

## Pesticide update

by  
ROB  
THOMAS

**P**esticides are an integral part of a golf course superintendent's turf management program. Application rates, tank mixing, regulations and disease resistance are a few of the issues superintendents deal with when it comes to working with pesticides. The following is an update of what's available in the pesticide market for the golf industry.

**Wisdom Flowable** and **Wisdom GC Granular** from Amvac Professional Products are tools that can provide broad-spectrum control of pests such as armyworms, bluegrass billbugs, chinch bugs, Japanese beetles and mole crickets. Bifenthrin, the active ingredient in both products, is a pyrethroid that delivers a rapid response to pests. Wisdom GC Granular can be applied through conventional spreaders with standardized settings. Wisdom Flowable is compatible with many agricultural chemicals and has good dispersion characteristics. For more information, visit [www.amvac-chemical.com](http://www.amvac-chemical.com).

**Shuttle** from Arvesta delivers knockdown and residual control of twospotted spider mite and spruce spider mite by destroying damaging mites at every life stage, from eggs to adults. Shuttle features a unique active ingredient with no known cross-resistance, making it a choice for managing mite resistance. It's safe on predacious mites, honeybees and other beneficial species. Shuttle comes in a flowable formulation for easier handling and mixing.

**Arena** insecticide provides broad-spectrum control of soil-borne and surface-feeding insects under a wide range of growing conditions. It offers season-long control of white grubs, chinch bugs and webworms. Arena works in two ways to protect turf. When applied before or during the egg-laying activity of target pests, its active ingredient (clothianidin) immediately impacts the insect. Then it keeps working systemically to provide long-lasting residual control. For more information about Shuttle or Arena, visit [www.arvesta.com](http://www.arvesta.com).

**Pendulum AquaCap** herbicide from BASF Professional Turf uses micro-encapsulation technology and a water-based formulation for pre-emergent weed control and value. It offers reduced staining potential and has almost no odor. It's safe to use around a wide variety of nursery and landscape ornamentals.

**Amdro Pro** fire ant bait eliminates the queen and colony in as little as three to seven days. For more information, visit [www.turffacts.com](http://www.turffacts.com).

The dual action of **Allectus GC** from Bayer Environmental Science prevents the flow of impulses through an insect's individual nerve cells and stops flow between nerves. This rapid action helps control pests above and below the surface. Allectus provides 90-percent broad-spectrum insect control with minimal environmental impact. It's available in liquid and granular formulations for foliar and soil applications.

**Chipco Choice** insecticide has a new broadcast label for fire ants. Slit-applied Choice provides six months of mole cricket control after one application. Broadcast-applied Choice provides fire-ant control as long as a one year. Both methods deliver the benefits of the active ingredient fipronil at low doses.

**TopChoice** insecticide is a fire ant product based on the active ingredient fipronil. One broadcast application of the low-dose granule provides 95 percent control of fire ants for as long as one year. TopChoice also controls mole crickets, fleas, ticks and nuisance ants.

**Ceasefire** treats fire ants by delivering the active ingredient fipronil in a low-dose granular bait. It's designed for use in hard-to-reach areas such as landscape beds, parking lot islands and areas near water. For more information, visit [www.bayer.com](http://www.bayer.com).

**Endorse** turf fungicide from Cleary Chemical Corp. provides control of anthracnose, brown patch, gray snow mold and yellow patch. Endorse obstructs the production of chitin found in fungal cell walls while inhibiting spore germination and mycelium growth in the turf plant. It attacks turf disease through foliar and translaminar systemic activity and can be used in a preventative or curative management program.

With its multisite activity and broad-spec-



Photo: Terry Buchen

Superintendents are looking for broad-spectrum control of various turfgrass pests, which can negatively impact golf courses.





Photo: Terry Buchen

With many communities closely bordering golf courses, pesticides with minimal odor are popular.

trum control, **Protect DF** works for warm- and cool-weather diseases such as rapid blight, Bermuda decline and summer stress syndrome. It also handles diseases such as leaf spot and brown patch. For more information about Endorse and Protect DF, visit [www.clearychemical.com](http://www.clearychemical.com).

**Mach 2** insecticide from Dow AgroScience offers a wide application window when applied as a preventative treat-

ment prior to egg hatch through the second instar. It doesn't require immediate irrigation after application. Its granular and on-fertilizer formulations are labeled for use on golf courses, as are its liquid formulations. It controls grubs at the labeled rate of two pounds active ingredient per acre.

**Confront** is a non-phenoxy, post-emergence herbicide with low odor that controls as many as 35 species of broadleaf weeds. It provides broad-spectrum weed control with one application, saving the product and labor costs of repeat treatments. It's labeled for use on most established cool- and warm-season turfgrasses, including bahiagrass, bentgrass, Bermudagrass, Kentucky bluegrass, Kentucky centipedegrass, creeping red fescue, chewing fescue, fescue, ryegrass and zoysiagrass.

**Eagle 20EW** specialty fungicide provides control of dollar spot and brown patch and is labeled for use on major turf varieties and landscape ornamentals. Its liquid formulation prevents and treats dollar spot, anthracnose, summer patch, brown patch, powdery mildew, rust and scab. Intended for use on fairways, roughs, tees, greens and other landscape ornamentals. Its best control of labeled diseases is when it's applied on a seven- to 10-day application schedule. For more information about the products, visit [www.dowagro.com](http://www.dowagro.com).

Kincaid offers **Terraneb SP** flowable and **Terraneb SP (WP)** turf and ornamental fungicides. **Terraneb SP** is designed to control gray snow mold, pythium, sclerotium and brown patch.

A line of insecticides in micro-injection treatments by **Mauget** is an environmentally friendly way to apply pesticides. The patented closed system means the chemical is completely contained within the tree, eliminating fears of drift. Only pests feeding on the tree are directly affected. This allows one to treat trees in diverse weather conditions such as wind or rain or in locations near pools, busy streets or schoolyards. A few of the products are **Imcide**, which contains imidacloprid; **Abacide**, which contains abamectin; **Inject-a-Cide**, which contains Metasystox-R; and **Inject-a-Cide "B,"** which contains Bidrin. For more information, visit [www.mauget.com](http://www.mauget.com).

**Certainty Turf** herbicide from Monsanto selectively controls weeds in golf courses, commercial and residential turf. It's been registered by the U.S. Environmental Protection Agency. State approvals for **Certainty** are pending. The herbicide provides control of purple and yellow nutsedge, as well as control of green kyllinga. It can be used in most warm-season turfgrasses, and unlike many other herbicides, it's labeled for post-directed sprays around woody ornamentals. It also solves nutsedge and other weed problems in golf course fairways and roughs. For more information, visit [www.monsanto.com](http://www.monsanto.com).

**Magellan** is a systemic fungicide from Nufarm Turf and Specialty that's used against pythium and yellow tuft diseases. It's labeled for use on golf courses, lawns, municipal turf areas and sod farms. The clear liquid, with a neutral pH formulation, can be combined with other fungicides such as chlorothalonil for broad-spectrum programs. There's no known resistance to the active ingredient. It provides as many as 21 days of pythium protection at 8.20 pints per acre. For more information, visit [www.turf.us.nufarm.com](http://www.turf.us.nufarm.com).

**Bionx** is an EPA-registered fungicide and insecticide from **Parkway Research** and functions best when used as a component of a disease- and pest-control plan. As a fungicide, **Bionx** wets the protective membrane of the fungal mycelia, sporangia and spores, breaking them down and exposing them to the drying effect of the atmosphere. Drying of the fungal mycelia and the surrounding leaf tissue will prevent further infection. **Bionx** has stand-alone activity on turf fun-



Photo: Terry Buchen

The rising costs of maintaining golf courses have led to the need for pesticides that provide long-lasting effectiveness.



gal diseases such as anthracnose, dollar spot and fairy ring. It's approved for control of downy mildew and powdery mildew on many outdoor plants and has activity on insects such as whiteflies, aphids, mealy bugs and leafhoppers, as well as various type of mites. For more information, visit [www.parkwayresearch.com](http://www.parkwayresearch.com).

**Azatrol EC** from PBI-Gordon controls a broad spectrum of insects with its active ingredient, the azadirachtin molecule, which makes it almost impossible for insect resistance to develop. Low odor, good environmental characteristics and low mammalian toxicity combine with the control of more than 43 pests including armyworms, cutworms, gypsy moth larvae, striped beetles and whiteflies. For more information, visit [www.pbigordon.com](http://www.pbigordon.com).

**Pegasus** and **Pegasus DF** from Phoenix Environmental Care are formulations of chlorothalonil and are labeled for a broad spectrum of fungal diseases in turf and ornamentals. Both products offer control of dollar spot, brown patch, leaf spot and stem rust. Pegasus has a flowable formulation that provides foliage coverage and tenacity under adverse conditions. Pegasus DF is a dry flowable with dispersion and suspension characteristics. For more information, visit [www.phoenixenvcare.com](http://www.phoenixenvcare.com).

**SysStar** from Regal Chemical Co. is a systemic combination fungicide for prevention and control of many diseases including fairy ring, anthracnose, brown patch, patch diseases and dollar spot.

**Regal DeltaGard** with fertilizer is a pyrethroid insecticide for controlling worms, fire ants, mole crickets, mites and other surface-feeding insects. It's available as a spray, granular and in combination with Regal fertilizer.

**RegalStar II** is a pre-emergent herbicide for turfgrass with season-long pre-emergent control of crowfoot, goosegrass, crabgrass and most other annual weeds from single application. For more information, visit [www.regalchem.com](http://www.regalchem.com).

**Junction**, a combination of two chemistries combined to create a broad-spectrum fungicide/bactericide, is a high-quality, dry, flowable formulation from SePro Turf and Ornamental that provides solution to disease control in a wide array of turf diseases. It's formulated to control algae, rhizoctonia brown patch and dollar spot.

**Pentathlon** is a broad-spectrum fungicide for effective control of fungal diseases on turfgrasses. It controls brown patch, dollar spot, melting out and leaf spot. For more information, visit [www.sepro.com](http://www.sepro.com).

Best herbicide combinations from Simplot Turf and Horticulture offer fertilization and weed control in one pass. **Best 12-8-16 Mini** with 0.4 percent Barricade is a selective pre-emergent herbicide, which will control crabgrass, common annual grasses and selected broadleaf weeds in established turf. Barricade provides season-long control of crabgrass with one application.

**Best 12-8-16** with 0.20 percent Dimension, a mini-pellet N-P-K fertilizer/herbicide combination, is offered in three different formulations to best meet the needs of different soil. Dimension prevents crabgrass, goosegrass, an-

nual bluegrass, spurge, purslane, oxalis and other annual grasses and broadleaf weeds found in turf and landscape ornamentals. Dimension also controls crabgrass postemergence up to the four-leaf stage. For more information, visit [www.simplot.com](http://www.simplot.com).

**Echo Ultimate** is a fungicide from Sipcam Agro USA for the turf and ornamental fungicide market. It's the newest in the Echo brand series of chlorothalonil products. This 82.5-percent, spray-dried, water-dispersible granule product readily suspends in water, even under difficult conditions. It also resuspends in water easily after moderate settling.

**Tenacity 1.3ME** turf and ornamental fungicide is a new broad-spectrum, systemic fungicide containing long-residual propiconazole. It controls more than 15 turfgrass diseases including dollar spot, brown patch and anthracnose. Tenacity 1.3ME is a microemulsion concentrate liquid formulation labeled for a wide range of ornamental disease problems. It can be tank mixed with Echo brand chlorothalonil fungicides. For more information, visit [www.sipcamagrousa.com](http://www.sipcamagrousa.com).

The smaller, microemulsion-sized particles of **Heritage TL** from Syngenta Professional Products provide quick foliar intake and root uptake, resulting in faster protection against disease. The liquid formulation of Heritage fungicide offers long-lasting, broad-spectrum control and a negligible odor. Results of university studies show that Heritage TL delivers a potential increase in efficacy of as much as 15 percent against selected diseases like anthracnose. It also is effective against root-borne diseases such as summer patch and take-all patch due to its ability to be taken up by the roots and translocated up the inside of the plant. For more information, visit [www.syngentaprofessionalproducts.com](http://www.syngentaprofessionalproducts.com).

**Orthene Turf, Tree & Ornamental Spray 97** from Valent U.S.A. has a patented 97 percent pellet formulation and zipper-lock resealable plastic bag that means no dust, lower odor and more accurate measuring. It offers control of mole crickets, fire ants, chinch bugs and worms with no special equipment required.

**Orthene Turf, Tree & Ornamental Spray** delivers economical, broad-spectrum control of mole crickets, fire ants, chinch bugs, worms and other turf pests without special equipment. Water soluble packets make handling and measuring easy. Both products allow golfers to resume play as soon as the spray dries. For more information, visit [www.valent.com](http://www.valent.com). GCN



Brown patch and dollar spot, common problems on golf courses throughout the country, are addressed by several fungicides.

Photo: Terry Buchen