, and ranked number one in tee and fairway performance categories at two consecutive national trials.

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Jacklin’s experience and expertise in producing high-quality seed is a great source of pride, and it shows in the company’s strong commitment to providing the best service while being a true storehouse of knowledge and advice for its customers.

Whether it’s for golf, sports turf, or lawn and landscape applications, Jacklin has a variety to cover any need, in nearly any growing condition.

For more information on Jacklin Seed by Simplot and its varieties, please call 800-688-SEED (7333), or visit www.jacklin.com.
In search of a silver bullet

David Huff, an associate professor of turfgrass breeding and genetics at Penn State University, is in search of a silver bullet for Poa annua.

“Not all Poa is the same,” Huff says. “It’s a world apart. It’s a different grass altogether. I don’t know how pervasive that knowledge is.”

“You’re not talking about a single plant,” Calhoun says. “Because it can adapt, it changes over time and by site. Because it’s inbred, it can produce another Poa plant that’s also ideally suited. It thrives in its situation. That’s why it’s the supreme weed.”

T.R. Massey is a freelance writer based in Columbus, Ohio. He can be reached at trm@columbus.rr.com.
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New uses for growth regulators seem to emerge daily

Plant growth regulators have been a veritable multitool for golf course superintendents for many years. Growth-inhibiting PGRs generally are used to control growth of warm- and cool-season grasses and for seed head suppression, primarily with Poa annua.

But, more recently, this type of PGR has been used to manage turf stress, especially under drought and shade conditions. Superintendents also use these products to enhance overall turf quality, promote a smooth and uniform playing surface and improve stress tolerance in intensely maintained areas.

**CREATIVE USES**

While growth reduction generally is the goal of plant growth regulators, a number of other creative uses have been developed, says Nick Christians, Ph.D., a professor in the horticulture department at Iowa State University.

"Poa annua control remains a serious problem for golf course superintendents around the world," he says. "One of the creative uses of PGRs has been to use them as part of a carefully structured integrated program to reduce Poa annua in golf turf. Giberallic acid-inhibiting (Type II) material doesn’t kill the Poa, but slows its growth more than bentgrass. Over time, this results in an advantage to the bentgrass. Success depends on the skill of superintendents in adapting the program to their particular situation."

**Rick Tegtmeier has declared war on Poa annua. One of his weapons – the plant growth regulator Trimmit. The director of grounds at the 36-hole Des Moines Golf & Country Club in Iowa uses the chemical on his A-4 bentgrass greens.**

"Trimmit helps the bentgrass by holding the Poa annua in check and even taking it out," he says. "We have a dense, compact, upright surface that’s still smooth in the evening after a day’s growth."

Tegtmeier also uses growth regulators in the fairways. For the first two applications in the spring, he uses a combination of Primo and Proxy to control Poa annua seedheads. Beginning in mid-June, he switches to Trimmit to slow the growth of Poa annua while the bentgrass is actively growing.

"On greens, we apply Trimmit from spring until the first frost," he says. "It’s a light application every two weeks. There’s another application just after aerification to help control any Poa annua that might have germinated."

Plant growth regulators have been known to improve turf consistency 20 percent through plant growth regulator use.

At Sun City Carolina Lakes, superintendent Aaron Nolan says he has improved turf consistency 20 percent through plant growth regulator use.