

Budding Herbicides



Basic manufacturers continue to pursue broad-spectrum control with lower rates

BY DAVID FRABOTTA, SENIOR EDITOR

Drought has stricken most of the West and Southeast, and almost half the country is abnormally dry. Aside from obvious irrigation challenges, superintendents likely will see additional pest occurrences in the absence of normal rainfall.

“It’s a good bet you’ll have pretty severe weed problems in the year after a drought,” says Dave Oatis, United States Golf Association Green Section director of the Northeast region.

But there will be a few new active ingredients coming online to help thwart weed pressures. Basic manufacturers continue to find and market broad-spectrum

chemistries that address superintendents’ main concerns, predominantly *Poa annua*, crabgrass, goosegrass, Dallis grass and other hard-to-control weeds.

“With the launch of some of the new herbicides coming along, we’ve been doing a lot of analysis with end users, and (superintendents want) herbicides that provide a broad spectrum of control for a variety of weeds — pre-emergence or postemergence — especially when it comes to annual grasses, sedges and broadleaf weeds,” says Dave Ravel, golf market manager for Syngenta Professional Products.

Turfgrass managers desire low-use formulations as well, and manufacturers are responding.

Continued on page 98

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**CHARLES SILCOX,
DUPONT PROFESSIONAL
PRODUCTS**

Continued from page 97

“We put as much development into products from a toxicological and environmental standpoint as efficacy,” says Charles A. Silcox, global turf and ornamental product development manager for DuPont Professional Products. “We screen for both very early in the process.”

It’s a corporate requirement at DuPont that new chemicals tread lightly on the environment, so its research pipeline consists primarily of low-use chemicals. DuPont expects to submit one such active ingredient (still under wraps) for review and approval with the Environmental Protection Agency some time this year.

“It’s an extremely interesting compound in terms of the spectrum of weeds it controls, including all the major weeds and many of the difficult-to-control weeds and some grasses at extremely low application rates,” Silcox says.

Bayer Environmental Science has some low-use chemicals on the horizon as well. Its new products strive to use about 50 grams of product per acre, according to Ben Cicora, Bayer’s business manager for herbicides.

Although Bayer’s products aren’t ready to be named, its chemistry closest to approval (submitted to the EPA and expected to be approved in 2009) is a postemergent material that will have efficacy on broadleaf weeds and perhaps some grasses.

The new chemical — like many of Bayer’s pipeline herbicides — are acetolactate synthase (ALS) inhibiting chemistries, says Don Myers, Bayer’s product development manager for herbicides and plant growth regulators. Another product in the pipe — expected to launch late in 2009 or early 2010 — is expected to become a flagship herbicide for Bayer, he says.

“It’s a very strong pre-emergent herbicide for use on warm-season turf for the most part, which is also similar to the one we will release next year,” Myers says. “That one will mostly be for control of *Poa*, goosegrass, crabgrass and numerous broadleaf leaves.”

In the marketplace

Dow AgroSciences unveiled penoxsulam last year; the molecule provides post-emergent control of broadleaf weeds at rates of .02 pounds to .06 pounds of active ingredient per acre. Dow, which markets the herbicide as LockUp,

expects to introduce penoxsulam to the market this year. It’s labeled for most turfgrasses in fairways and roughs, and it’s the first ALS inhibitor formulated in a granule as well as a liquid.

“This active brings powerful, consistent control with residual activity and will be a good option to the old industry standbys found in favorite three-ways,” Dow senior marketing specialist Mark Urbanowski said recently.

Syngenta’s new herbicide earned final approval from the Environmental Protection Agency last year and became available at the Golf Industry Show. Some academic research has created a groundswell around mesotrione, a new class of chemistry marketed as Tenacity.

Mesotrione is safe on Kentucky bluegrass, tall fescue, perennial ryegrass and centipede grass, and “it should be usable over dormant bermudagrass,” says Dave Ross, Syngenta’s technical manager for the turf and ornamental group.

Mesotrione controls a series of broadleaf weeds, sedges and a variety of grasses, including bentgrass and crabgrass. The chemical can be used as a pre-emergent herbicide and a post-emergent herbicide, and it can be used during seeding and establishment of turfgrass.

“It has a lot of applications in many different theories of weed control,” Ross says. “And it could change the way superintendents use herbicides because you can use the product pre-emergence and postemergence, and you can use it at seeding to control a wide variety of weeds.”

Toni Bucci, business manager for BASF Professional Turf & Ornamentals, says *Poa annua* and crabgrass continue to be problems because pre-emergent products can break down. Plus, *Poa* and crabgrass plants are efficient and immense seed reservoirs. Some of the other harder-to-control weeds include nimblewill, wild violet and bermudagrass as well.

To attack the crabgrass, BASF is launching a new formulation of its quinclorac product. And its new herbicide for 2008 will eliminate primarily bermudagrass. The company launched Segment at the Golf Industry Show primarily for bermudagrass control.

“In addition to that, we have a few things that are early in the pipeline that we will probably introduce in the next few years for

harder-to-control weeds," Bucci says.

Segment is a systemic mode of action, and the company has a few more in the hopper, including a new active ingredient that could be released as early as later this year that controls "harder-to-control grasses and broad-leaves," Bucci says.

But there's no silver bullet for *Poa* control just yet. Even the industry's most exciting recent addition — bispyribac-sodium — is not labeled for greens.

Valent markets that chemical as Velocity. It introduced a new formulation of Velocity with a new label that is less concentrated for ease of use and tank mixing. The new label also extends the application interval to seven to 14 days.

Valent also has a new sedge control in the pipeline. Still in development, imazosulfuran is a new active ingredient expected out in 2009. University trials have shown good pre-emergence and postemergence activity with a strong performance on both purple and yellow nutsedge in cool-season and warm-season turf, according to Valent. It also has good performance on dandelions and other common broadleaf annual and perennial weeds.

Nufarm Americas unveiled two new products at the Golf Industry Show. One is Dynamo, a new pre-emergent herbicide that not only provides pre-emergent coverage, but it also offers early post-emergent control of many broadleaf and grassy weeds, including crabgrass. Quincept, a multi-action and selective post-emergent herbicide, is another new product from the company that combines grassy and broadleaf weed control.

FMC Professional Solutions' launched Echelon last summer. It was approved for pre-emergence and early postemergence control of a variety of annual grasses, broadleaf weeds and annual sedges on golf course fairways, rough and non-playing surfaces.

Echelon provides pre-emergent control of *Poa annua*, according to FMC, and the product also provides postemergent control of dandelions, curly dock and buckhorn plantain.

Arysta LifeScience is on the move with new products as well. Hot off its exclusive global licensing and co-development agreement with TyraTech to manufacture and market a number of insecticide products for certain horticultural



markets, it's looking to expand its presence with herbicides, too. Arysta has submitted amicarbazone to the EPA. It's a photosynthesis inhibitor that can be used as a pre-emergent or postemergent for grass and broadleaf control, as well as *Poa* control on cool-season grasses.

It also plans to submit a flucarbazone product to the EPA this summer and hopes to introduce it to the market later in the year. Flucarbazone is a postemergent grass and broadleaf control for warm and cool-season grasses.

Pipelines are strong for many companies. Cicora says Bayer will release a new herbicide each year for four years beginning in 2009. And with the potential loss of MSMA, companies are re-examining existing products to help fill the void. Bayer's Revolver (foramsulfuron) recently changed its label to allow higher usage rates for spot treatments, which can be beneficial in controlling Dallis grass.

Superintendents' feedback will continue to drive research and development for the next generation of synthetic weed treatments.

"We hear that superintendents are battling some key weeds," Bucci says. "So we are just going to keep our eye on the ball as our research and development people are looking for new formulations and active ingredients that will rise to the task." ■

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