

Solutions

for Today & Tomorrow



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Controlling pests while protecting our environment

—an attainable balance

With hollow, needle-like mouths, they pierce leaves, sucking up plant-sustaining sap. Others prefer to dine on plant tissue, leaving holes, notches, and tunnels in turf and ornamentals. Some even spread plant viruses.

Whether the problem is chinch bugs, aphids, sod webworms or mole crickets, insect pests damage turf and ornamentals—and hurt business.

Landscape professionals know that successful and responsible control of these damaging insects takes some extra work, but the results are well worth it.

IPM Is right for today

DowElanco supports the principles of Integrated Pest Management (IPM) as the logical, efficient, and economical approach to controlling pest problems. IPM uses the full range of control options including chemical. True IPM practices recommend the judicious use of pesticides when necessary.

Professionals can use IPM to their advantage by exercising all available options, including resistant cultivars, cultural practices, mechanical controls and pesticides when appropriate.

Do keep in mind that insecticides continue to be the most effective means of controlling established populations of insect pests that damage turf and ornamentals.

A closer look at IPM

There are a number of steps or "rules of thumb" to follow when establishing an IPM program. Let's take a quick look:

- ▶ Use plants that thrive in your region and mow turf properly.

- ▶ Check regularly for insects.

- ▶ When inspecting, determine if insects are beneficial or harmful.

- ▶ When damage is occurring, find a threshold level that the plant can tolerate.

- ▶ Consider all treatment options—in many cases, that means using Dursban* insecticide for needed control.

Maximum benefits, minimum risks

When you do choose to use pesticides, remember many factors can affect the performance. Here's what to consider to enhance their performance while still adhering to the principles of IPM:

Fertilize regularly. Insecticides work best if an annual fertilizer program is followed along with cultural practices to strengthen turfgrass plants before pests attack.

Identify the pest. Before applying an insecticide, positively identify the species of pests in the environment. Make sure the insect appears

on the insecticide label to be applied. Hard-to-control species may require repeated applications.

Research pest life cycles. Knowing when to control is as important as knowing what

surface-feeding insects.

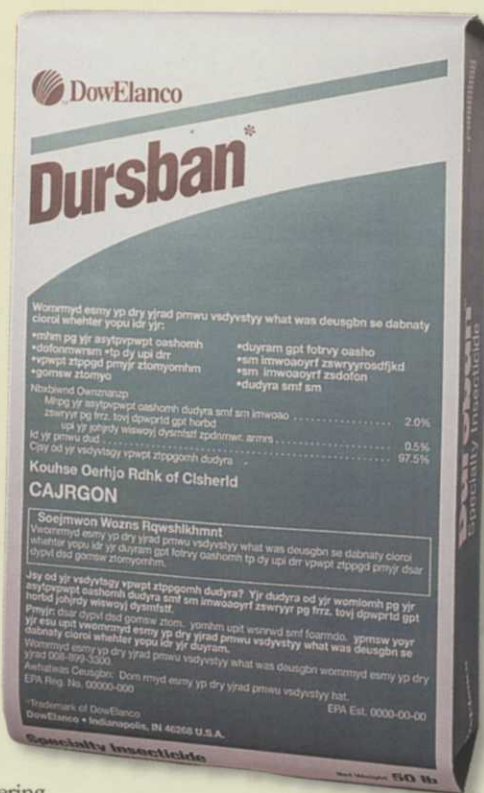
Dursban can offer control of the most detrimental insects including chinch bugs, sod webworms and aphids.

Available in liquid form as Dursban Pro, in a wetttable powder in Dursban 50W in water-soluble packets, as granules, baits and on fertilizer, it provides economical control of over 140 insect pests when used according to label instructions.

Dursban can also be tank-mixed with most herbicides and fungicides for further efficiency. It binds with thatch and organic matter in soil, and resists leaching even in heavy rainfall.

Dursban fits well within the parameters of IPM to control a host of insects at low rates. For lawn care and landscape professionals, following IPM simply means more vigorous turfgrass and plants, pest identification and more efficient use of chemicals. And the first mission of any professional pest control method should be balance. Anything too strong or ineffective tips the scales. That's why Dursban strikes a perfect balance

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pests to control. Strike when they are most vulnerable, usually when insects are in early larval or nymphal stages. That's when they are more susceptible to treatment.

Dursban delivers control

Professionals continually seek proven products that will economically provide broad-spectrum control of the most troublesome pests, including

This time of year, landscape professionals are sizing up weed control alternatives to determine which fit best with their programs, customer preferences and bottom lines. There is, of course, no right answer that applies across the board. But the time and labor savings of pre-

pared as inferior performance, they may decrease customer satisfaction in your company. And if dissatisfied customers walk, you're faced with the cost of acquiring new ones—which could cost hundreds, maybe thousands of dollars in advertising, direct mail and good old-fashioned salesmanship.

Additionally, if clusters of call-

grass, goosegrass and annual bluegrass, and broadleaf weeds like chickweed, groundsel, henbit and knotweed are stopped below the ground's surface.

Surflan controls more than 50 common weed species and is labeled for application right over the top of more than 400 different ornamentals, such as azaleas, rhododendrons and petunias.

Available in a sprayable liquid, granule or on dry fertilizer, Surflan should be applied in late winter or early spring.

A single application of two quarts Surflan A.S. per acre provides season-long control of most annual grasses and some broadleaf weeds. Also, Surflan controls *Poa annua* when used at labeled rates.

While tough on germinating weeds, Surflan is mild enough to be applied over the top of foliage without discoloration, leaf spots or burning when used according to label directions. It resists leaching out of the germination zone, even in heavy rainfall, and resists staining.

So if callbacks are something you'd like to avoid this season, consider preemergent weed control as a part of your '97 program. And remember, when it comes to preemergents, Surflan offers more protection than any competitive product.

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Preemergent weed control —good for your bottom line



emergents are worth considering.

The callback concern

Turf and ornamental professionals are busy. Days are long, schedules tight and good employees scarce. Inefficiencies are more than just hassles, they can be costly to the bottom line.

Consider the cost of an average callback for weeds—approximately \$50, according to several lawn care and landscape professionals surveyed.

Even more importantly, because callbacks are often inter-

backs occur during peak season, you have labor concerns to contend with. Remember last year? Hiring good employees was difficult, even during slow times. Industry experts predict labor shortages to be even more severe this season.

Weed control options

There is an alternative. Preemergent weed control can help professionals avoid the callback dilemma by stopping weeds before they emerge. For example, Surflan* preemergence herbicide is applied before annual grassy and broadleaf weeds germinate in ornamental plantings and warm-season turfgrasses—typically in early spring.

How Surflan works

Surflan stops weed germination by interfering with mitosis, or cell division in the germinating roots. Grassy weeds like crab-

PROPER TIMING FOR BEST CONTROL

It's important to apply a preemergent like Surflan* herbicide one to two weeks before problem weeds germinate. A soil thermometer can help determine the onset of germination, along with these general guidelines:

— Warmer conditions typically

exist on south-facing slopes.

— Dark soil warms up faster than light soil.

— Thin grass areas warm up faster than thick grass.

— Wet clay soils may require up to three to four times more heat for

germination than dry clay soils.

— Dry, sandy areas should be treated in early spring.

— The treatment of poorly drained lawns can be delayed until mid to late spring.

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The best crabgrass preventer just got better

The facts on Team Pro:

- ▶ More consistent on everything from crabgrass to spurge and oxalis.
- ▶ Proven, consistent performance of Balan* herbicide and Treflan* herbicide.
- ▶ Offers an easy-to-use fertilizer formulation which covers great at 4 pounds per 1000 square feet.
 - ▶ Is effective in single or split-application programs.
 - ▶ Won't harm nearby ornamentals and is non-staining.
 - ▶ Provides excellent turf-grass tolerance and can be used on warm- or cool-season turf.
 - ▶ Economical, dependable, great value.



For years, lawn and landscape professionals have looked to Team* preemergence herbicide as the most proven consistent product for preemergence control of grassy weeds.

But what is it about Team that sets it apart?

Team is the only preemergence herbicide that combines two powerful active ingredients—Balan* and Treflan* herbicides—which together provide unsurpassed control of grassy weeds like crabgrass and goosegrass for up to 20 weeks, even when infestations are heavy.

And now these same proven attributes that have made Team the most consistent performing product for grassy weeds is taken one step further with the launch of DowElanco's new product—Team Pro preemergence herbicide. Team Pro is a unique combination of Balan and Treflan which combines the quick activity of Balan with the long residual rates and broadleaf weed control spectrum of Treflan.

While it still consistently prevents crabgrass, goosegrass and other bothersome grassy weeds, Team Pro is also more consistent on broadleaf weeds such as spurge and oxalis.

Team Pro can be applied on warm-season turf and used around most ornamentals according to label directions. Also, it stays where it's applied, resisting leaching even in heavy rainfall.

"Basically, we've made a great product even better," says Jim Parker, Product Marketing Manager for DowElanco herbicides.

"Because this new formulation is more consistent on everything from crabgrass to spurge and oxalis, it offers the best overall weed prevention a professional can get," says Parker.

Team Pro, available on fertilizer, allows for excellent coverage and performance at four pounds per 1000 square feet, yet it remains gentle on turf and safe for nearby ornamentals. In addition, it's non-staining and can be used on cool or warm-season turfgrass.

Team Pro effectively controls problem weeds by setting up a "weed prevention zone" beneath the soil surface. This zone inhibits cell division in weed seeds, stopping them before they ever break the surface.

Team Pro should be applied approximately one week before weed seeds germinate. Generally, this is when the soil temperature (not the air) reaches 52 degrees Fahrenheit.

For more information about the new Team Pro, call the DowElanco Customer Information Center at 1-800-352-6776.

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Keeping dandelions down

While there are numerous arguments to support preemergence weed control methods, there is perhaps none as persuasive as the dandelion. A perennial, this broadleaf weed is the bane of lawn care operators and customers everywhere.

The thick taproot of the dandelion, often several feet deep, is so extensive that to stop the plant from growing, it is necessary to destroy the root—making it very difficult to control the weed postemergently.

In the past, dandelions and other broadleaf weeds were controlled by postemergence herbicides. Unfortunately, this method has its limitations. For one thing, timing is critical; failing to spray weeds at the correct time during the growing season can reduce control. Postemergence herbicides are also ineffective at certain times of the year and tend to be less effective as the weeds mature. Postemergence control often leaves a dying weed and, eventually, a bare spot in the turfgrass, which allows room for more weeds.

Technology in recent years has introduced the option of a preemergence broadleaf weed control. This offers several advantages. Preemergence control:

▶ Stops weeds from emerging, so homeowners don't com-

plain about uncontrolled weeds.

▶ Can save turf and ornamental professionals money by reducing "callbacks" for weed break throughs which cost approximately \$50 per callback.

▶ Reduces herbicide application trips across the turf—possibly saving up to two or three applications otherwise used for postemergence application.

▶ Partial or season-long control provided by the preemergence option can reduce labor and allow lawn care professionals to shift work to other tasks.

▶ Reduces weed seed populations by controlling weeds before flowering and seeding. Eliminating seed populations before they have a chance to develop means fewer weeds to worry about in the future.

▶ Contributes to turf vigor because protected turf no longer competes with aggressive, broadleaf weeds for water and nutrients. In addition, it remains unmarred by repeated postemergent spraying.

For the most consistent, proven preemergent broadleaf weed control, there really is only one choice: Gallery* herbicide from DowElanco. What makes Gallery unique is isoxaben, a new class of chemistry approved for use on most established cool-season and warm-season turfgrasses, as well as 400 ornamentals. Once isoxaben is activated, it sets up a "weed prevention zone" in the top few inches of soil, controlling weeds before they break the surface.

A single application at .66 to 1.33 pounds of product per acre provides up to eight months of control against stubborn broadleaf weeds like chickweed,

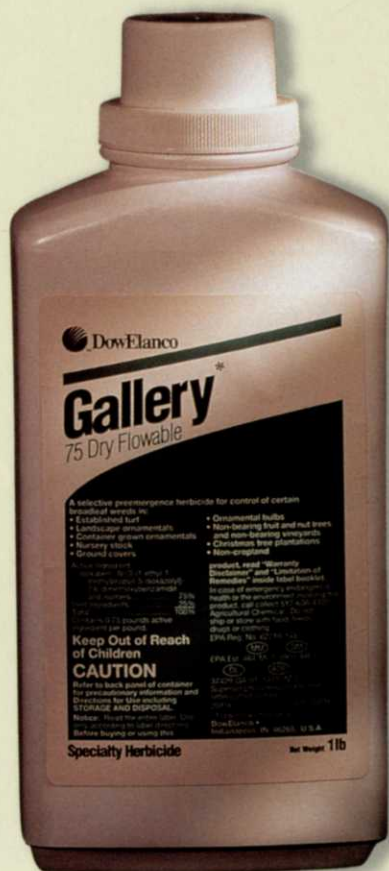
henbit and even the dreaded dandelion. One fall application of Gallery before weed germination prevents the growth of 95 species of broadleaf weeds for up to eight months.

Gallery can be applied in either spring or fall depending on the desired weed(s) to be controlled.

Apply Gallery two to three weeks before weed seeds germinate. Since soil temperature determines germination times, a soil thermometer can be a helpful indicator.

Once weeds germinate and begin to grow, they waste no time robbing turf of moisture, sunlight and nutrients. That's why lawn care and landscape professionals increasingly rely on Gallery herbicide to stop broadleaf weeds across the country.

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Sensitive site weed control

Look around you. Sensitive sites exist almost everywhere, in any part of the turf and ornamental business. Sometimes sites are sensitive because they're located in frequently used public areas, such as golf courses or parks. Sometimes members of the public are apprehensive about the use of herbicides.

Sensitive sites require special considerations when you choose an herbicide. Keep in mind too, you can reduce the amount of herbicide you use by selecting

one that gets the job done the first time you apply it.

Confront* postemergence herbicide, which is practically odorless, is ideal for use in such sensitive sites as residential areas, schools and commercial grounds. It contains the active ingredients triclopyr and clopyralid and controls 35 species of annual and perennial broadleaf weeds.

Confront has become the new standard of control for tough broadleaf weeds because it controls even some of the most difficult including dandelion, clover, plaintain, spurge and oxalis. Confront is applied after broadleaf weeds emerge. Unlike other products that burn back foliage and provide only short-term control, Confront works by penetrating the tough outer leaf coating before moving through the plant to the roots. Once in the plant system, it quickly stimulates the weeds to outgrow their food reserve.

Extensive university studies and private cooperator trials confirm that Confront is close to 100 percent effective on these tough-to-control species with just one application.

Applications of Confront are permitted on such established warm-season turf species as bahiagrass, bermudagrass, buffalograss, centipedegrass, zoysiagrass and warm season tall fescue.

These turf species join a list of already permitted cool-season grasses such as bentgrass, perennial bluegrass, tall fescue, and perennial ryegrass

At the recommended application rate of 1.5 pints active ingre-

redient per acre, Confront will go twice as far as a standard three-way herbicide applied at three pints active ingredient per acre.

Furthermore, single or multiple application per season creates little risk of discoloring or damaging turf when used according to label directions.

As with all products, Confront must be applied according to label directions for maximum results. It works immediately on weeds such as clover, and within a few days on other broadleaf weeds. It can be used as a broadcast application or for spot treatment and can be tank-mixed with other products such as Gallery* herbicide.

For the best results, Confront should be applied to well-established turf when weeds are actively growing so that the active ingredients can translocate or move throughout the plant. This process results in high efficacy—virtually total control. And Confront stays where it's applied and won't drift to nontarget plants and areas—a bonus for sensitive sites.

Weed control at sensitive sites can be challenging. More and more, professional turf managers who want premium control of broadleaf weeds are turning from traditional postemergents to Confront.

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Preemergence weed control —the way to go for ornamentals

Time is money. It's a cliché, but it's also an adage with merit. For turf and ornamental professionals, time spent handweeding ornamentals is simply time taken from other tasks.

Free up some of that valuable time with Snapshot® 2.5TG pre-emergence herbicide, a top-per-

forming, competitively-priced herbicide that makes it seem like there's another crew member on-site. Except Snapshot doesn't punch a time clock. Actually, it works 'round the clock—for up to six to eight months.

Snapshot is ideal for landscape ornamentals and prevents 111 broadleaf weeds and annual grasses. Snapshot can be used over the top of ornamentals, and is non-staining.

After activation by one-half inch of rainfall or irrigation, Snapshot sets up a solid control area around weed seedlings. As the weed seeds germinate, Snapshot disrupts their development and seedlings gradually die before they ever break the soil surface.

Snapshot contains the active ingredients isoxaben (the same

ingredient in Gallery® herbicide) for the prevention of broadleaf weeds, and trifluralin, (the active ingredient in Treflan® herbicide) for the prevention of grassy weeds. These two ingredients form an unbeatable team for controlling weeds.

Always apply Snapshot prior to germination of target weeds, which generally occurs when the soil temperature, not the air, reaches 52 degrees Fahrenheit.

So for weed-free ornamentals there really is only one choice—Snapshot pre-emergence herbicide.

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Customer driven through the next century

by DICK HOLZSCHU/General Manager, Urban Pest Management

As the old song goes, "The times they are a changin'." In fact, everything changes, even the rate of change changes—or more precisely, accelerates. It's simply a fact of life.

At DowElanco, we want to do more than just keep up with change. We want to stay ahead of it. We know that thriving in today's business world means exceeding customers' needs not just today, but well into the future. That requires a total commitment to the turf and ornamental industry while embracing the changes taking place within it.

Our total commitment to the industry focuses on three areas: supporting current products, developing innovative new products, and providing accurate, up-to-the-minute information to the industry.

Current workhorses

Support of our current products is ongoing and includes continual testing and research, both in the laboratory and in the field. Our goal—ensure our products meet efficacy standards and satisfy customers' needs.

One of the products we remain committed to is Dursban® insecticide. Dursban has been a mainstay in thousands of insect pest control programs for years. We don't take that kind of loyalty for granted. Because our customers rely on Dursban, we support it through research, development of improved formulations and packaging, and educational seminars designed to help customers get the maximum benefit from their insect pest control programs.

Another product we remain committed to is Surflan® herbicide. Because Surflan offers season-long control of over 40 grasses and broadleaf weeds and is safe on more than 400 ornamentals, it offers greater protection than any competitive product, and therefore continues to be the backbone of weed control programs for

thousands of professionals throughout the country. With this in mind, we're happy to report our Surflan plant expansion is complete and we fully expect to meet current demands for the product throughout 1997 and beyond.

New horizons

In the effort to meet tomorrow's needs, DowElanco continues to funnel resources to new product development. Our commitment is large. In fact, our Research and Development Building contains more than 612,000 square feet and 15 individual greenhouses employing approximately 400 scientists and other employees. It's the world's largest single plant breeding and agricultural research center under one roof.

Along with the research conducted at the world headquarters in Indianapolis, major research stations are maintained in 19 additional areas around the world. With this global perspective, we've secured a place as a leader in the discovery and development of new pest control technologies.

In this vein, I'm pleased to announce one of our newest products, Team® Pro herbicide, is now available. Team Pro is more consistent on everything from crabgrass to spurge and oxalis, and it's the only crabgrass preventer available with a unique blend of the two active ingredients Balan® herbicide and Treflan® herbicide. This combination provides the quick activity of Balan with the long residual rates and broadleaf weed control spectrum of Treflan.

Information age

Of course, research and development triumphs aren't enough to carry us into the 21st century. Real success comes from a commitment to information—the information our customers and their clients need.

With that in mind, we strive to be an industry leader in education, support and environmental stewardship. In fact, we



have over 20 sales and technical support representatives dedicated to the turf and ornamental marketplace.

We believe teaching our customers about using pest control products responsibly is important. As a part of that we provide educational materials and speakers to seminars and associations, we promote IPM practices and responsible use of our products, and we maintain a leadership role in associations such as Responsible Industry for a Sound Environment (RISE), The Professional Lawn Care Association of America (PLCAA), Golf Course Superintendents Association of America (GCSAA) as well as many other state and local associations that work to educate the public and the government about the use of specialty pesticides in the environment.

In the end, it comes down to not only recognizing, but promoting change and growth within our industry. And through commitment, dedication and unwavering support, DowElanco plans to continue to be the leading manufacturer of turf and ornamental specialty products through whatever changes the next century may bring.

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