

WEED WARS

Superintendents look for ways to make herbicides more effective and affordable

By Steve and Suz Trusty



Superintendents agree healthy turf is the best weed control. Accordingly, they focus on developing and maintaining a dense, deep-rooted stand of thriving turf. Well aware of the environmental impact of all their turf management practices, they work hard to minimize chemical applications by following integrated pest management procedures, monitoring conditions, setting action levels and defining target areas for application.

Though weather conditions have the greatest impact on herbicide use, economic factors also play a role. Superintendents are becoming savvy managers of their budgets, so product overuse is seldom an issue. But the pressures of the economy, including the dramatic increase of gas prices, are forcing superintendents to monitor their budget allocations more closely to make essential applications.

Disease control, preventive or curative, is usually a measure to save turf. Yet, although weed infestations might jeopardize turf quality, impact playability and appear unsightly, they rarely threaten the turf's viability. Where and when weeds appear determines the type of control used.

ON THE SPOT

Each golf course is a patchwork of microclimates, challenging superintendents to adjust their practices to meet the specific needs of each setting amid ever-changing weather conditions. Superintendents follow the research, check out new product introductions and network with their peers to develop weed-control strategies that fit their needs.

Golf course superintendent Kurt Hellenga deals with many microclimates at Lakeview Golf

Club in Harrisonburg, Va. The 36-hole public facility is split into playable 9-hole segments. Hellenga maintains about 305 acres, including 5.1 acres of Penncross and *Poa annua* greens and about 4 acres of bentgrass, *Poa annua* and perennial ryegrass tees.

While Hellenga lists *Poa annua* as part of his turf mix, he considers it the most difficult weed he tries to control. He uses Trimmit – a PGR that provides seed-head suppression while acting as an herbicide on annual bluegrass – on the tees and greens

Hellenga says he's had good results using Barricade (proflam) for spring preemergent control of crabgrass, goosegrass and dallisgrass on tees and fairways. Dandelions and clover are the main broadleaf weeds he controls. He uses Confront (triclopyr and clopyralid) for control, adjusting the timing for weather conditions and

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TURFGRASS MAINTENANCE



Spot treatment is most effective for individual weeds or small groups of weeds. Photo: Steve Trusty

targeting only the high visibility areas for treatment. Any grassy weed breakthrough generally hits in late July. He spot treats with MSMA, or uses a combination of 2,4-D with MSMA or MCPP to control broadleaf weeds, too.

Fitting weed control into the budget is a factor for Jamestown Golf Course in Rhode Island. The nine-hole municipal facility just added preemergent controls to its program two years ago, says assistant manager Jon Mistowski. Jamestown's greens are a mix of bentgrass and *Poa annua*, and the tees and fairways are a combination of Kentucky bluegrass and perennial ryegrass. Fescues are in the rough.

Mistowski uses Barricade for crabgrass control, applying it in May mostly to the tee surfaces, targeted trouble spots on the fairways and the approaches. He spot-treats clover in June, applying Trimec (2,4-D, MCPP and dicamba) with a backpack sprayer. He hits the outbreaks, mostly within the tee boxes and approaches in areas totaling about 100,000 square feet. He also uses glyphosate for spot applications of weeds that pop up in bunkers or the parking lot.

Head grounds superintendent Jeff Pint maintains about 108 acres of bentgrass, annual bluegrass and Kentucky bluegrass at New Prague Golf Club, an 18-hole public facility in Minnesota. The area, like much of the upper Midwest, is cool and rainy in the spring.

Those needing preemergent controls struggled to find an application window. Many that made

early applications were finding weed breakthrough by early June, but Pint has managed to crowd out the grassy weeds with dense turf.

“We haven't needed a preemergent application for several years,” he says.

Clover and dandelions are the most problematic weeds at New Prague and used to be controlled with Millennium Ultra (2,4-D, clopyralid and dicamba). Pint made the first application in mid-May, working in the high-profile spots first, then covering as much of the affected area as possible by mid-June.

“With the boom sprayer, we could usually hit about one-third of the tees, roughs and fairways each year,” he says. “This year, we've had no application window during that time frame.”

While Pint achieved fairly good control at the recommended rate, the Millennium Ultra applications stunted the *Poa*, and it has struggled to recover.

“A sales rep suggested an alternative that we switched to in 2006,” he says. “We're now adding straight dicamba to the tank at a low rate when we make our growth regulator applications.”

Pint starts mid-May, weather permitting, and keeps repeating at three week intervals until the weather gets too hot around July. Then he starts back again in the fall. The first application knocks down the weeds that have emerged, and the application three weeks later takes them out.

SOUTHERN HOSPITALITY

Weed challenges in warm-season turfgrass are different from those in cool-season turf. At the private Shady Oaks Country Club in Fort Worth, Texas, Brent Doolittle, CGCS, manages GenTiff bermudagrass – an unmarketed experimental variety that performs much like Tifway 419 – on tees, fairways and roughs.

“We usually apply a granular fertilizer with Team Pro (benefin and trifluralin) preemergent in the fall for crabgrass, goosegrass, *Poa annua* and Shepherd’s Purse,” Doolittle says. “We can use spot applications of Roundup on the dormant bermuda to get anything that escapes. We have little weed pressure in the middle of the fairways, but the bermuda struggles along the edges because of the shade. We apply Ronstar (oxadiazon) there, usually in February.”

Doolittle and his staff have used Gallery (isoxaben) in areas where they’ve had a severe outbreak of Shepherd’s Purse but generally just spot treat them with 2,4-D using a backpack sprayer. Nutgrass is the worst weed problem.

“When I arrived here seven years ago, we were spot treating about 5 acres for it,” Doolittle says. “This year, we’ll probably treat about 20 acres.

Large areas of weed infestation are better controlled with targeted broad-area herbicide applications. Photo: Steve Trusty



The preemergent program works so well we don’t need the follow-up application of MSMA to keep the nutgrass in check. We use Monument (trifloxysulfuron-sodium) and Manage (halosulfuron-methyl), depending on where the nutgrass is located. Some seasons it takes two treatments to control it.”

Mark Smith, golf course superintendent at The Quarry at La Quinta in California, maintains warm- and cool-season turf.

The hybrid bermudagrasses are overseeded with a blend of perennial ryegrasses. Greens are Tifdwarf bermudagrass, tees and fairways are Tifgreen, and the rough is Tifway 2.

Smith uses Barricade for preemergent crabgrass control and applies it in March, only covering the infested area, which is about two-thirds of the fairway.

Smith’s two main broadleaf weed problems are cudweed and spotted spurge. Generally, the turf is thick enough to hold its own, but Smith spot treats as needed with Trimec or Speed Zone (2-ethylhexyl, dicamba, MCPP and carfentrazone-ethyl). He also uses Gallery and Ronstar in the 8 acres of dormant turf that aren’t overseeded at different times of the year.

During overseeding, Smith uses a preemergent herbicide, either Ronstar or Surflan (oryza-

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Dandelions pop up quickly when weather conditions delay mowing. Photo: Steve Trusty

lin), in the landscape beds that are within the turf area and along the bunkers to keep the perennial ryegrass seed from taking hold there.

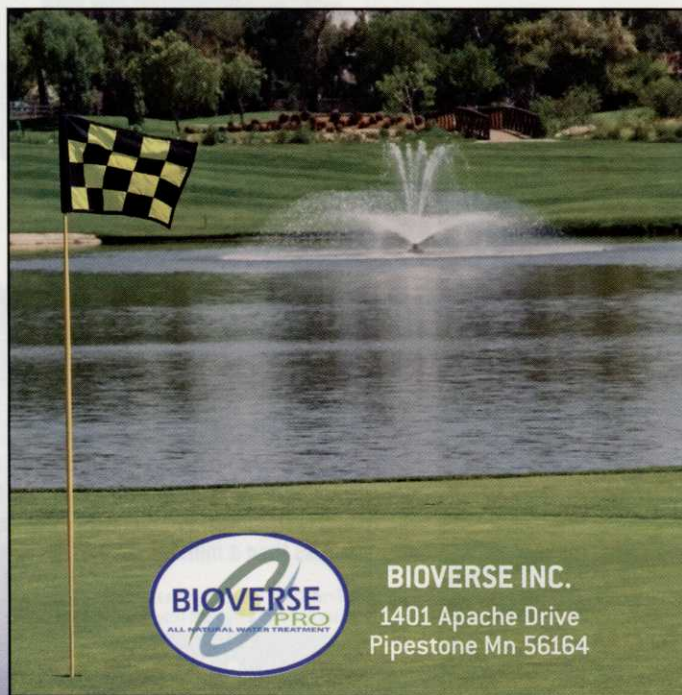
Smith's most prevalent weed problem is *Poa annua*, and it's the most difficult to control. He had used Prograss (ethofumesate) for more than a decade, making two blanket applications a year, three weeks apart, covering the affected area. But the transition back to bermudagrass in the summer was slow, and the turf was weaker than desired.

"Although several factors might have contributed to that, we decided to eliminate the Prograss application and see if we'd get a better transition," he says. "My unscientific presumption was the cumulative applications might give us enough residual to skip a year and still get some control. Through early June, we had only a minor *Poa* problem that we managed with PGRs, Primo and Proxy together, for seed head suppression. I'll need more time to fully analyze the results."

PRODUCT PREFERENCE

Many of the newer herbicides are earning kudos from superintendents. Hellenga likes the results his crew has achieved with Confront. Doolittle is impressed with Monument to control sedges and TranXit (rimsulfuron) to control annual bluegrass for the occasional breakthroughs or missed areas of application when it's too late to use Roundup to control *Poa annua* and nutgrass in the bermudagrass.

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Some superintendents also have expressed concern about the potential loss of some of the older products from the marketplace such as MSMA, a postemergent grassy weed control. They'd like to see an affordable alternative introduced. A preemergent control for nutgrass and a 100-percent effective, affordable control for *Poa annua* are other items on their wish list.

COST COMPARISONS

There might be as many ways to track chemical expenditures as there are superintendents. Some break down budgets by area; some combine turf and landscape products in one category; some include labor costs with product costs. The breakdown of the budget is developed primarily to give superintendents a means of tracking, and controlling, expenditures.

Hellenga early orders most chemicals for price breaks and to ensure he has a product on hand when needed. Typically, his annual fertil-

izer costs are about \$40,000, and fungicide costs are about the same. Herbicide expenditures average about \$7,000 annually.

In contrast, Doolittle prefers to bring in product as needed in season.

"My budget is bottom-line oriented, with enough flexibility to make adjustments as long as the course is in top condition and I don't exceed the budget," he says. "I feel I can better control my expenditures that way."

All pesticides are grouped under chemicals in Doolittle's budget. Herbicides, including the fertilizer/preemergent combination product, account for about 25 percent of the chemical budget. Insect outbreaks are minimal, accounting for as much as 5 percent on average. Fungicides, wetting agents and specialty products make up the balance.

Jamestown Golf Course groups all pesticides under chemicals, too. Fungicides account for 50 percent of their chemical budget, and insecticides account for 40 percent. The herbicides make up about 10 percent, costing between \$300 and \$500 a year.

Herbicide expenditures at the Quarry at La Quinta are higher than those for insecticides or fungicides because weed control applications are made on the larger area of the fairways and roughs. The fungicides and insecticides are used only on the greens and tees. The course also has extensive landscaping that's treated with herbicides. Without the Prograss application this year, landscape area herbicide expenditures will exceed those for turf.

La Quinta's turf herbicide costs will be reduced a few thousand dollars this year, compared to the last three years, Smith says.

"We eliminated the Prograss, which averaged around \$12,000 per season, but added the PGRs for *Poa* seed-head suppression," he says.

"I include that expenditure within the herbicide budget." **GCI**

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