

cont. from page 48

are available as options. The MTD Pro is targeted to commercial uses, while the company's Cub Cadet, White, Yard-Man and Yard Machine lines are for residential use.

Circle No. 259

## HOWARD PRICE TURF EQUIPMENT 314/532-7000

The Hydro Walk-Behind from Howard Price, Chesterfield, MO, features dual hydro control levers. They allow the operator to independently set each drive wheel's speed. The unit's floating desk system oscillates nine inches to prevent scalping in tender grass areas.

Circle No. 260

## PRO INC. 318/635-8184 www.promowers.com

The Pro Rolling Trimmer/Mower is a professional-grade high-wheel unit that uses monofilament cutting line. The RTM is engineered in Shreveport, LA, to provide a consistent cutting height when trimming under fences and shrubs, along buildings, or around trees. Fixed-line cutting head accommodates four-line or two-line use and offers widths up to 25 inches. It accepts any diameter line from 0.08 to 0.155. It comes with commercial grade 2- or 4-cycle engines, ranging from 5 to 6 hp. Belt idler system allows engine to keep running when the cutting head is disengaged.

Circle No. 261

## ROOF EQUIPMENT 909/354-7600 www.roofmowers.com

The new 39400K Piranha walk-behind trimmer mower from Roof Equipment, Riverside, CA, is designed to cut wet or dry weeds or grass at amazing speed. It features a 5-hp, overhead-valve, Kawasaki engine, solid aluminum 1.5-inch cutting head, and uses 0.155 mil thick monofilament cord for more effective cutting. Large 20-inch wheels with precision bearings roll easily. New sprint-loaded clutch prevents premature belt failure.

Circle No. 262

## SARLO POWER MOWERS 800/749-5296

A couple of tough string mowers

from Sarlo, Ft. Myers, FL, offer quick, tool-free height adjustment. The 16-inch high rear wheels feature ball bearing hubs, steel rims and spokes, and thorn-resistant tires. The push-version Sarlo SST61/C and the self-propelled SST6SPVC provide a 22-inch cut. A 6-hp engine can be either a Honda or Kawasaki. Sarlo's string trimmers have four high-speed trimmer lines to assure even cutting. There are no spools to jam and the spindle's anti-tangle design comes with a five-year warranty.

Circle No. 263

## SCAG POWER EQUIPMENT 920/387-0100 www.scag.com

The Ultimate Hydro walk-behind from Scag, Mayville, WI, features an easily adjustable floating cutter deck with field-adjustable heights from 1 to 4.5 inches, no tools required. Self-adjusting, spring-loaded idler pulleys save time, effort and repair costs by keeping belts in perfect adjustments. New control levers increase productivity and comfort, with less hand-grip reach and lighter spring tension. Patent-pending Adjust-A-Trac feature allows instant, no-toll neutral and tracking adjustment. Comes with 36-inch deck and 15-hp Kohler engine, or 48-incher with 17-hp Kawasaki.

Circle No. 264

## SNAPPER 888/SNAPPER www.snapper.com

Field-serviceable spindle assemblies make it possible to rebuild the spindle assembly on the ProHydro SPLH140KWE with standard tools while it is still mounted to the mowing machine. This innovation from Snapper, McDonough, GA, keeps mowers going during the busiest months. Full-float deck with easy cut adjustment and 7-gauge steel deck is standard; 36-, 48-, 52- and 61-inch widths are available. Independent left/right crank height-of-cut adjustment with built-in height gauge makes mowing simple. Attachments include Ninja mulching system, hard plastic or cloth grass catcher, sully and snow removal kits.

Circle No. 265

## SWISHER MOWER 800/222-8183

## www.swisherinc.com

Three models of perfectly balanced mowers — with 19-, 20- and 22-inch cutting widths — are available from Swisher Mower & Machine, Warrensburg, MO. All feature rugged cast aluminum decks, made of recycled/recyclable material, that will not rust out like steel decks. Each comes with a 3.75-hp Briggs and Stratton engine with safety control system that stops the blade as soon as the handle is released. The 19-inch version has a 6-inch front and 8-inch rear wheel incremental height adjustment. The 20-inch model has 7-inch front and 8-inch rear quick incremental adjustment. A mulching attachment is available only for the 20-inch model.

Circle No. 266

## TEXTRON TURF CARE 414/637-6711

The Bob-Cat® Variable Speed midsize mower is designed to deliver a top-quality cut and reliable performance. It has a variable speed pulley drive transmission. There are two engine choices: a 14-hp Kawasaki or a 15-hp Kohler; and five cutting deck options: 32, 36, 48, 54 and 61 inches.

Circle No. 267

## THE TORO COMPANY 612/888-8801 www.toro.com

First available from Toro, Bloomington, MN, in February, the ProLine 21-inch heavy duty mower line now includes a Kawasaki full pressure lube engine. The 5.5-hp, 4-cycle OHV engine also has a larger, more durable 25 mm diameter crankshaft custom built for Toro.

Existing Suzuki 2-cycle and Briggs & Stratton 4-cycle engines also are available. Three models are offered: the zone start hand push 22170, zone start self-propelled



22171 and the BBC self-propelled 22172. The BBC (blade brake clutch) model stops the blade from spinning yet allows the engine to remain running once the bail is released. Units are CARB and EPA certified and include a 2-year engine warranty.

Circle No. 268

## TRU-CUT, INC. 323/258-4135

The commercial line of mowers from Tru-Cut, Los Angeles, CA, includes the C2150HQ Commercial Pro which comes with standard, large-capacity commercial fabric grass catcher and has an optional steel catcher. Powered by either a 5- or 5.5-hp Honda overhead valve motor, or a Briggs & Stratton 5-hp, it features 8-inch front wheels, 10-inch real dual ball bearing wheels with zerk fillings. The 5-speed transmission allows speeds from 1.1 to 4.3 mph. Unit has eight cutting heights from 3/8 to 3 5/8 inches.

Circle No. 269

## YAZOO/KEES 800/723-9496 www.yazookees.com

The high-wheel mower from Yazoo/Kees, Jackson, MS, provides a quality cut in the toughest of conditions. Available with a 22-, 24- or 26-inch cutting deck, it is made of 11-gauge steel for durability. Either a 6-hp or 8.5-hp Briggs & Stratton engine, mounted between the drive wheels, provides balanced weight distribution for positive traction and increased maneuverability. Large-diameter pneumatic drive tires are mounted on chrome bicycle-style extra-strength steel spoke rims. Knobby tread drive tires flex and clean themselves as you mow.

Circle No. 270

## www.landscapegroup.com for online LM Reports, with direct links to manufacturers and their products.



# Controlling crabgrass in cool-season turf

*Crabgrass is the dominant weed in cool-season turf. If you can't eradicate it, at least learn how to master this persistent pest.*

By ZAC REICHER, Ph.D.

**W**hether you manage lawns or sports turf, crabgrass is a major weed concern. It germinates in the spring; thrives during the heat of summer forming tillers and growing to a foot or more in diameter; sets seed in the late summer and dies with fall's cool temperatures. It's a prolific seed producer, with a single plant producing thousands of seeds in one season. Because of this, crabgrass can never be eradicated from a turf site and can only be managed to minimize populations.

#### **Baby your turf**

Crabgrass control begins with good cultural practices. Thicker and healthier turf is more competitive with crabgrass and results in less crabgrass infestation. The easiest method to control crabgrass is mowing often and mowing on the upper edge of the preferred range of mowing heights. For instance, mowing Kentucky bluegrass lawns at three inches will limit crabgrass pressure, regardless if herbicides are used. However, all of the herbicides in the world will not

prevent a crabgrass infestation on a Kentucky bluegrass lawn mowed at one inch.

Irrigating deep and infrequently also favors turf. As an annual, crabgrass forms shallow roots that compete



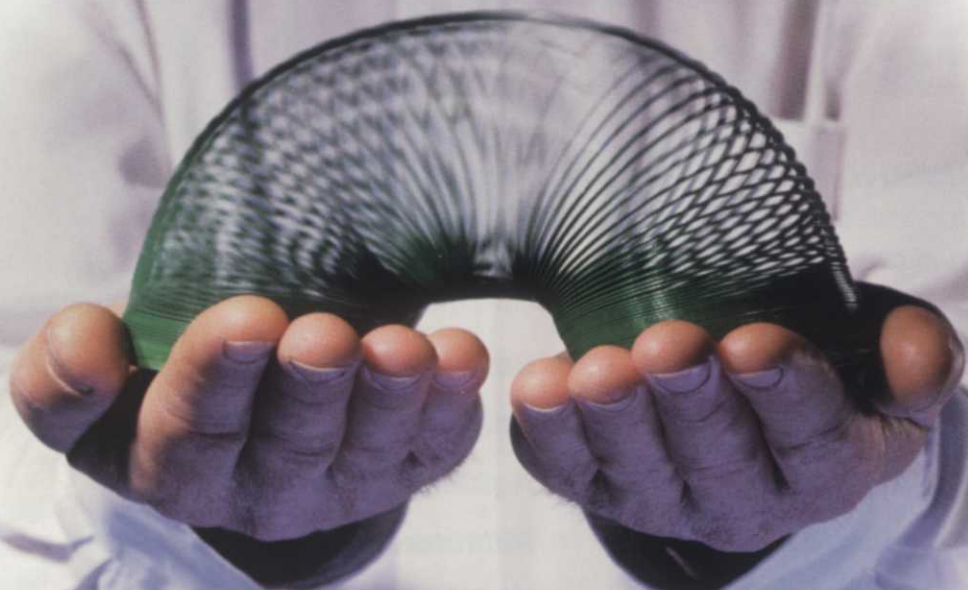
**Post-emergence herbicides are most effective on young crabgrass that has not tillered.**

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for water in the soil profile. Turf is deeper rooted than crabgrass. If you keep the turf on the dry side and water only to prevent water stress, you will give the desirable grasses an advantage over crabgrass.

Proper fertilization encourages turf density and further minimizes crabgrass infestation. The majority of the annual fertilizer should be applied to cool-season turf in the fall. Make two applications in the fall, one in September and one after the turf has ceased growing. The first application will encourage recovery from summer stress through lateral growth and increased tillering. Include some slow-release fertilizer to feed the plant over the following four to six weeks.

Apply the late-fall application after growth has slowed but while the plant is green and actively photosynthesizing. This may be mid- to late-October in the northern states or mid- to late-November in the southern states with cool-season grasses. The fertilizer should be a source that is quickly available, such as urea. It's important for the nitrogen to be taken up by the plant before winter. This late-fall application maintains deeper green color well into fall, speeds spring green-up and improves spring density.

Other building blocks in a turfgrass program include traffic management and aeration to minimize compaction, increasing drainage and airflow to keep turf as dry as possible and minimizing damage from insects and diseases to prevent a thin turf prone to crabgrass infestation. However, even with our best intentions to maintain a thick turf stand, some areas are still prone to crabgrass infestation and we must use herbicides.

#### Pre-emergence herbicides

It is important to apply pre-emergence herbicides accurately and evenly across a turf site. Since pre-emergence herbicides are immobile in the soil, a uniform application ensures that the germinating crabgrass

plants will come into contact with the herbicide. Using a pre-emergence herbicide on a large fertilizer granule might make applications easier, but it may not provide a dense enough pattern to ensure consistent application.

Some labels state that the product should be applied two weeks prior to the expected germination period for crabgrass (who can guess the exact germination period for crabgrass each spring?). Some say to apply pre-emergence herbicide when minimum soil temperatures reach 50°F for five consecutive days. However, soil temperatures in West Lafayette, IN, often reach 50°F during early March, only to fall back into the 40s for many more weeks. Others will say to apply pre-emergence herbicides when forsythia is in bloom. Again, it is very common to see the forsythia blooming just before the last March snowstorm.

Timing of pre-emergence herbicides was more important years ago when the herbicides did not have the duration of control like today's products.

Today's pre-emergence herbicides, applied in March, will provide season-long crabgrass control. In fact, our research has shown that November and December applications of pre-emergence herbicides will provide season-long control on most turf areas when used at the high recommended rate.

On areas with extremely high crabgrass pressure, a December application should be followed by a sequential application in the early summer to ensure control, or possibly a spot treatment with a post-emergence herbicide, if needed.



**Crabgrass is the most common weed on commercial properties, home lawns, sports turf and most other turf settings.**

Late fall and early spring applications work to control crabgrass because microbial degradation is the main factor in breakdown of pre-emergence herbicides. Soil microbes become more active once soil temperatures reach 55°F. Since soil temperatures are at or near 32°F throughout the winter, minimal degradation of herbicide occurs until the soil temperatures warm up in April.

#### Sequential applications

If you manage areas with extremely high crabgrass pressure or with the possibility of goosegrass, you might consider a sequential application of pre-emergence herbicides. An application in late fall or early spring will provide acceptable control into early summer, but a second application will boost the activity of the herbicide in the soil to extend control throughout the growing season.

Most labels will recommend 2/3 to 3/4 of the high label rate in the first application, followed by a second application of 1/3 to 1/4 of the total label rate in late May

*cont. on next page*



## WEED CONTROL GUIDE

cont. from previous page

or early June. Use the same active ingredient in the sequential application as you applied in the first application.

Research at Purdue suggests that using sequential applications of an active ingredient different than the initial application provides less effective control. It appears that concentrations of different herbicides are not additive in the soil. Instead of boosting the concentration of the initial herbicide in the soil with a second application, you merely add a second herbicide at a concentration that may not give season-long control.

This strategy is important when you are trying to reduce the rate of herbicide used in both the initial and sequential application. As you may suspect, it may not be as important if you are willing to use high

### One Tough Crabgrass

- ▶ One crabgrass plant can produce 10,000 seeds per year
- ▶ 12% germination produces 1200 seedlings
- ▶ 10% survival of seedlings leaves 120 crabgrass plants
- ▶ Assuming commercially acceptable 90% crabgrass control, 12 plants survive until seed set when the cycle begins all over

label rates for different herbicides in both the initial and sequential applications, thus creating effective concentrations for each herbicide in the soil.

Post-emergence herbicides, such as MSMA (under a variety of trade names), Acclaim, Dimension and the newly released Drive, offer increased flexibility in a weed control system. Some professionals have opted not to use the traditional pre-emergence herbicide application, preferring a wait-and-see approach. If the summer weather is conducive to crabgrass, and/or regular scouting reveals newly emerging crabgrass, a post-emergence herbicide can be used in early- to mid-summer. This is useful on areas that traditionally have lower crabgrass pressure. During mild summers not conducive to crabgrass, this can reduce expenses and pesticide use.

Post-emergence herbicides are most effective on small crabgrass. The smaller the crabgrass plant, the lower the rate of herbicide necessary to be effective. Since post-

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#### Mycor™ Tree Saver™ Transplant Inoculant

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ectomycorrhizal fungi mixed with Terra-Sorb™ planting gel, yucca extract, seakelp, and humate soil conditioners. Used to eliminate rework when planting landscape trees and shrubs.



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Healthy Start™ Biofertilizer with endo- and ectomycorrhizal fungi, beneficial bacteria, biostimulants and humic acid to create ideal growing conditions when planting containerized perennials, shrubs, vines and small trees.



#### Healthy Start™ 3-4-3 Biofertilizer

A totally natural fertility system for new flower and sod

installation. Healthy Start™ contains NPK and a range of micronutrients derived from organic plant and animal proteins, combined with humic acids to recondition poor soils, and Nitrogen fixing and Phosphorus solubilizing bacteria.



emergence herbicides can be phytotoxic to turfgrass, the lower rates will also improve the safety margin. Accurate applications are essential to minimize possible phytotoxicity to the turfgrass.

If you apply post-emergence herbicides early in the summer, include a pre-emergence herbicide in the tank mix to control the later germinating crabgrass. Since Dimension has both pre- and post-emergence properties, it can be used alone to control young crabgrass that has not tillered and that has not yet germinated. Drive actually appears to control tillered crabgrass as well, if not better than younger crabgrass. Drive also is active on clover and a number of broadleaf weeds and appears to be one of the safer post-emergence herbicides on newly emerged seedlings.

Though post-emergence herbicides are



effective in controlling crabgrass, don't attempt to control crabgrass in late summer because the plants are too large and vigorous. Attempting to control crabgrass at this time will only result in disappointing con-

◀ Pre-emergence herbicide applications have been timed in the past to coincide with forsythia bloom.

trol and possibly turf damage. Wait for the most effective, safest and cheapest control of crabgrass — the first frost.

By maintaining a dense, healthy stand of turf, you can limit the amount of crabgrass. This starts with the cornerstones of turf management: proper mowing, irrigation and fertilization. Maximizing these three cultural practices can almost eliminate crabgrass from many turf stands.

—Zac Reicher is Assistant Professor of Agronomy and the Turfgrass Extension Specialist at Purdue University, West Lafayette, IN

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# The South's ornery new weeds

*Use the latest control strategies for the newest, nastiest weeds in warm-season turfgrass.*

By BERT McCARTY, Ph.D.

**T**urf managers have seen an increase in "new" weeds in the last 5 to 10 years. Previous tough-to-control weeds such as crabgrass, goosegrass, chickweed and henbit caused many turf managers to lose their jobs. Today, however, many of these weeds have adequate control measures, but new weeds have taken their place. Possible explanations for this shift include:

- ▶ Significant increase in the use of pre-emergence herbicides, especially on fertilizer carriers, which do an excellent job on most grass weeds, but allow other weeds to escape and thrive.
- ▶ Significant reduction in the use of traditional post-emergence herbicides which provided adequate control of most weeds, such as MSMA, DSMA and 2,4-D, which provided good general weed control at reasonable prices.
- ▶ Overwatering, which favors certain weeds such as sedges and annual bluegrass, giving these weeds the advantage over the turf.

## Up-and-coming weeds

Post-emergence herbicide control options are listed. You, however, must decide if these herbicides can be safely applied to the particular turfgrass species in your area.

### Spreading dayflower (*Commelina diffusa*)

- ▶ Summer annual with fleshy, smooth stems; flowers with three blue petals; reproduces by seed and stem fragments; prefers moist habitats
- ▶ Occurs from Massachusetts, Missouri, Indiana, south into Florida and west to Texas, Kansas and Oklahoma.
- ▶ Products containing atrazine or simazine applied twice 30 days apart. Prompt (a pre-mix of atrazine and Basagran) also works well. Tank mixes of MSMA or DSMA with Sencor or multiple

Spreading dayflower





application of two- or three-way broadleaf herbicide mixtures also provide good control but can cause phytotoxicity to certain turfgrass species.

**Doveweed** (*Murdannia nudiflora*)

► Summer annual with fleshy, creeping stems rooting at nodes; alternate leaves; small, inconspicuous blue to purple flowers; reproduces by seed

► Occurs from North Carolina south through Florida, west into Texas

► Control the same as spreading dayflower

**Torpedograss** (*Panicum repens*)

► Perennial grass; robust, sharply pointed, creeping rhizomes; reproduces primarily by rhizomes

► Occurs along the North Carolina coasts on golf courses south throughout Florida west into

Texas

► Nonselective control is with at least 3 applications of glyphosate (Roundup Pro) spaced 3 weeks apart. Other nonselective control involves fumigating with methyl bromide and re-planting. Selective control

(or suppression) has recently become available with quinclorac (Drive). Drive should be applied 2 or 3 times spaced 3 to 4 weeks apart. Expect some minor temporary turfgrass discoloration.

**Smutgrass** (*Sporobolus indicus*)

► Clumping perennial grass; leaf blades flat, very thin; seed often infected with black fungus (or smut); reproduces by seed

► Occurs from Virginia into Florida, west to Texas, inland to Oklahoma and Missouri

► Selective control has been very elusive. Summer atrazine or simazine applications provide about 50% control, but expect temporary turfgrass damage. TFC lists smutgrass, but control is often very erratic with this product. Nonselective control is spot spraying or rope wicking glyphosate (Roundup). If rope wicking, treat in two directions.

**Mat lippia or matchweed** (*Phyla nodiflora*)

► Mat-forming perennial broadleaf plant with prostrate growing, hairy stems; stems rooting at nodes; leaves opposite with large teeth towards the tip; flowers rose-purple or white, in a head at tip of



**Smut fungi on smutgrass seedhead.**

a long stalk, resembling a match head; reproduces by seed and stolons

► Prefers sandy coastal plains and occurs from Pennsylvania to Florida, Arkansas, Oklahoma, Texas, California and Hawaii

► Products containing atrazine or simazine applied twice 30 days apart. Prompt (a pre-mix of atrazine and Basagran) also works well. Products containing two- or three-way broadleaf herbicide mixtures applied at least twice 7 days apart also work in tolerant turfgrasses.

**Annual blue-eyed-grass** (*Sisyrinchium rosulatum*)

► Winter annual, member of the Iris family; appears similar to goosegrass except it is a cool-season annual; leaves flat, light green, all clustered at the base; has zigzag-shaped stems; flowers pale purple to white with a rose-purple eye ring; reproduces by seed

► Occurs from North Carolina south into Florida and west to Texas and Arkansas.

► Products containing atrazine or simazine applied twice 30 days apart. Prompt (a pre-mix of atrazine and Basagran) also works well. Sencor also provides excellent control in tolerant turfgrasses. Products containing two- or three-way broadleaf herbicide mixtures applied at least twice 7 days apart also work.

**Chamberbitter** (Niruri, Gripeweed) (*Phyllanthus urinaria*)

► Small, erect summer annual broadleaf weed, escaped from ornamental industry; leaves oblong, arranged in two rows; flowers inconspicuous (not showy); fruit green, warty, without a stalk, attached

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**Torpedograss**



**PREVENT  
GRUBS.  
STOP THEM IN  
THEIR TRACKS.  
OR MAKE SURE  
IT'S NOT EVEN  
AN ISSUE.**