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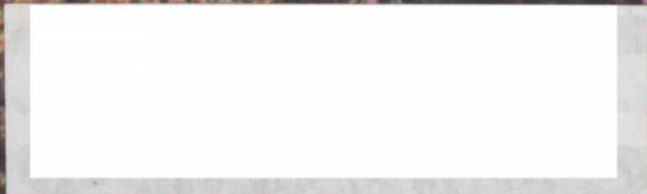
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DIMENSION 1EC <sup>b</sup>	0.5	100	86
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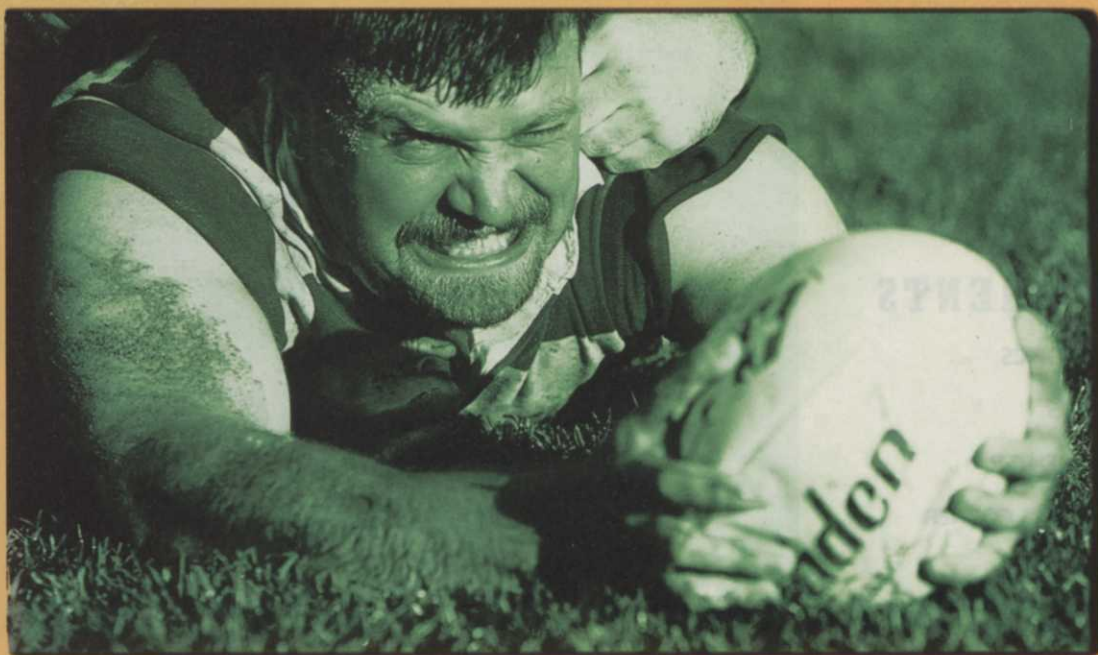
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# P E N D I M E T H A L I N .

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INSIDE

THE VOICE OF THE GREEN INDUSTRY

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ON THE COVER: AT POST GREEN HILLS, NASHVILLE, TENN., TROPICAL FOLIAGE IS COMBINED WITH SUMMER FLOWERS. PHOTO COURTESY TODD TIBBITTS, POST LANDSCAPE.

## COLUMNS

- 8 OPENING SHOTS
- 12 ASK THE EXPERT

## DEPARTMENTS

- 14 HOT TOPICS
- 69 EVENTS
- 70 INFO CENTER
- 70 SUPPLIERS CORNER
- 72 PRODUCTS
- 85 AD INDEX
- 82 CLASSIFIED
- 86 GRAB BAG

## FEATURES

- 17 **SPECIAL SUPPLEMENT:  
SOLUTIONS FOR TODAY AND  
TOMORROW**  
The Dow AgroSciences company brings news of product solutions, and the people who are using them.
- 34 **MIRACLE WORKERS?**  
The green industry demands that its mechanics be repairmen, managers, and, yes, sometimes even diplomats and trainers.
- 38 **LM REPORTS: LINE TRIMMERS**  
When buying a line trimmer, consider engine size or power, the weight of the trimmer, and whether it offers an anti-vibration system to make operation more comfortable.
- 42 **GUIDE TO WEED CONTROL IN  
THE NORTH AND THE SOUTH**  
Vigorous turfgrass does not provide 'room' for weeds. Winter broadleaf weeds can be an opportunity or a headache for the turf manager.  
*DR. FRANK ROSSI*  
*DR. BERT MCCARTY*
- 65 **PERENNIALS FOR SHADY SPOTS**  
There are different kinds of shady areas, and perennials that thrive in partial or full shade.



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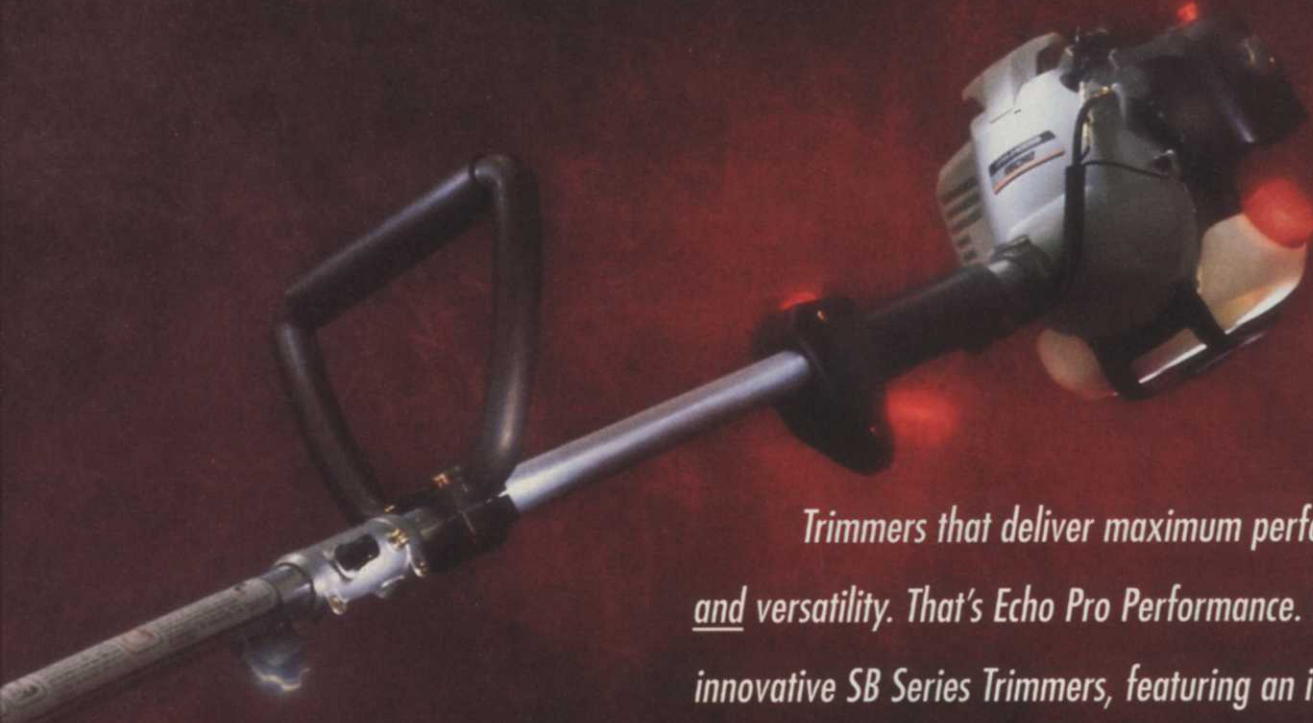


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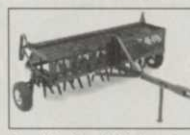
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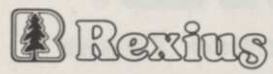
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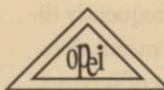
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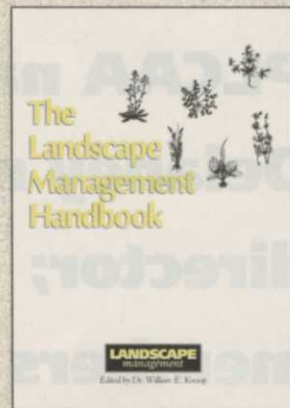
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# PLCAA names Delaney new director; members are top priority.

**T**om Delaney, long time government affairs director for the Professional Lawn Care Association of America, has been named executive vice president of the Marietta, Ga.-based association.

The appointment ends a year-long search to find a replacement for Ann McClure, who resigned the post in March 1997.

"We went through over 600 resumés," says PLCAA President Larry Messina. "We realized that Tom, who had been interim executive vp, had the talent and skills we needed."

"I was watching the process at different junctures, and thought we would have found someone [from outside the association]," says Delaney, "but we never had a complete fit. I decided to accept the challenge.

"The board and I are looking at the member interests as our first priority.

We want what's best for the industry and the association. I think I can meet the call and the challenge.

"I've been here long enough to know where we are and what's going on."

Delaney adds that he will remain as government relations liaison, at least for now.

"I'm still going to talk to every member who calls with a question on government affairs," he says.

In other PLCAA news, Bob Andrews of The Greenskeeper, Carmel, Ind., will advise PLCAA on marketing and membership development and retention initiatives.

Andrews, himself an ex-president of PLCAA, who, along with Delaney and all of the PLCAA board, sees the need members have for information. New companies, says Andrews, need help to stay afloat.

"At the Indiana State Association, we have

given the members what they wanted: basic education. The new companies coming in to the lawn care industry are very small operations. They know how to do the [technical] work but they don't know how to run the business."

Delaney agrees, and says that's one reason PLCAA began its "Mentor Program," which gives established company owners a chance to share what they know with new companies.

"The new companies need information on running a business," says Delaney. This information includes help with employee, marketing and bidding issues.

Delaney says mentorees now total about 40 or 50. At press time, PLCAA needed 23 mentors. (If you're an LCO who wants to help out a new member, call PLCAA at 800/458-3466.)

Lawn care operators are more frequently diversifying their service mix, which means they need more information on a variety of services.

"There are really very few firms who say 99 percent of their income comes from lawn care," says Andrews.

"In the Indiana State Lawn Care Association, only 50 percent of our members are LCOs. Other members include irrigation contractors and parks and recreation professionals. (Andrews is director of the Indiana LCA.)

"I think Tom Delaney is going to be excellent in the executive vice president post," says Andrews. "And you've got Bob Ottley, Jerry Grossi and President Larry Messina serving [among others]. These are solid people.

"I would not be surprised if there were a lot of changes in the next six to eight months." **LM**

*Why is this good news for the Green Industry? Because small companies are the backbone of all Green Industry segments and associations.*



*Terry McIver*

**TERRY McIVER**  
Editor-in-Chief

# WALK, CHEW GUM.



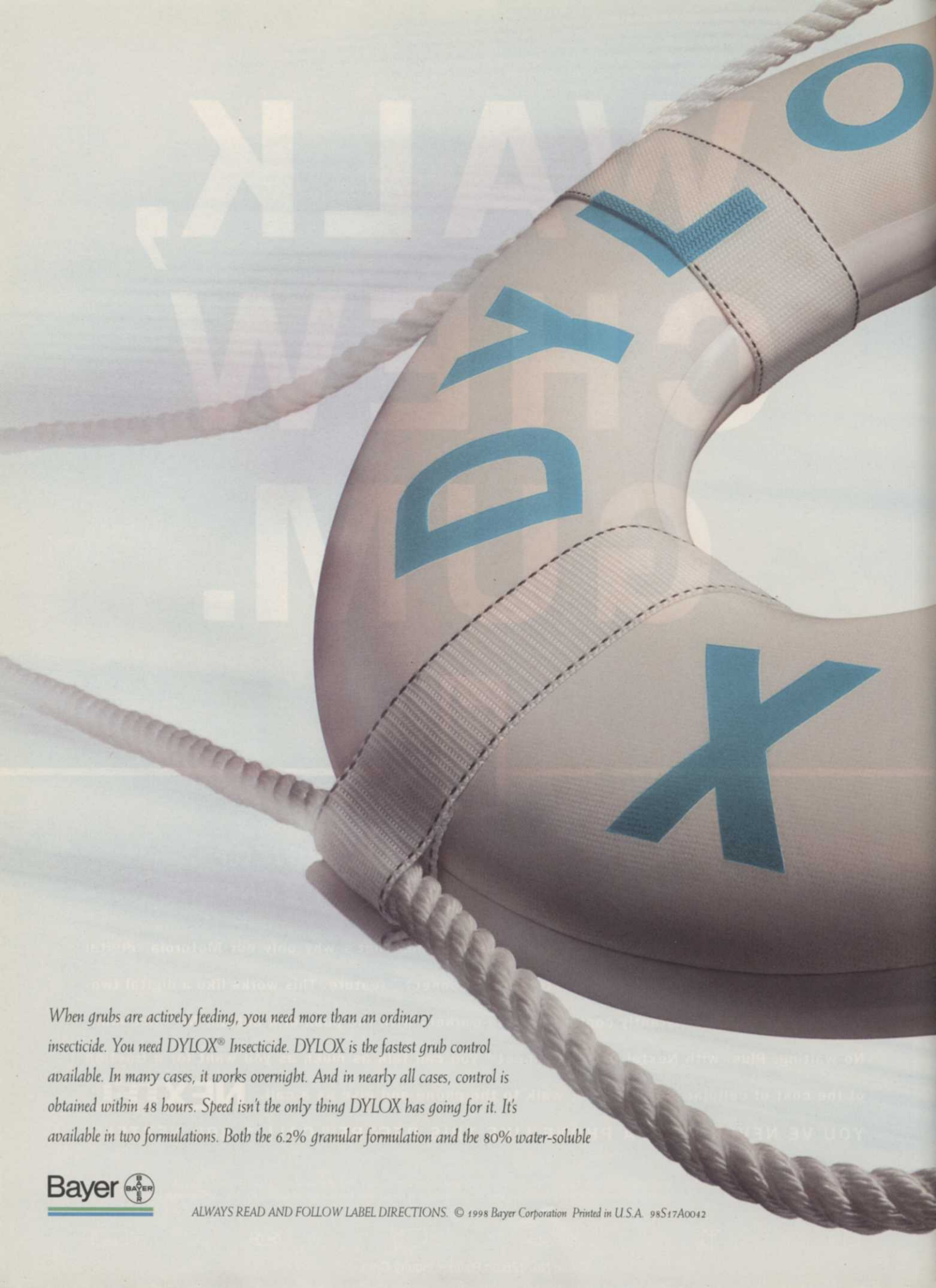
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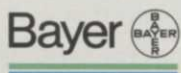
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## We've got the *Poa annua* blues

What can we do to manage *Poa annua* (annual bluegrass)?

—OHIO

Annual bluegrass thrives in shaded, compacted, and poorly drained areas. Improve growing conditions to promote the desirable turfgrass growth. Proper fertilizing, watering, mowing and aerating will benefit desirable turfgrass and make it better able to compete with opportune weed plant infestation.

In areas where the *Poa annua* problem is severe, consider treating with non-selective herbicides such as Roundup or Finale, and reseed.

There are some other chemical strategies that may be more suitable for particular sites. For instance, consider using growth regulators such as Primo from Novartis, TGR from Scotts, or Cutless from Dow Agro-Sciences. These growth regulators help suppress annual bluegrass by allowing desirable turfgrass to compete for light, space, nutrients. Reports also indicate that Primo is a foliar absorbed product and improves turfgrass color and quality.

Another option is to use a herbicide like Prograss from AgrEvo which is capable of eliminating annual bluegrass from turfgrass areas. Prograss is intended for use on ornamental turf sites such as golf courses, parks and lawns. It shouldn't be mixed with liquid fertilizers or other pesticides. Don't apply Prograss within eight weeks fol-

lowing the application of a plant growth regulator. The spray mixture should not stand in tank over night, the label states. As always, read and follow label directions.

Fungicides such as Rubigan from Dow AgroSciences can also indirectly help manage the problem. Rubigan will suppress the seed head formation of annual bluegrass, reducing the infestation in the future years.

Reports also indicate that the Chipco Ronstar brand of oxadiazon herbicide from Rhone-Poulenc, can also effectively help manage *Poa annua*. Ronstar is a preemergent herbicide which can help manage problem grassy weeds such as crabgrass or goosegrass, as well as annual bluegrass weeds. Reportedly, one application in the late summer or early fall will help manage annual bluegrass for the season without the need for repeated applications or the risk of phytotoxicity.

## Herbicides in packets are handy

*I have been using the non-selective herbicide Roundup in the powder packet for many years. It's easy to mix in a hand-held sprayer. Is there a product for selective weed control that comes in a packet like Roundup?*

—MICHIGAN

I am familiar with a product called Dissolve from Riverdale Co. that comes in packets and is for selective weed control. However, they are not small packets.

Dissolve herbicide comes in either 25 lb. (10 x 2½-lb. packets) or 5 lb. (8 x 10-ounce packets). These packets are designed to be mixed with several gallons of water for treating large areas. This water-soluble product is a three-way postemergent selective herbicide containing the amines of 2, 4-D, Mecoprop and Dichloroprop for use on golf courses, parks, highway, sod farms, ornamental turf lawns and similar non-crop areas. It controls a number of common weeds including some that are considered difficult to manage.

According to the label, a 2½-lb. packet will treat from 43,000 to 58,000 sq. ft. (1 to 1½ acres) of cool season turfgrasses. For warm season turfgrasses, it can be used over 1½ to 2 acres.

For best results, target the applications when weeds are growing. Spring and fall are generally the best times to treat.

The label suggests that exposure to moisture before mixing may cause water-soluble bags to rupture. Take all the precautions and follow mixing guidelines as specified in the label.

*For more about weed control, see our weed control guides which begin on page 42. —ed.*



**BALAKRISHNA RAO**

Manager of Research and Technical Development for the Davey Tree Co. Kent, Ohio

## SEND YOUR QUESTIONS TO:

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## Brickman to expand Investments to increase service to commercial accounts

As large corporations and significant property management associations continue to "outsource" their landscaping needs, the industry itself is responding by offering services at regional and national levels. The Brickman Group Ltd. has

arranged a partnership with two large financial institutions to fund major expansion efforts into the next century.

"We can provide national or regional service at a reduced price, which helps us stand out in this highly fragmented business dominated by small, local companies," explains Scott Brickman, who now becomes president and chief executive officer of the Langhorne, PA-based operation.

"This transition is a positive step in the continuing evolution of The Brickman Group as a national leader in our industry," says Dick Brickman, Scott's father, who moves up to chairman after 40 years as president and CEO.

The exact terms of the investment plans are not being disclosed, but the financing will be provided by First Chicago Equity Capital and Continental Illinois Venture Corp.

Most of the company's expansion is expected to involve increasing its current staffing levels. "The foundation of our business has been internal growth," says Scott Brickman. "It's really not going to be different than anything we've done over the years," he points out. "We've been growing regionally for years—we just have a different ownership structure (now)."

The goals do not exclude the purchase of existing firms in various markets, but the growth thrust is likely to remain in-house. The annual internal growth rate has been holding steady at 20 percent. "Our biggest limitations are *people*," Scott confides. "Sales is not the challenge—it's developing good management people."

Buying other landscape companies remains a viable strategy, but any actual deals will depend upon

specific situations. "We'll be doing acquisitions as opportunities present themselves," Scott notes. "It's really not that scientific," he reveals, "we enter new markets as opportunities present themselves."

That being said, Brickman invites business owners to make a pitch if they are so inclined. "If people are interested in selling we're interested in talking to them, but we're under no pressure to do anything."

Founded in 1939, The Brickman Group generates annual revenues of about \$100 million. Its 45 branches in the Midwest and on the East Coast cover numerous commercial accounts for corporations such as McDonald's, IBM, Motorola and properties under the management of LaSalle Partners, Trammel Crow and Liberty Property Trust.

"We can now take advantage of two growing trends in our industry," says Scott, "toward outsourcing of corporate services and toward property management consolidation by Real Estate Investment Trusts and other national property managers."

Dick Brickman, 65, son of company founder Theodore Brickman Sr., observes that "this investment ensures that The Brickman Group will continue to provide high-quality landscaping services to our customers across the east and Midwest. Importantly," he adds, "this partnership will enable us to expand our services across the country."

Brickman's day-to-day management operations will remain the same as the investment groups will have seats on the corporation's board of directors. "We're backing the management team (already in place)," says Chris Perry, president of Continental, which is a subsidiary of BankAmerica Corp.

"They're looking to us to grow the business—we're the experts," explains Scott Brickman. "They have connections that can open doors for us, which is good," says Scott. "They have substantial financial analysis capabilities," he adds. "But it's really not going to change the way we do business."

—by James E. Guyette



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



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## Herbicide resistance confirmed in *Poa annua*

ANAHEIM, CALIF.—Herbicide resistance has been identified in some weeds in some locations but there's no need for concern just yet, said Dr. Fred Yelverton at North Carolina State University.

"I don't say this is going to be a tremendous problem, but we're see-



Yelverton reported on herbicide-resistant *Poa* at Rhoñe-Poulenc press conference.

ing new cases pop up," Yelverton said at a press conference sponsored by Rhoñe-Poulenc in February in conjunction with the GCSAA Trade Show & Conference here.

Yelverton, who is with the Crop Science Dept. at NCSU, said he's identified four golf courses in North Carolina with populations of *Poa annua* (annual bluegrass) resistant to the herbicide simazine, and to all other herbicides in the triazine family. There are probably more examples in North Carolina, he said.

Simazine-resistant annual bluegrass has also been reported in Mississippi. Simazine is commonly used to control

*Poa annua* in non-overseeded bermudagrass fairways of southern golf courses. Yelverton said that in the four locations that he's investigated, simazine was used continuously for seven years or more for *Poa* control.

"Herbicides do not cause genetic changes in the plant that lead to resistance," stressed Yelverton. "It's nothing but a selection pressure that goes on over time. You're selecting for that wild-type plant that is out there in that population."

There are also reports of particular areas of goosegrass and crabgrass that are suspected of being resistant to particular herbicides, he added.

Yelverton said that turfgrass managers can delay herbicide resistance in weeds by rotating herbicides. He said products like Ronstar or Barricade can also effectively control annual bluegrass.

He also touched on annual bluegrass control in bermudagrass overseeded with perennial rye. Initial findings suggest that turfgrass managers can control *Poa*, without damaging the rye seedlings, with either Ronstar or Balan about eight weeks prior to overseeding. The rates still need to be worked out though, he said.

## LESCO builds NE presence

CLEVELAND, OHIO—LESCO, Inc., is increasing its presence in the Northeast by acquiring the specific assets of two privately owned companies—Agriturf, Inc., in Hatfield, Mass., and Cadwell & Jones, in Manchester, Conn. Lesco said it's acquiring the professional turf care segments of the two businesses, including lawn and golf course turf maintenance. Terms of the all-cash transactions were not disclosed.

These transactions will provide Lesco with its first New England manufacturing facility. The Cleveland-based company plans to consolidate its new business operations in Hatfield, where it will acquire 11.8 acres of land, including Agriturf's fertilizer blending plant and a warehouse for distribution.

LESCO expects the consolidation to be complete by the time the 1998 season starts. In the longer term, the Hatfield facilities will be expanded, it reported.

## Seed demand up after El Niño?

Wet weather conditions across the US this winter may cause increased demand for turfgrass seed, as landscapers, lawn care professionals and golf course superintendents begin to assess their needs.

The windy, rainy weather that accompanies the El Niño warming pattern could affect American's turf and gardens, reports Pennington Seed. Strong storms can cause landscape problems such as flooding, broken tree limbs and erosion. Plants may become waterlogged, topsoil and hillsides have been washed away in parts of California and trees can fall.

"The greatest effect of El Niño this past year has undoubtedly been in the Northeast," says Ronnie Stapp, senior vice president of Pennington's Seed Division.

"I would expect that the ice storms will result in a need for overseeding, because ice is the most devastating element to turf and gardens."

# *Solutions*




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Break the spirit of any cutworm, sod webworm or armyworm with Conserve<sup>®</sup> SC turf and ornamental insect control. It controls tough pests as effectively as any synthetic. In fact, symptoms appear within minutes of contact or ingestion, putting an immediate end to plant damage. And, since Conserve is derived from a naturally occurring organism, it also helps control your worries about chemical applications and the environment. Learn more about Conserve. It's Changing the Nature of Insect Control.<sup>™</sup> Call 1-800-255-3726. Conserve. The end of the line for insect pests.

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# New Chemical Class of Insect Control

**T**urf and ornamental professionals know it takes a unique combination of nature and nurture to create a beautiful landscape. Now, a new spinosyn chemical class offers a pest management tool derived from a *naturally occurring* organism for their IPM programs. It's an innovation pairing high efficacy with a profile that can save time, money and environmental concern.

Known as Conserve\* SC (suspension concentrate) turf and ornamental insect control, this tool offers quick and effective control

of a wide variety of tough insect pests, including sod webworms, cutworms, armyworms, and ornamental pests like leafminers and thrips.

Derived from the fermentation of a naturally occurring organism, Conserve offers rapid control at very low rates. Plant damage ceases immediately, and control is evident in one to three days.

At the same time, it has a profile that includes:

A "Caution" signal word, indicating reduced risk.

A four-hour WPS reentry interval.

Conserve can also be used without worry about phytotoxicity on all turfgrasses and most ornamentals.

Conserve should be applied when insect pests are young and vulnerable — just prior to the point of turf or ornamental damage. When pests are exposed to it through ingestion or contact, it acts on their nervous system's nicotinic acetylcholine receptors, stops their feeding on plant materials and quickly eliminates them.

Its unique mode of action makes it an excellent product for use with IPM programs or rotation programs designed to

fight resistance. All this without sacrificing efficacy or efficiency.

For more information about Conserve, contact your Dow AgroSciences representative or the Customer Information Center at 1.800.255.3726.

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Conserve\* SC  
Turf & Ornamental Insect Control



# Taking control, responsibly

Oh, the damage they do. From chewing insects such as webworms and cutworms that directly consume plant tissue — leaving holes or notches in grass blades, to sucking insects such as aphids and chinchbugs that actually pierce plant tissue and withdraw sap, insects can cause a lot of damage to turf, and to your business.

## Line of Defense

How to stop them? The best control will be achieved through a multi-faceted approach — the philosophy behind IPM. The goal of IPM is to manage pests and the environment while balancing costs, benefits, public health and environmental quality. By taking advantage of some of the most effective pest control options available, you'll keep pest damage to a minimum:

- Natural Forces. Take ad-

vantage of nature. Consider climate and adverse weather conditions, soil type (heavy, poorly drained soils, for example, favor some pests) and the food and water supply pests need to live.

- Host Resistance. Many pest-resistant turfgrass varieties are available to keep pest populations below harmful levels.

- Cultural Control. Keeping turf healthy is the best defense against insect aggression. Fertilize properly, water deeply and infrequently, mow at recommended heights (never cut off more than 30 to 40 percent of the grass blades in any one cutting); cultivate properly to keep turf strong and less vulnerable to environmental stresses.

- Plant Tolerance. When damage is occurring, find a threshold level the plant can tolerate.

- Insecticidal Control. Look to Dursban\* insecticide. Dursban offers economical control of more than 140 insect pests including worms, ants, fleas, ticks, mole crickets, aphids and chinch bugs.

### A balanced approach

When using insecticides, consider factors that can affect their performance. Here's what to con-

sider doing 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.

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

### Effective and Economical

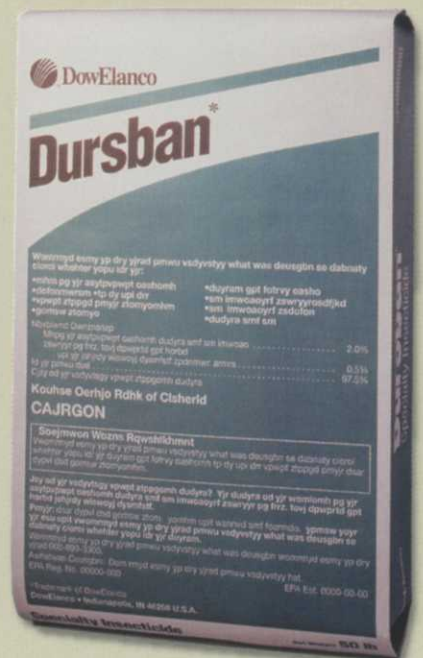
Dursban is available in various formulations including liquid, wettable powder in pre-measured water-soluble packets, granules and on fertilizer; and offers long residual control. No wonder it has remained the industry standard for professionals for more than 30 years.

Dursban is recommended for use on all cool- and warm-

season turfgrasses and can be used to treat most landscape-grown ornamentals. It can be tank mixed with most other insecticides for application to turf or ornamental plantings, broadening the spectrum of pest control. It binds with thatch and organic matter in soil, and resists leaching even in heavy rainfall.

IPM programs rely on a balanced use of control measures. For lawn care and landscape professionals, following IPM simply means more vigorous turfgrass and plants, pest identification and more efficient use of chemicals. Dursban provides effective control at low rates, which allows you to take control — responsibly.

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# *At least she insists*

There are times when it is critical to know that you're getting the real thing. Like when you're buying Dursban\* insecticide.

No Dursban wannabe can give you the same level of confidence, performance and support that you get from Dow AgroSciences.

Not to mention the superior control of over 140 insects, including worms, ants, fleas, ticks, mole crickets, aphids and chinch bugs.

The only way to get the real Dursban is to buy Dursban. So always look for the Dursban trademark on the label, whether you buy from Dow AgroSciences or one of our formulator partners.

For more information, call us toll-free at 1-800-255-3726 or visit our web site at [www.dowagro.com](http://www.dowagro.com).

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*fake Ferrari*





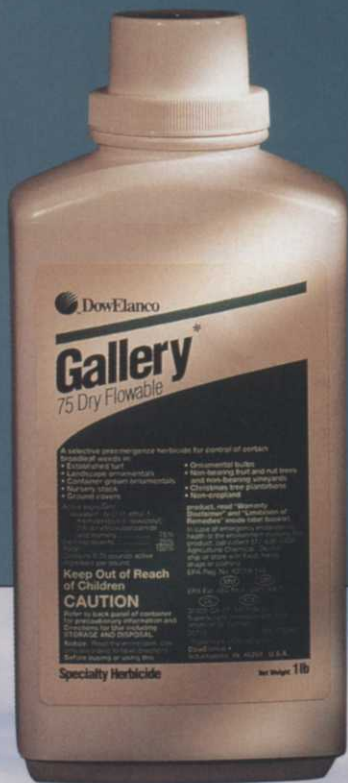
*on Dursban.*



Dow AgroSciences  
**Dursban**

*If it doesn't say Dursban, it's not.*

# Gallery Ensures *Picture Perfect Landscapes*



**“F**LOWER POWER,” the quintessential catch phrase of the '60's, could be revived as the '90's slogan for Mid-America Apartment Communities in Memphis, Tenn. No, tie-dyed is not the official staff “color,” but flowers are a big part of the job for the nine person crew that maintains the 20,000 plus acres surrounding the complexes.

As Rick Johnson, the seasonal color and chemical manager for Mid-America's in-house land-

scaping crew puts it, “We take a lot of pride in creating and maintaining beautiful landscaping and flower beds for our 27 regional complexes. They're not just landscapes, we like to think of them as showcases.”

Johnson designs the landscaping, chooses the seasonal color, and develops the pest control plan for all of the properties' turf and landscaping. Johnson's efforts must be paying off because Mid-America Apartments are famous throughout Tennessee for their



meticulous grounds keeping.

Johnson and his crew scour the garden shows in the winter to find the newest and most beautiful flowers and ornamental plants for their properties. They redesign their landscapes in both the spring and fall with approximately 20,000 new colorful blooms during each of the two seasons. This is in addition to the thousands of tulips that come up like clockwork each spring.

#### **Keeping Weed Worries at Bay**

Because of the emphasis Mid-America places on superior landscapes with exceptional curb appeal, Johnson is particularly diligent about controlling weeds.

"Because of the huge investment we make in keeping the grounds beautiful, I simply can't tolerate weeds. Dandelions, clover, spurge—they're not only ugly, but they compete with turf and plantings for sunlight, nutrients and water."

With that in mind, Johnson prevents bothersome broadleaf weeds all year with timely applications of Gallery\* preemergence herbicide.

"I use Gallery because nothing else stops weeds like this product. It makes my job easier because it has a long residual and can be used on a large range of ornamental plants," says Johnson.

In fact, Gallery can be used on 440 field-grown and 230 container-grown ornamentals, as well as most cool- and warm-season turfgrasses, and provides up to eight months control of even the toughest broadleaf weeds including dandelion, white clover and spurge. In all, Gallery stops 95 tough broadleaf weeds from ever emerging.

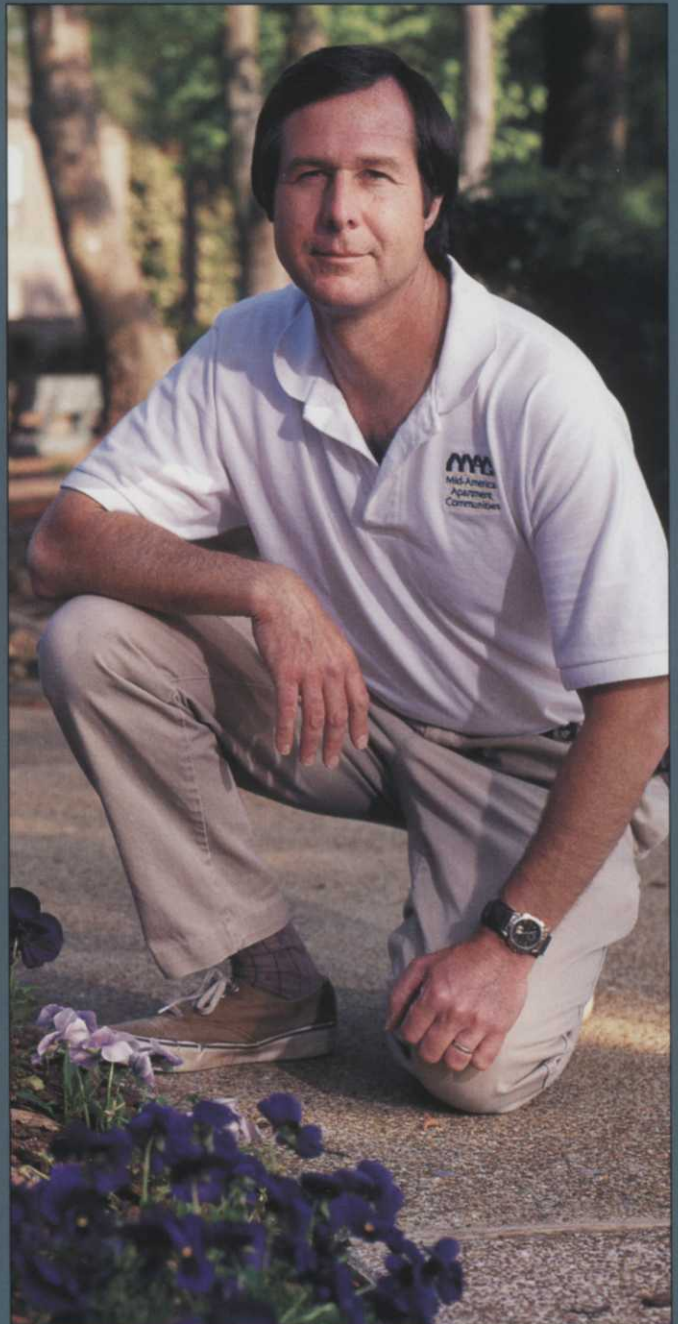
"I choose Gallery because it works. Our landscapes are weed free all season, and I like the fact we're preventing problems rather than trying to control weeds after they've erupted," says Johnson.

Stopping weeds before they emerge also offers budgetary benefits.

"Gallery saves time and ultimately money throughout the season because my crew is freed from hand-weeding or fighting tough broadleaf weeds postemergently. I'd rather spend one afternoon preventing weeds with Gallery than chasing them down all season long," says Johnson.

#### **How Gallery Works**

Gallery is unique. It stops weeds before they break the soil surface. For best results, apply Gallery in the spring or fall before weed seeds germinate. Spring applications prevent broadleaf weeds all through the warmer months, and fall applications prevent



**Rick Johnson: "Our landscapes are weed free all season, and we're preventing problems rather than trying to control weeds after they've erupted."**

both fall germinating weeds as well as those that would germinate the following spring.

Once activated by at least one-half inch of rainfall or sprinkler water, Gallery sets up a solid control area around weed seedlings. Gallery disrupts and halts root and stem development of the weeds so

seedlings gradually die before breaking the soil surface.

For more information about Gallery, contact a Dow AgroSciences sales representative or call the Dow AgroSciences Customer Information Center at 1-800-255-3726.

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WITNESS PROTECTION PLAN

For some, protection can be a matter of life and death. But when it comes to protecting your ornamentals, death is not an option if you use Surflan® herbicide from Dow AgroSciences. In fact, while being safe over the top of 400 types of ornamentals, it's still tough as nails on weeds. Surflan gives you extended control of 50 weeds such as crabgrass and goosegrass. It also strong-arms small-seeded broadleaf weeds like



ORNAMENTAL PROTECTION PLAN

chickweed and henbit – weeds that are usually untouchable. Plus Surflan can be used in many tank mixes. So when it comes to protecting ornamentals while killing weeds, let's just say we've got an offer you can't refuse. For more information on Surflan or any other product in the extensive line of Dow AgroSciences products, call 1-800-255-3726 or visit our web site at [www.dowagro.com](http://www.dowagro.com).



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# Reaping the Benefits of Preemergence Control

**L**andscape professionals throughout the country know the beauty of green, healthy turf surrounding groupings of flowers and shrubs cannot be undervalued. In addition to the aesthetic value, a vital, rich turf purifies and conserves water, helps prevent costly soil erosion and runoff. Weeds will not only damage the appearance of turf, but will reduce its quantity and quality by competing for sunlight, water, nutrients and space. Unfortunately, it only takes a few unsightly weeds to ruin the beauty and health of a well-cared-for landscape.

Surflan\* preemergence herbicide will help keep turf attractive by preventing more than 50 hard-to-control grassy and broadleaf weeds, including chickweed, crabgrass and goosegrass. Surflan has been used successfully by turf managers for more than 15 years. It also easily tank-mixes with Gallery\* preemergence herbicide in order to broaden the spectrum of broadleaf weed control even further.

#### Timing

Surflan must be applied before weed seeds germinate. In warm-season turf, Surflan can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for *Poa annua* and winter annual weed control.



Surflan\* Preemergence Herbicide

After being activated by at least one-half inch of rainfall or irrigation, Surflan sets up a "weed prevention zone" around seedlings, halting their development before they ever break the soil surface.

#### The Product of Choice

The chemistry of Surflan herbicide enables it to bind tightly with soil particles and makes it very low in water solubility. And because Surflan is low in volatility, it can wait for rain or irrigation for up to 21 days. So, even under extreme heat conditions, it won't break down like many herbicides in the marketplace.

The versatility of Surflan makes it the preferred pre-emergent for many turf managers.

Instead of purchasing multiple products to meet their needs, increased efficiency is achieved by buying one product: Surflan. Managers will purchase less product overall and reduce the hassles of mixing and container rinsing.

And because it can be used over the top of more than 400 ornamentals, including annuals and bulbs, nothing is better suited than Surflan to sensitive sites like playgrounds, parks, commercial areas or neighborhood yards.

#### Surflan Supply

Recently, major improvements were made to the Surflan herbicide production facility which will help ensure that all orders will be filled on a timely basis throughout 1998. In addition, current Surflan supplies are up, so all pre-season orders can be filled.

So start planning now for the busy months ahead with Surflan preemergence herbicide.

For more information about Surflan, call Dow AgroSciences at 1-800-255-3726.

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# Trenton Thunders

## Not the Only Team on the Field

**T**he Trenton Center located in Trenton, N.J., hosts concerts, festivals, and baseball games; in fact it is home to the Double A Baseball team the Trenton Thunders. Because of the level of activity at the Center, turf traffic is exceptionally heavy.

"We've reseeded in multiple areas of the field because of the heavy wear. Cleat damage alone tears the place up," says Chris Scaglione, owner of Spring Green Lawn Care located in Englishtown.

And traffic isn't the only challenge Scaglione faces at the Center. "We had put down Team\* Pro preemergent in the spring primarily to prevent crabgrass," says Scaglione. "Later, when we'd had up to 50 days with no rain with temperatures in the 90s, Team Pro was really put to the test. But even with those weather conditions, we didn't have to worry.

Team Pro held up great."

Team Pro is Team\* plus the added preemergence prevention of key broadleaf weeds, including oxalis and spurge. This control comes from the same mixture of herbicides, Balan and Treflan, that's found in Team, but in a different ratio. This new ratio is even more effective on broadleaf weeds, yet still provides benefits of Team — such as exceptional crabgrass control (thanks to a high vapor pressure which spreads it



**Scaglione: Better weed control for the money with Team Pro.**

throughout the weed germination zone). And it's not only effective; it's more economical when compared to many other herbicides.

Scaglione notes, "Team Pro gives me far better weed control for the money than pendimethalin did, and it really prevented breakthrough. I'm glad I made the switch."

Scaglione makes two applications per year. "We put it down at recommended rates. One application in early spring, and another six weeks later on spots that I feel are 'crabgrass prone' — those areas that receive high amounts of sun," he says.

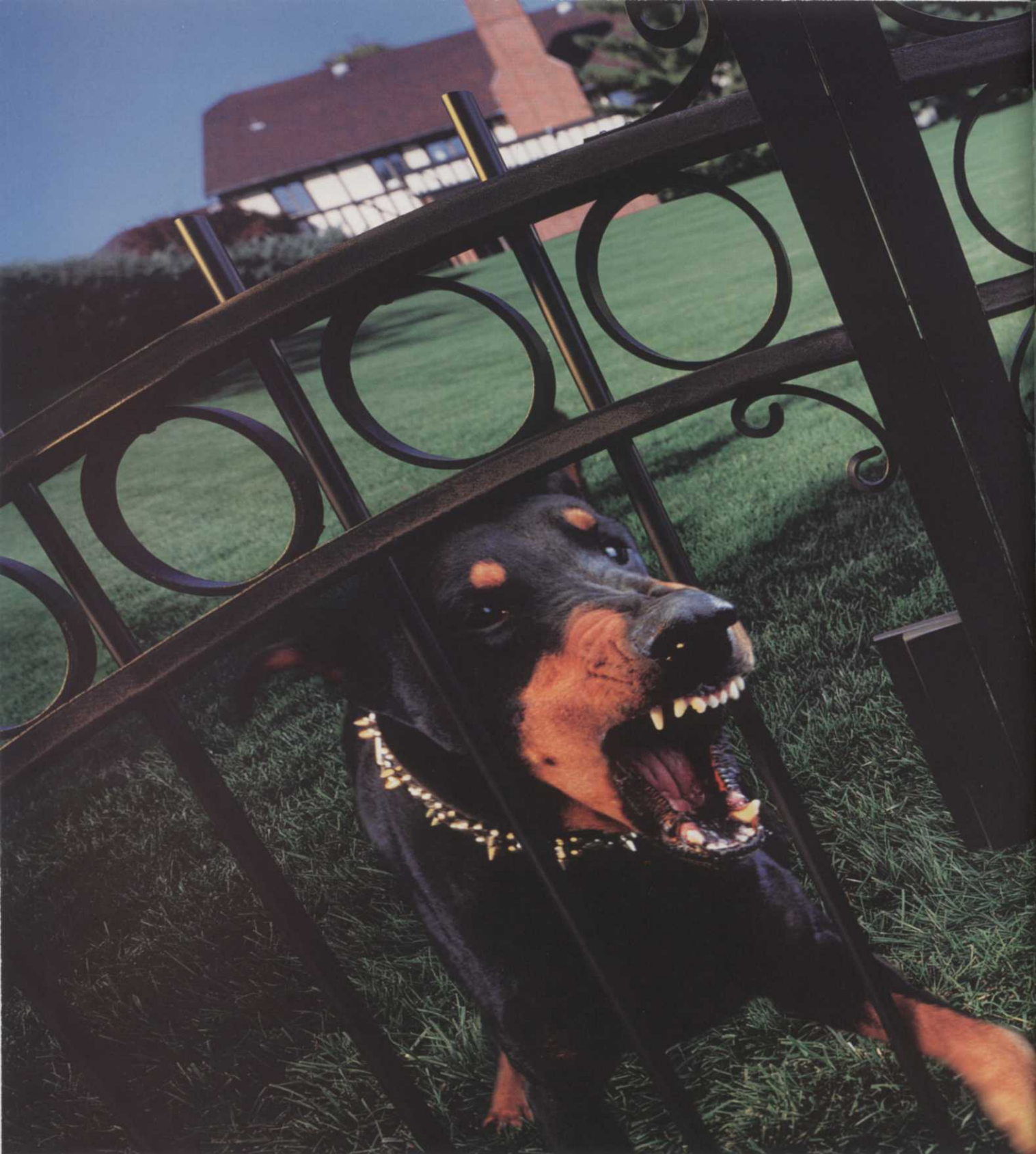
Team Pro is available on fertilizer and is safe on established ornamentals. And, it won't stain customers' property like pendimethalin. Informs Scaglione, "Team

Pro is easy to work with. And it doesn't stain our equipment either."

Team Pro can be used on both cool-and warm season turf, and it offers increased consistency on everything from spurge to oxalis. Unfortunately, the Thunders performance hasn't been quite as consistent. The team made it to the playoffs in '96 but then failed in 1997. Scaglione believes he knows what prevented the team from going all the way. "The turf looks so good this year — it distracted the players," he jokes.

If you'd like further information about Team Pro or any other Dow AgroSciences product, call your Dow AgroSciences sales representative or the Dow AgroSciences Customer Information Center at 1-800-255-3726.

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## **If you really want to keep something**

It takes two fierce herbicides acting side by side to keep crabgrass, goosegrass, spurge, oxalis and other weeds from breaking into your customers' property. Team<sup>®</sup> Pro preemergence herbicide combines Balan<sup>®</sup> and Treflan<sup>®</sup> herbicides into the most consistent, fast-acting, long-lasting crabgrass preventer available. Team Pro protects lawns better than pendimethalin without severe staining of spreaders, shoes or landscaping.





# out of a yard, unleash the Power of Two.

And Team Pro won't harm established ornamentals, turfgrass *or* your reputation for a good value. For information on fertilizers formulated with Team Pro, talk to your supplier. Or call us at 1-800-255-3726 or visit our web site, [www.dowagro.com](http://www.dowagro.com). Then stand back, and unleash the Power of Two. Always read and follow label directions.

 Dow AgroSciences  
**Team<sup>\*</sup> Pro**

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# Dow AgroSciences

## *A Commitment to Science and Technology*

By GARY DENHART,  
General Manager,  
Turf, Ornamental and  
Technical Products

**T**he big picture—the panorama of the turf and ornamental industry—hangs on two pegs. On one side, scientific advances within the industry make new products available to our customers. On the other, new technologies enable exploration, communication and service support beyond anything we could have dreamed but a decade ago. In the quest for continued improvement and innovation for lawn and landscape professionals, Dow AgroSciences has positioned itself to take full advantage of both scientific innovation and new technologies to speed the fruits of discovery to our customers.

### **Positioning for the Future**

On January 1 of this year, DowElanco officially changed its name to Dow AgroSciences, reflecting its new status as a wholly owned subsidiary of The Dow Chemical Company. This followed Dow's acquisition of Eli Lilly and Company's portion of what was once a joint venture.

The consolidation and name change reflect our broad, strategic commitment to agricultural industries — from turf and ornamental, to crop production and urban pest control. They also strengthen our ability

to fund new scientific discovery through our traditional pest control products and to bring you, the customer, the technologies needed to stay competitive in a changing market.

Also critical to this initiative is our majority ownership of the biotechnology venture Mycogen, which researches, develops and markets genetically enhanced, insect-resistant crops. This collaboration will teach us even more about the science of agriculture.

### **New Products in the Pipeline**

As we chart our course for the next millennium, we continue our commitment to commercialize one significant new product in a major global market each year. For example, the recent introduction of Conserve\* SC turf and ornamental insect control offers turf and ornamental professionals a new product that uniquely combines the efficacy of a synthetic insecticide with the benefits of a biological insect control product. Even as you read this, potential new products are traveling through our scientific pipeline so that we can be the first to offer you new and improved ways to serve your customers.

### **Bringing it all to You**

As technology drives our research forward, it also helps us to communicate it to you, to listen to you, and complete the circle by responding with more innovation.

Communication is the critical link between our 20 research centers around the world and your day-to-day needs.

### **Web Site Coming**

One way we accomplish this is through Internet technology — specifically a new Web site to debut in early April. Log on for complete product information, along with usage tips and other additional helpful data. In the future, look for even more ways to communicate through cyberspace.

Secondly, we continue to educate and promote environmental stewardship through various national, state and local professional 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), and various other local state and national associations.

And last, but certainly not least, we promote the human touch, with more than 25 sales and technical support representatives dedicated to the turf and ornamental marketplace. If you have a question or concern, we would like to hear from you at our Customer Information Center, 1-800-255-3726.

Dow AgroSciences has been a leader in the turf and ornamental industry for more than 20 years. With your help, we can continue that leadership role as the industry continues to evolve.



# Dow AgroSciences



"Take it for a spin!  
...It's a zero-turn  
you know."

"Look at them.  
They're like kids in a  
candy store."

"So many chain  
saws, so little time."

"Let's see what this  
baby can do!"

"I tested three hydros,  
two trim mowers and a  
bratwurst."

"Stand back everyone,  
I'm gonna test drive  
everything!"

"Step up fellas and give  
it a try before you buy."



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“If you’re a mechanic, you’re a mechanic,” Paul Williams says like it’s the most obvious thing in the world.

But today’s green industry demands so much more of maintenance shop managers and chief mechanics like Williams. It demands organizational skills. Managerial skills. But, most of all, it demands that they realize that their customers are their co-workers. These co-workers are the people that count on them to provide safe and properly op-

erating vehicles and equipment.

For this reason, shop managers/mechanics aren’t usually judged by how cleverly they can patch up equipment. A more important measure of their worth is how effectively they keep mowers and other production equipment on the job; and service delivery trucks on the road. It goes without saying that all of this machinery must be operating safely and dependably.

Few golf courses or landscape companies can count on a shop manager/mechanic with the experience of Paul Williams. He runs the shop for Greenscapes, a growing landscape maintenance company in Naples, FL. The lines on his face and the strength of his grip describe, much better than words, a lifetime of maintaining and repairing equipment, most of it big stuff. He’s worked from Mexico to Argentina; from Kenya to The Republic of Congo. And now in south Florida.

Since Greenscapes has a thriving landscape maintenance business and a separate sod division it relies on equipment as varied as semi tractors, professional mowers and gas-powered string trimmers. Williams says that almost all of the maintenance and repair of Greenscapes’ vehicles and other machinery are done in-house. He usually works six days a week.

Williams knows that he must maintain cooperative relationships with the people in his company who daily use Greenscapes’ vehicles and equipment.

“If you don’t have good communications, you’re dead,” he says. In his case that means speaking Spanish, which he does fluently. Greenscapes’ work force is mostly Mexican-born.

“It would be almost impossible for me to do

# Miracle workers?

*The green industry demands that its mechanics be repairmen, managers, and, yes, sometimes even diplomats and trainers.*

By RON HALL, managing editor

A golf course maintenance shop may contain well over \$100,000 worth of precision mowers and related equipment. It takes a skilled individual to manage this.

(far right) Experienced mechanics, like Greenscapes’ Paul Williams, say communication with production workers crucial to maintenance.



what I do if I didn't understand Spanish," he explains.

Williams says one of his main goals is to keep the production workers reporting to him about the condition and any needed repairs of their equipment.

"You can chew a guy out and give him a rough time because he did something, but that doesn't do any good. I would much rather the person come to me and tell me if something's broke," says Williams. "Then we can fix it. Being diplomatic never hurts in any situation."

Include inter-personal people skills in the list of things today's shop manager must bring to his career.

"What the industry needs now is intelligent, management-oriented mechanics," says Jon Piersol, whose Lake City Community College (Fla.) Turf Equipment program is one of the best in the nation.

"These guys have to be 50 percent mechanics and 50 percent managers. In the golf industry this means somebody who can help design the maintenance facility for you," says Piersol. "Somebody who can set up a parts room. Somebody who knows how to order parts properly, how to read manuals, how to set up PM (preventive maintenance) programs."

Piersol ranks the development of effective PM programs as the biggest need in the maintenance shops of golf courses and landscape companies.

"Many mechanics don't understand preventive maintenance. They are fix-it-after-it-breaks mechanics," says Piersol. "But, in most cases, the equipment shouldn't have broken in the first place if they had read the manuals and followed what the manuals told them to do."

Mark Neidich, a former maintenance manager who now operates Cincinnati-based Fleet Consultants, says that every golf course or landscape company maintenance shop should have "a system" for PM. The system doesn't have to be elaborate. But it should be written down, and it has to be workable.

"As a fleet grows you can't keep track of all the different pieces of equipment and when you need to service them," says Neidich. "You need to be able to plan ahead and schedule the service."

That system should be tied to a calendar of maintenance or repair events, broken down to what a shop manager wants to accomplish by the year, month, and week.

In Paul William's case, it's a simple system. He performs preventive maintenance according to equipment manufacturers' guidelines. And, when repairs are needed, employees fill out a short form

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- ▶ Horry-Georgetown Technical College, 803/347-3186
- ▶ Lake City Community College, Lake City, Fla., 904/752-1822

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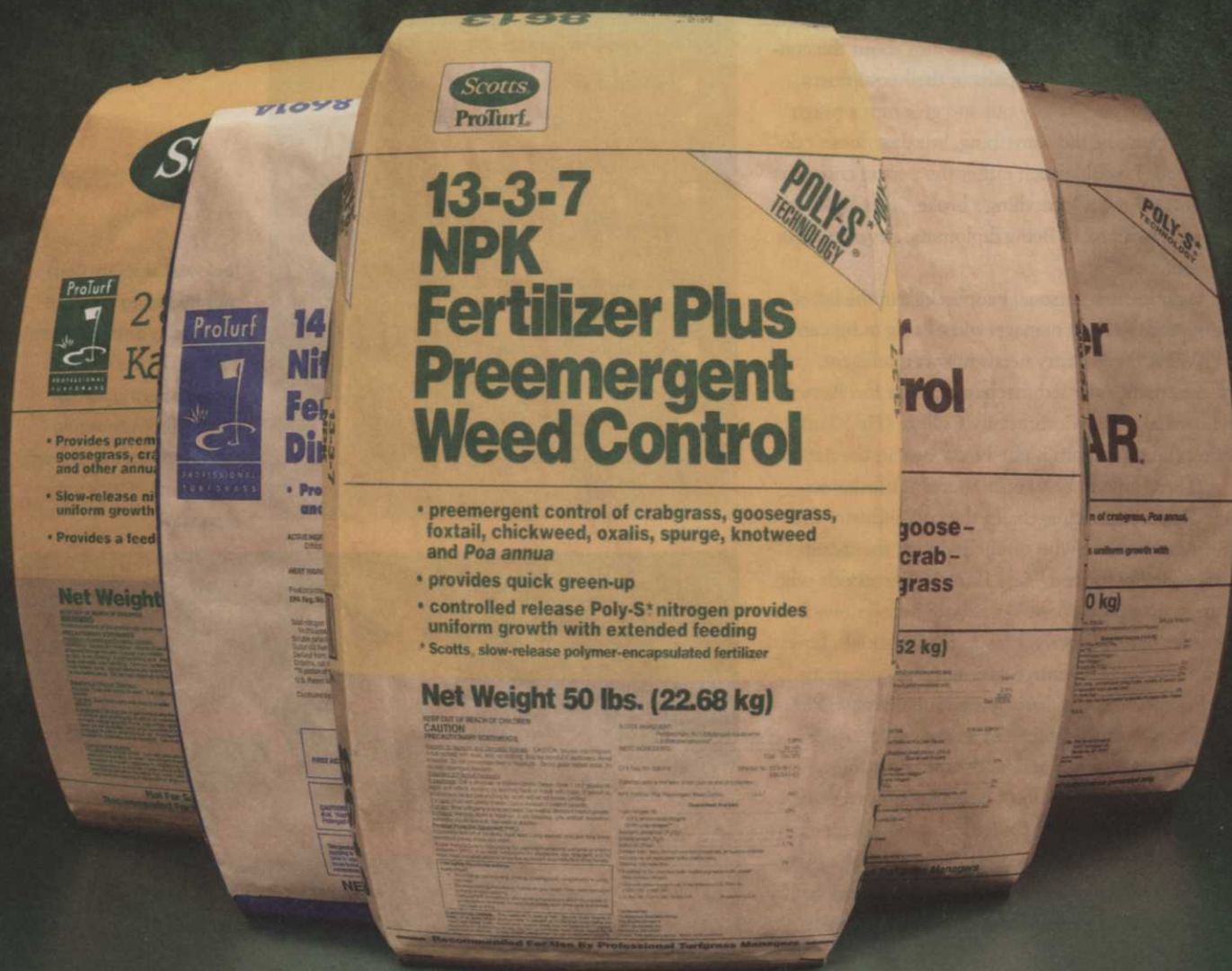
- ▶ Mark Neidich, Fleet Consultants, Cincinnati, Ohio, 513/231-9540
- ▶ Ron Turley, Turley Transportation Consultants, Phoenix, Ariz., 602/581-2447.

(below) Lake City Community College in Lake City, Fla, is one of several colleges in the United States offering formal training for turf equipment technicians. Shown here is Lake City's veteran staff.



describing the problem, and place it in its proper hanging folder in the shop. The employee keeps one copy of the form; each morning Paul gathers up and assesses the others to determine which repairs must be done immediately, and which can wait.

"The equipment operator is where it all starts," agrees Neidich. "The operator makes the initial visual inspection on the machine. He runs the machine every day. He knows how it should operate, how it should perform," says Neidich. "He should know how to check the oil, check the cooling system, and how to do a basic inspection daily." **LM**



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Commercial's SRM-2601 weighs just 11.5 lbs. but offers power.



Mitsubishi engines power Deere's commercial string trimmers.

## TRIMMERS

By CURT HARLER/ Contributing editor

"Take a little off the top and trim a bit around the edges." Whether the order is given at a barber shop or to a grounds manager, the goal is the same: to make the area look neat and tidy.

Line trimmers provide the finishing touches to any landscaping job. They are able to get in close on rocky borders or knock down grass under fences. They handle jobs on hillsides too steep for mowers or in places too tight or small to maneuver a larger machine.

When buying a line trimmer, consider engine size or power, the weight of the trimmer, and whether it offers an anti-vibration system to make operation more comfortable. Since trimmers often are moved from one spot to another, be sure to note how simple the unit is to start. To keep weight down, most trimmers have smaller fuel tanks. Check engine efficiency and fuel capacity so the user spends more time whacking weeds and less time with a fuel can.

Once a unit is placed in operation, be sure the debris shield is not removed in the field. Operators should wear standard safety equipment, including goggles and steel-tipped toes on boots. Many of these "little" machines are quite powerful and can hurl sticks, stones and other small objects a surprising distance, often in weird and unsuspected directions.

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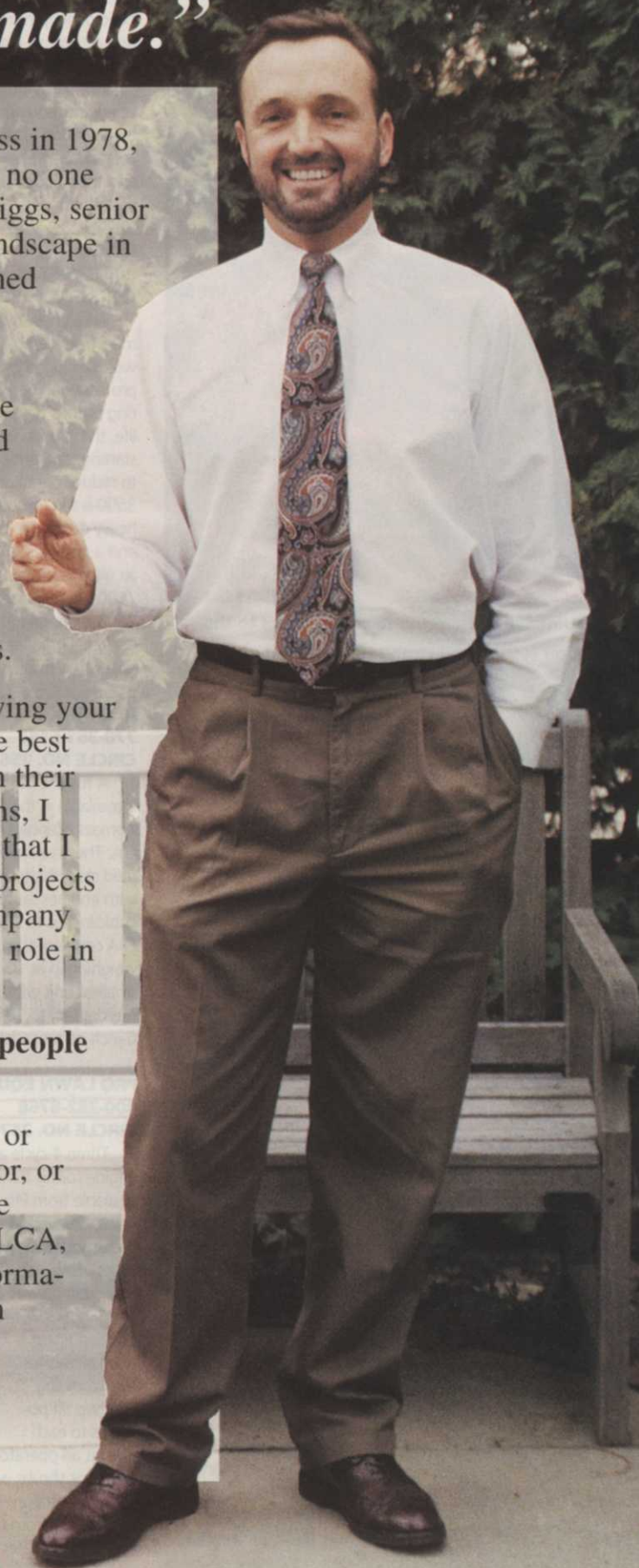
“When I started in this business in 1978, I had a lot of business questions no one was answering,” says Judson Griggs, senior landscape architect at Lied’s Landscape in Sussex, Wis. “That’s when I joined ALCA.”

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Husqvarna's 225L trimmer is less tiring to work thanks to the LowVib anti-vibration system and strong rubber dampers.

**DOLMAR**  
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Dolmar offers commercial-duty trimmers, models MS2501 and MS3210. The MS2501 is a 24.5cc mid-range trimmer and the MS3210 is a larger version at 30.5cc. Features on both units include: all-position diaphragm and fixed-jet carburetor, easy starting solid-state ignition, solid-steel shaft with splined ends, full anti-vibration systems, low-noise encapsulated engines.

**ECHO INTERNATIONAL**  
847-540-8400  
Circle No. 253

Brand new, straight-shaft trimmer from Echo, Lake Zurich IL weighs

a half-pound less than other 25cc-class trimmers thanks to its magnesium alloy nose and plastic fuel tank guard. The SRM-2601's 25.4 cc engine features a four-bolt head and fully caged needle bearings at the top and bottom of the forged connecting rod. Spool valve carburetor gives quick acceleration and a 21.6-ounce fuel capacity means more operating time. Unit comes with a 59-inch splined rigid steel shaft, commercial filtration system, and lifetime ignition coil warranty.

**HUSQVARNA**  
800-438-7297  
CIRCLE NO. 254

The 225L trimmer from Husqvarna, Charlotte, NC is less tiring to work, thanks to the LowVib anti-vibration system which separates handles and support components from the engine and drive shaft with strong rubber dampers to absorb and minimize vibration. The 11.7-pound unit's Ergo handle is mounted at an angle of 97 degrees to the shaft, placing the cutting



LESCO offers three new string trimmers for professionals. The LST 350 is top-of-the line.

head directly in front of the user and allowing a larger sweep area with greater working capacity and a straight back. It comes with a 25.4 cc engine, equipped with E-tech, a combination of features to reduce certain harmful exhaust emissions and the smoke and odor associated with them.

**LESCO**  
800-321-5325  
CIRCLE NO. 255

An all-new trio of string trimmers from Lesco, Rocky River, OH was developed especially for the professional market. All have dual-ring pistons for extended engine life, throttle-lock for quick, easy starting, and anti-vibration system to reduce operator fatigue. The LST 3500 is the top-of-line model with heavy duty drive clutch and drum, and a commercial-duty two-piece air filter to protect the engine. The 2600 is a mid-size unit and the 2300 is designed to be easy on the budget. Optional bush blade is available for all models.

**RED MAX**  
770-381-5147  
CIRCLE NO. 256

A full line of Pro Series trimmers is available in the RedMax line from Komatsu Zenoah America, Norcross, GA. These units feature straight, solid steel shafts with splined ends, with engines ranging from 1.38 cubic inches to 2.53 cubic inches. EPA certified, they are easy to use, weighing in at 10.2 pounds for the smallest unit with its 4-inch commercial tap, to 18.5 pounds for the 6-inch commercial tap model.

**PRO LAWN EQUIPMENT**  
800-282-8768  
CIRCLE NO. 257

Three 4-cycle and one 2-cycle engine rolling trimmer models are available from Pro Lawn Equipment, Shreveport, LA. The 4-cycle models in the RT-97 series allow string-trimmer cutting swaths up to 25 inches. A five-position tilting head allows for even mowing. The two tilt positions to each side let an operator get under fences or shrubs without having to change direction. The cutter head accepts line from 0.080 to 0.155 inches in diameter.

**SOLO, INC.**  
757-245-4228  
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A full line of trimmers, with engines ranging from 1.3 hp on the SKM-127L, 2.2 hp on the SKM 134 and 2.6 hp on the SKM 140 is available from Solo, Newport News, VA. Engines are fully enclosed in a cylinder made of nickel, impregnated with silicon carbide. Cold start/primer button centrifugal clutch and electronic ignition assure fast starting in all weather. Fingertip controls are located on the multi-function handle.

**RYOBI**  
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Powerful 31cc, two-stroke gas engine powers the Ryobi 700R gas trimmer. The Chandler, AZ firm's heavy-duty chrome plated cylinder assures long engine life. The Bump Head line-release system dispenses pre-measured line with a single tap. Ease-of-use features include a quick-start primer for easy starts and an adjustable handle which can be fitted for right-handed or left-handed operation.

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Toro's Landscape Contractor Group and Maruyama of Japan are entering their second year of a long-term OEM agreement. Maruyama supplies Toro with a full range of gas-powered commercial hand-held equipment, including string trimmers. Two trimmers are available with 23-cc or 26-cc commercial grade engine. Also available are two trimmers with a 26-cc or 32-cc industrial grade engine. All the models are designed with operating comfort in mind. The trimmers feature polished steel straight shafts with six ball bearings, anti-vibration grips and engine mounts, and a light-weight, easy-to-handle design. The trimmers range in weight from 10.6 to 12.9 pounds. **LM**



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# Northern style

*Turfgrass that is established and maintained properly, is healthy turfgrass and doesn't provide "room" for weeds to compete and spread.*

By FRANK S. ROSSI, Ph.D.

**T**he coexistence of turfgrass and weeds is the basis of the age-old tip for controlling weeds in turf: maintain a healthy, dense stand of turf that prohibits weeds from establishing.

This is based on two important ecological concepts space and competition. Therefore, the foundation of a turfgrass weed management program must be to implement management programs that favor the competitive advantage of turf, while minimizing bare areas where weeds can invade.

Understanding the ecological concepts then aids the turfgrass manager when addressing the aesthetic and functional expectations. For example, while we understand the environmental benefits of a well managed lawn turf, essentially lawn management is focused on a high aesthetic demand; the lawn has to look good! In contrast, sports turf or golf turf is focused equally on aesthetic and functional quality, in that, not only does it have to look good, put it must sustain regular surface disruption that results in gaps where weeds can invade.

It follows then that a lawn turf should be easier to keep weed free because less gaps should occur, yet, it seems almost the opposite. Lawn managers and homeowners



spend much more time managing weeds than a sports or golf turf manager. Why? Most likely it is related to the regular attention paid by sports and golf turf managers to maintain a dense vigorous stand under regular surface disruption. In contrast, many lawn managers visit the lawn intermittently, and often, do not have direct control over the key cultural practices like mowing and watering that sustain a dense healthy turf.

#### **Where Does Weed Management Start?**

These ecological principles will always work in your favor as a turf manager if the proper decisions are made during turfgrass establishment regarding site preparation, soil modification, turf selection, and establishment procedure. Visualizing an integrated weed management program as a triangle (see next page), it becomes clear that proper site assessment, soil modification,

#### **Ground ivy control research finds timing is more important factor.**

and species selection form a solid foundation for the life of the stand. Whereas, mistakes at establishment, limits options to pesticide use and consequently an unstable foundation, evident in the inverted triangle.

Continuing to visualize an integrated weed management approach, the primary cultural practices of mowing, watering and fertilizing should focus on maximizing root growth. The ability to establish and sustain a healthy root system will always make the turf more forgiving of environmental, biological and traffic stress. For example, maintaining a higher than usual height of cut (3" or greater) will promote deep rooting and shade the soil surface. Irrigating judiciously, so as to avoid a moist soil surface

that will encourage weed seed germination. Finally, the most efficient fertilization programs for cool season turf is focused in the fall. This approach is based on maximizing energy production under cooler temperatures without the surge in top growth associated with spring conditions. Still, if turf density is low in spring, a fertilization will be needed to increase density (to fill the space with turf!).

#### Characterize Your Weed Management.

In keeping with traditional Integrated Pest Management (IPM) programs, it is vital to map and monitor weed populations (as well as turf species). Maintaining records of populations over time provides unique insight into the response of the turf and the weeds to different environmental conditions and management programs. For example, you may have decided to change a fertilizer program to a more water soluble source and notice from your mapping that patches of annual bluegrass have become established. Following a dry year, you may notice increase in clover populations. Over time this information can assist with weed management programs.

Still, the cornerstone of an IPM approach is the establishment of thresholds. Weed thresholds are slightly different than for other pests, in that we must have an aesthetic and a functional threshold. An aesthetic threshold for weeds could be defined as the point at which the number of weeds in a turf reduces the visual quality below an acceptable level. Subsequently, the functional weed threshold is the point at which the number of weeds present reduces the functional quality (soil stabilization, traction, elasticity, etc.) below an acceptable level.

As you might imagine establishing thresholds can be subjective. Do you establish visual weed thresholds with "curb appeal"? That is do you evaluate the visual quality from a distance, or by standing over the turf? What season do you determine

threshold? Is there any tolerance for weed invasion or must the turf be 100% weed free? The same questions arise for functional quality. How many dandelions or prostrate knotweed plants can you have in a soccer field before the players game is affected? How many patches of clover are tolerated in a golf course rough area before you hear complaints of playability? How many crabgrass or broadleaf plantain plants can a lawn tolerate before soil movement is increased?

Viewing weed management from this perspective will challenge the turf manager to communicate with their clientele to assist in establishing thresholds. It has been my experience that this dialogue with our clientele (homeowners, athletes, coaches, and golfers) is rarely conducted. We assume it must be 100% weed free and do not share the responsibility of establishing thresholds with the persons who receive our service. It follows then that when questions regarding pesticide use arise, we are unprepared to explain how we conduct an IPM program for weeds. Furthermore, we must have a realistic basis for decision making prior to implementing a management program designed to reduce or eliminate weed populations. This will become more important as chemical pesticide use becomes more restrictive.

#### Timing is everything

The old adage that "timing is everything for a successful life" rings true when considering chemical weed control. First, we must decide whether we will chose a preventative approach with preemergence herbicides, or a curative approach with postemergence herbicides. Clearly the preventative approach requires less labor and knowledge, as monitoring and mapping efforts are not used reveal threshold populations. This approach is widely used, primarily as a result of the "zero threshold" that exists for weed populations. The curative approach might be more labor and



Think of weed management as a triangle. At its base it starts with proper site and species (or variety) selection. Then comes



necessary cultural practices like watering, fertilizing and mowing. Finally, if weeds remain a problem, we use herbicides as tools.

knowledge intensive, in that it will require timely monitoring (you'll have to know when weeds might emerge or flower) as well as knowledge of how to identify the major cool season weeds. Additionally, research has indicated that effective postemergence control relies on proper timing, often based on the growth stage of the weed.

Effective preemergence control, usually of summer annual grass weeds such as crabgrass and goosegrass, relies on understanding the seed germination and emergence time. In essence, this can be viewed as "seed bank management". Regarding germination, not all weed seeds in the soil will germinate every year. Plants have de-

veloped dormancy mechanisms for a percentage of their seeds that keep them viable for many years (waiting for the right time and space). For example, research indicates less than 50 percent of the crabgrass seed produced in the previous fall will germinate in the spring. However, turf areas with a history of crabgrass invasion will have a high percentage of seed viable from several years of production. The management question is then, how long do you have to use a preemergence herbicide before the seed bank is depleted? I am unaware of research that might address this question.

Emergence time has recently been investigated by researchers at the University of Maryland and currently here at Cornell. This research provides new insight into the timing of emergence and the length of time that crabgrass seeds germinate in a season. In a dense turf under a medium maintenance program, soil temperatures greater than 73° F were required for significant emergence. In addition, monitoring the emergence time with base 50° F growing degree days (GDD) accumulated from March 1, the Maryland study found that 25% of the total emergence occurred by 200 GDD, 75% by 600 and 100% by 1100. This suggests that under average turf density, germination and emergence can occur for 10 to 12 weeks depending on the season. This has enormous implications on timing of preemergence applications in the early spring. Simply, if applied to early, the effectiveness of the preemergence herbicide may dissipate and allow breakthrough.

Postemergence timing has received increased attention over the last decade as new materials have become available, hard to control weeds have emerged, weed tolerance levels have declined, and the use of preemergence herbicides come under question. First and foremost, the key to effective postemergence control is proper identification, followed by understanding weed biology so as to time applications for maximum effectiveness.

Interesting research on yellow nutsedge

control has indicated that effective long term control requires a systemic herbicide to eliminate the surface vegetation (the leaves) and to be translocated to the forming nutlet (perennial storage organ), thus preventing it from emerging the following year. Consequently, the most effective application timing, based on the information above, is late June, early July when day length begins to shorten. This event apparently triggers the translocation of energy in the nutsedge plants from the leaves to the nutlets. Effective materials such as Basagran and Manage will provide long term control applied at this time.

Successful control of perennial broadleaf weeds is best accomplished in the late summer, early fall. Certain materials such as Confront, have been shown to provide activity on broadleaf weeds down to 37° F. Still, most of our clientele is not willing to wait until this time of year for control. Therefore, effective timing of spring applications is needed. Researchers at Purdue University have reported that spring control of dandelion is most effective when based on a simple growing degree day (GDD) model. They concluded that formulation of Weedone and time of application were critical for maximizing control. If using the ester formulation of Weedone, it is best applied around 100 to 150 base 500 F GDD, while the amine formulation should be applied much later at 250 to 300 GDD. This is useful not only for control, but also for minimizing potential vapor drift resulting from applying the ester formulation later in the spring when conditions could favor volatilization.

Historically hard to control weeds such as ground ivy (creeping charlie, gill-over-the-ground, etc) could also be more effectively controlled using some research on improved timing. A three year study at the University of Wisconsin-Madison indicated that any herbicide formulation that included 2,4-D as an active ingredient would control ground ivy if applied at full bloom in the spring or immediately following the first frost in the late summer early fall. The results were dramatic, however,



Researchers at Purdue University have reported that spring control of dandelion is most effective when based on degree days.

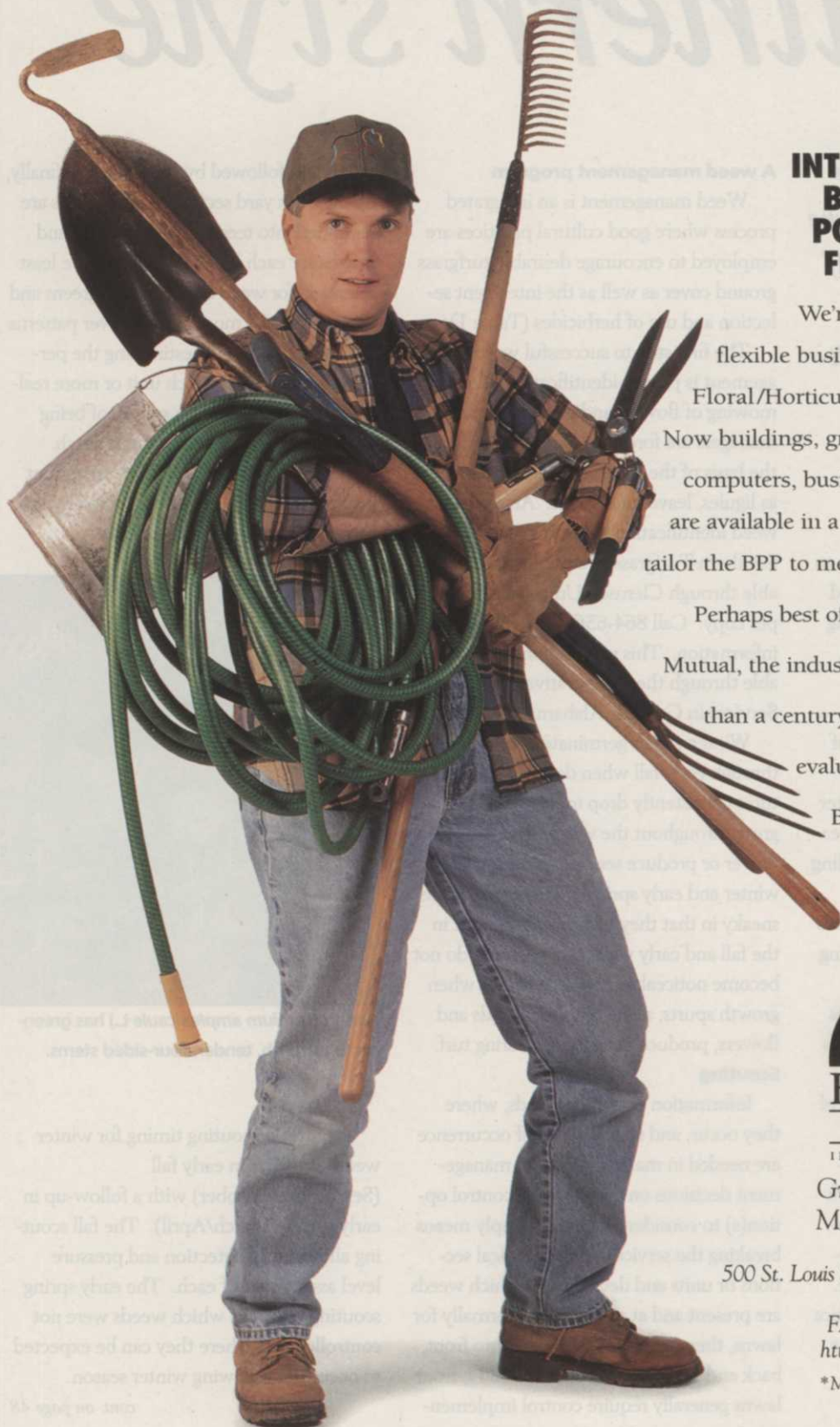
there does not appear to be an easy explanation. Unfortunately, wild violet, another hard to control weed, in the plots was not controlled using the same approach.

#### Developing an integrated approach

Turfgrass managers should regularly strive for more resource efficient management programs that incorporates a knowledge-based approach of biology and ecology to maximize turf health and maintain adequate density. This information is then utilized through effective monitoring and mapping of plant populations and taken together serve as the basis for weed control decisions. As the industry continues to improve our overall communication skills, we will have a more open dialogue for establishing thresholds and making more cooperative decisions regarding weed management that will include herbicide use and possibly biological/organic based approaches as well. **LM**

Frank Rossi is an assistant professor of turfgrass science and extension turfgrass specialist at Cornell University

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## Southern style

*Winter broadleaf weeds are an opportunity or a headache for the turfgrass manager. If control is late, customers should expect multiple applications and slow results.*

By BERT McCARTY

**E**arly spring is a great time to be in the southern United States. Everyone is stirring after a long chilly winter, and the blooming dogwoods, azaleas, redbuds, and others plants help renew the faith of warmer times ahead. However, for the professional turfgrass manager, late winter and early spring often rings in the new season with a deluge of irate customers calling about winter weeds.

This time is when winter annual weeds really begin to grow, eventually producing flowers. By their nature, winter weeds usually do not die until hot temperatures of early summer. Until then, these weeds are an eyesore for homeowners and because of their maturity, difficult to control for the professional turfgrass manager.

Usually, multiple applications are required to control these which really drive up labor costs. One also needs to be formulating and applying a strategy for pre-emergence crabgrass control at this time.

With numerous customers, the logistics of performing these duties really separate the turf pros from the Johnny-come-latelies.

### A weed management program

Weed management is an integrated process where good cultural practices are employed to encourage desirable turfgrass ground cover as well as the intelligent selection and use of herbicides (Table 1).

The first step to successful weed management is proper identification. Due to mowing of flowers and seedheads, turfgrass managers are forced to identify weeds on the basis of the vegetative structures, such as ligules, leaves and stems. An excellent weed identification guide is *Weeds of Southern Turfgrasses*, a publication available through Clemson University for \$8.00 per copy. Call 864-656-3261 for ordering information. This publication is also available through the Cooperative Extension Services in Georgia, Alabama, and Florida.

Winter weeds germinate in late summer through early fall when daytime temperatures consistently drop in the 70's. These grow throughout the winter months, and flower or produce seedheads during late winter and early spring. Winter weeds are sneaky in that they blend with the turf in the fall and early winter months and do not become noticeable until late winter when growth spurts, along with seedheads and flowers, produce a ragged appearing turf.

### Scouting

Information on which weeds, where they occur, and relative level of occurrence are needed in making informed management decisions on if and which control option(s) to consider. Scouting simply means breaking the service area into logical sections or units and determining which weeds are present and at what level. Normally for lawns, these sections are broken into front, back and side yards. Due to visibility, front lawns generally require control implemen-

tation first followed by the sides, and finally, by the back yard section. Golf courses are sectioned into tees, fairways, greens, and roughs for each hole. Roughs receive least attention for weed control while greens and tees receive the most. Weed cover patterns can be as elaborate as estimating the percent weed cover for each unit or more realistically, involve a rating system of being widespread, spotty or in a single patch. Threshold levels needed before treatment justification is generally determined by the owner or manager of the turf site.



Henbit (*Lamium amplexicaule* L.) has greenish to purplish, tender, four-sided stems.

Optimum scouting timing for winter weed control is in early fall (September/October) with a follow-up in early spring (March/April). The fall scouting allows early detection and pressure level assessment of each. The early spring scouting indicates which weeds were not controlled and where they can be expected to occur the following winter season.

*cont. on page 48*



**Open letter  
to all  
Grounds  
Professionals:**



**PGMS**

***It's more than OK to come home!***

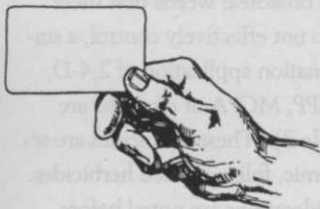
You have a home with your fellow grounds professionals at PGMS. In fact, PGMS is the only place for grounds professionals as individuals.

You deserve your own society, your own place, where you can relate to other grounds pro's — as individual professionals, not just as an employee of some organization.

In fact, PGMS is more stable than most organizations. We've been around for more than 85 years, and are continuing to build for your interests. Serving the individual professional is the only reason PGMS was established in 1911, and will remain our only focus into the next century and beyond.

Again, this is YOUR place. Here are some of the reasons why:

- Annual Conference and Green Industry Expo
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- Groundskeeper Certification
- Discounts — Rental Cars, Books
- Complimentary Green Industry Magazines
- Membership Directory
  - Personal ID (membership card, decals etc.)
  - Awards



Includes the three most respected operating manuals for grounds professionals: Grounds Maintenance Estimating Guidelines, Grounds Maintenance Management Guidelines and Grounds Management Forms & Job Descriptions.

Overall, PGMS provides the opportunity for you to network with, learn from, help instruct, etc. those with your same interests, needs and problems.

**The question remains:** If you are a grounds professional, why are you trying to do it alone, or simply as an employee of some organization? Don't you deserve the advantages of joining with fellow grounds professionals in PGMS? In the '90's, more than ever before, employment and individual betterment statistics indicate that each professional had better be an individual agent.

Why not take a closer look by requesting more information? Just complete and mail the following form, and information will be rushed to you.

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**PGMS**  
PROFESSIONAL  
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SOCIETY

**I want to grow with PGMS. Please send more information explaining how.**

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Telephone \_\_\_\_\_

## TABLE 1. WINTER WEED MANAGEMENT SCHEDULE FOR WARM SEASON TURFGRASSES

### LATE SUMMER

To build root carbohydrates, apply winterizing fertilizer which supplies adequate potassium and mow at the upper recommended mowing height. Apply preemergence herbicides for annual bluegrass if scouting the previous spring warrants it. Scout and map areas with crabgrass to pinpoint herbicide needs for the following spring.

### EARLY/MID FALL

If needed, apply postemergence herbicides for annual bluegrass control.

### MID FALL

If needed, apply postemergence herbicides for broadleaf weed control.

### EARLY WINTER

Reapply postemergence herbicides for broadleaf weeds and annual bluegrass, if necessary.

### WINTER

Calibrate and repair sprayers; evaluate the previous year's weed control strategies; plan for the upcoming year's strategy.

### LATE WINTER

Apply preemergence herbicides for crabgrass control. Apply postemergence herbicides for broadleaf weed control for new customers.

### EARLY SPRING

Apply preemergence herbicides for goosegrass control. Repeat broadleaf weed control application, if necessary, for new customers. Follow-up scouting for remaining winter weeds for formulating the upcoming fall control strategies.

### SUMMER

Maintain optimum fertility, watering, and mowing height and frequency to encourage healthy, thick turf stands which helps discourage weeds and other pests.

cont. from page 46

### Herbicide Selection and Use

Preemergence herbicides are applied prior to weed seed germination and prevent development of the germinating seed. If applied after germination, preemergence herbicide effectiveness greatly diminishes. Preemergence herbicides should be activated by  $\frac{1}{2}$  to  $\frac{1}{4}$  inch rainfall or irrigation after application.

Postemergence herbicides generally are effective only on visible weeds. Young (two to four-leaf stage) and actively growing weeds are the most susceptible and require least amount of herbicide. At this stage, herbicide uptake and translocation are favored and weeds have less developed, more tender root systems. Waiting later results in poorer translocation of applied materials in plants, more difficulty controlling mature plants, and possible setback of turf during green-up.

Postemergence herbicides should only be used when weeds are actively growing. This primarily occurs with temperatures between 40 and 80°F. Applications outside this temperature range are too slow to either be effective or result in excessive turf damage.

### Broadleaf Weed Control

Preemergence broadleaf weed control is provided by the herbicide Gallery. Gallery must be applied before broadleaf weeds germinate. Gallery should be tank-mixed with another preemergence herbicide such as prodiamine (Barricade), dithiopyr (Dimension), pendimethalin (Pendulum), or oryzalin (Surflan) if annual bluegrass or other grasses are expected.

Atrazine (AAtrex) and simazine (Princep T&O) are the backbone products for postemergence winter weed control for warm-season turfgrasses such as centipede-grass, St. Augustinegrass, zoysiagrass, and bermudagrass. These materials should be used in mid fall (October/November) for optimum control timing. A follow-up application may be needed three weeks later for total control. These herbicides become less effective when applied after January. Also, if these are applied during spring



**Chickweed (*Stellaria media* (L.) Cyrillo) is a mat-forming, many-stemmed winter annual.**

green-up, temporary set back of turfgrasses should be expected.

For those broadleaf weeds that these herbicides do not effectively control, a single or combination application of 2,4-D, 2,4-DP, MCPP, MCPA or dicamba are needed (Table 2). These herbicides are selective, systemic, foliar-applied herbicides. Several considerations are noted before using one or more of these materials. First, few broadleaf weeds, especially perennials, are controlled with just one of these herbicides. A two or three-way combination is generally necessary for satisfactory results. Control also depends on the maturity of the weed. Younger weeds are easiest and cheapest to control. Applications should ideally be initiated in November to take advantage of these younger, more succulent plants. Waiting until March or April to attempt control requires sequential applications spaced 10 to 14 days apart. This increases labor and herbicide costs and equipment wear and tear. Later applications also may delay turfgrass green-up and require longer for herbicides to work.

Until recently, these herbicide combinations were used as the main control chemicals for broadleaf weeds. New chemistry such as triclopyr and clopyralid (Turflon and Confront) have been intro-

cont. on page 51

TURF-SEED'S PREMIUM PERENNIAL

# RYEGRASS

FOR PERMANENT TURF AND WINTER OVERSEEDING

Variety / Blend

Characteristics

<b>Alliance Brand</b>	Traffic, heat and drought tolerant / A blend of top quality Turf-Seed perennial ryegrasses
<b>BrightStar II (2M3)</b>	A top variety in the 1995 NTEP trials. A unique leafy, decumbent, late maturing cultivar
<b>BrightStar</b>	Tops 1994 NTEP ryegrass trials / Extremely dark color / Dwarf growth habit
<b>Catalina</b>	Low growth profile and reduced clippings / 78% endophyte / Tested as GH-94
<b>Chaparral</b>	Very dense, low-growing, dark green turf. Lowest vertical growth in turf. Tested as 2DLM
<b>Charger</b>	Good low fertility and cool weather performance / Improved disease resistance
<b>Charger II</b>	Dark, dense, dwarf turf ranks high in winter overseeding trials. Experimental code 2QM.
<b>Citation III</b>	Excellent heat and wear tolerance / Improved disease resistance / Rich, dark green color
<b>Manhattan 3</b>	Very dense growth habit / Rich color / Good mowing qualities / Contains endophyte
<b>Navajo</b>	Dark green, disease resistant turf / Excellent for overseeding / Good shade tolerance
<b>Quickstart</b>	Heat tolerant / Establishes quickly / Disease resistant / Excellent for overseeding
<b>Roadrunner (2ET)</b>	Dark blue-green color ideal for winter overseeding and permanent turf / Contains endophyte
<b>Sunrye (246)</b>	Dark green color / Dwarf growth habit / Contains endophyte / Disease resistant

*Turf-Seed, Inc. uses the full recommended rate of Apron® XL™ LS seed treatment. Help your grass seed get a good, healthy start.*

Produced and  
Marketed by

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Circle No. 144 on Reader Inquiry Card

TURF-SEED'S PREMIUM PERENNIAL

# RYEGRASS

FOR PERMANENT TURF AND WINTER OVERSEEDING

*Perennial ryegrasses from Turf-Seed, Inc. represent the latest in research and development technology and express a sound investment in turfgrass agronomics.*

*Our varieties and blends typically produce:*

- Rich, dark green color with enhanced disease resistance
- Quick-to-establish, dense tillered turf with improved mowing qualities
- Excellent turfgrass ratings in NTEP Trials, plus California, Arizona, and North Carolina overseeding trials
- Most contain high levels of endophyte for natural above-ground feeding insect resistance

#### **Establishment**

Turf-Seed perennial ryegrasses establish quickly in bare soil and will germinate in six days with

#### **SEEDING RATES FOR PERMANENT TURF**

Athletic fields, playgrounds	.8-10 lbs./1000 sq. ft.
Golf course fairways, roughs, and cart paths	.8-10 lbs./1000 sq. ft.
Parks, trailer courts, and camp areas	.8-10 lbs./1000 sq. ft.
Low maintenance areas	.3-5 lbs./1000 sq. ft.

#### **WINTER OVERSEEDING RATES**

Greens	.30-40 lbs./1000 sq. ft.
Tees	.20-30 lbs./1000 sq. ft.
Fairways	.500-700 lbs./acre
Roughs	.450-600 lbs./acre
Athletic fields, playgrounds	.10-15 lbs./1000 sq. ft.
Home lawns, parks, civic areas	.8-10 lbs./1000 sq. ft.

favorable conditions. Dark color and a height of 2 to 3" can be expected in two weeks, with the first mowing at about 21 days. Limited use can be expected in 30 days. Our advanced varieties can be mowed at 1/4" and less for Winter overseeding greens and tees in the South.

Our perennial ryegrasses perform exceptionally well as a monostand, and when mixed 1/3, 1/3, 1/3 with Turf-Seed's Kentucky bluegrass and fine fescues for year-round home lawns, parks, and other shady areas subject to wear and cold. Seed this mixture at 5 lbs. per 1,000 sq. ft., or 400 lbs. per acre. Keep seeds moist until seedlings emerge in 21 days.

#### **Fertilization rate**

Due to the naturally dark-green color of Turf-Seed ryegrass varieties and blends, they should require less fertilizer than is customary. Three to 6 lbs. of nitrogen per 1000 sq. ft. per season should be adequate.

#### **Blue Tag Certified Program**

Turf-Seed ryegrass blue tags earn cash for turfgrass research. Hundreds of thousands of dollars have been contributed to university research and scholarship programs as well as turfgrass councils in the purchaser's name. Call Turf-Seed, Inc., or ask your seed dealer for details.

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cont. from page 48

duced as alternatives to the traditional materials mentioned above. Although this new herbicide chemistry provides a wider array of materials to choose from, economics and turf tolerance must still be considered before use.

#### Grass Weed Control

In winter, the predominant annual grass weeds are annual bluegrass and clumps of ryegrass that escape from an intended over-

seeding site. Annual bluegrass can be effectively controlled with postemergence herbicides, assuming the turf is not overseeded with ryegrass or is a cool-season grass. In non-overseeded turf, atrazine (AAtrex), simazine (Princep T&O), and pronamide (Kerb) provide excellent control of annual bluegrass and ryegrass. The key to the use of these materials is timing. The first applications should be applied in

cont. on next page



Speedwell (*Veronica* spp.) begins low-growing, then grows tall. Flowers are small, blue/white.

TABLE 2. SUSCEPTIBILITY OF WINTER BROADLEAF WEEDS TO TURF HERBICIDES

Weed	Atrazine/ Simazine	2,4-D	Mecoprop (or MCPP)	Dicamba	2,4-D + MCPP	2,4-D + 2,4-DP	2,4-D + MCPP + dicamba	2,4-D + triclopyr	Triclopyr + clopyralid
Betony, Florida	E-F <sup>1</sup>	F	F	F-E	F	F	F-E	—	—
Black Medic	—	P	F	E	F	E	E	—	E
Buttonweed, Va.	—	E-F	F	F	F	E-F	E-F	F-P	—
Chamberbitter	E	—	—	—	—	—	—	—	—
Chickweed	F	F-P	E-F	E	E	E	E	E-F	E
Clover, hop	E	F	E	E	E	E	E	E	E
Clover, white	E	F	E	E	E	E	E	E-F	E
Daisy, English	—	P	F	E	F	F	E	—	—
Daisy, oxeye	—	F	F	F	F	F	E-F	—	—
Dandelion	E-F	E	E	E	E	E	E	F-E	—
Dock, broadleaf & curly	F	F	F-P	E	F	F	E-F	F	E
Garlic, wild	—	E-F	P	E-F	E-F	E-F	E-F	—	—
Geranium, Carolina	—	E	E-F	E	E	E	E	—	—
Henbit	E	F-P	F	E	F	E-F	E	E	—
Ivy, ground	—	F-P	F	E-F	F	F-E	E-F	—	—
Parsley-piert	E	P	E-F	E-F	E-F	P	E-F	E	—
Pearlwort	—	E-F	E-F	—	E-F	E-F	E-F	—	—
Pennywort (dollarweed)	E	E-F	E-F	E-F	E-F	E-F	E-F	—	—
Pepperweed	—	E	E-F	E	E-F	E	E	—	—
Plantains	F-P	E	F-P	P	E	E	E	F-P	E
Shepherd's-purse	—	E	E-F	E	E-F	E-F	E	—	—
Speedwell, corn	E	F-P	F-P	F-P	F-P	F-P	F-P	—	—
Spurweed (lawn burweed)	E-F	F	E-F	E	E-F	F	E	E	E
Strawberry, Indian mock	—	P	F	E-F	F	P	E-F	—	—
Thistles	—	E-F	F	E	E-F	E-F	E	—	—
Vetch, common	—	G	G	G	G	G	G	G	G
Violets	—	F-P	F-P	E-F	F-P	F	F-P	F-P	E-F
Woodsorrel, yellow	F	P	P	F	F-P	F-P	F-P	—	E-F
Yarrow	—	F	F-P	E	F-P	F	E-F	—	—

<sup>1</sup> E = excellent (>89%) control; F = Fair to good (70 to 89%); G = good control sometimes with high rates, however a repeat treatment 1 to 3 weeks later each at the standard or reduced rate is usually more effective; P = poor (<70%) control in most cases. Not all weeds have been tested for susceptibility to each herbicide listed.

These are relative rankings and depend on many factors such as environmental conditions, turfgrass vigor or health, application timing, etc., and are intended only as a guide.

**TABLE 3. ESTABLISHED SOUTHERN TURFGRASS TOLERANCE TO POSTEMERGENCE HERBICIDES (REFER TO HERBICIDE LABEL FOR SPECIFIC SPECIES LISTING)**

Herbicide	Bahiagrass	Bermuda-grass	Carpetgrass	Centipede-grass	St. Augustine-grass	Zoysiagrass	Overseeded Ryegrass	Tall Fescue
<i>Broadleaf Weeds</i>								
atrazine (Aatrex)	NR <sup>1</sup>	I-NR	I <sup>3</sup>	S-I	S-I	I	NR	NR
bentazon (Basagran)	S	S	S	S	S	S	S-I	S
bromoxynil (Buctril)	S	S	S	S	S	S	S	S
2,4-D	S	S	I	I	I-NR	S	S-I	S
2,4-D+dicamba	S	S	I	I	I-NR	S	S-I	S
2,4-D+2,4-DP	S	S	I	I	I-NR	S	I-NR	S
2,4-D+MCP	S	S	I	I	I-NR	S	I-NR	S
2,4-D+MCP+dicamba	S	S	I	I	I-NR	S	I-NR	S
2,4-D+MCP+2,4-DP	S	S	I	I	I-NR	S	I-NR	S
dicamba (Vanquish)	S	S	I	I	I-NR	S	I	S
MCP+MCP+2,4-DP	S	S	I	I	I-NR	I	I-NR	S
MCP	S	S	I	I	I-NR	S	I	S
imazaquin (Image)	NR	I-S	I	NR	S	S	NR	NR
simazine (Princep T&O)	NR	I-NR	I	S-I	S-I	I	NR	NR
<i>Grass Weed Control</i>								
asulam (Asulox)	NR	S-I <sup>2</sup>	NR	NR	S-I	NR	NR	NR
diclofop (Illoxan)	NR	S	NR	NR	NR	NR	NR	NR
DSMA, MSMA	NR	S	NR	NR	NR	I	NR	I
fenoxaprop (Acclaim)	I-NR	I-NR	NR	NR	NR	I	I	NR
metribuzin (Sencor)	NR	S-I	NR	NR	NR	NR	NR	NR
pronamide (Kerb)	NR	S	NR	NR	NR	NR	NR	NR
sethoxydim (Vantage)	NR	NR	NR	S	NR	NR	NR	NR

<sup>1</sup>S=Safe at labeled rates; I=Intermediate safety, use at reduced rates; NR=Not Registered for use on and/or damages this turfgrass.

<sup>2</sup>Asulam is labeled for 'Tifway' (419) Bermudagrass and St. Augustinegrass.

<sup>3</sup>Carpetgrass tolerance to herbicides listed has not fully been explored.

These are relative rankings and depend on many factors such as environmental conditions, turfgrass vigor or health, application timing, etc., and are intended only as a guide.

cont. from previous page

mid fall when weeds are small and easiest to control. A second application in Janu-

ary will be necessary to control the second flush of germination that normally occurs at this time, especially with annual blue-

grass. Atrazine and simazine have the added benefit of also controlling many winter annual broadleaf weeds such as lawn burweed, chickweed, and henbit (Table 2). However, as mentioned earlier, if control is attempted later in March or April, problems with herbicide efficacy and turf safety may occur.

Postemergence grass weed control in cool-season turfgrasses has previously been limited to various members of the organic arsenicals such as MSMA, DSMA, or CMA (Table 3). Specific formulations (e.g., CMA) and rates are necessary for use on most cool-season turfgrasses or unacceptable levels of injury may result.



Annual bluegrass (*Poa annua* L.) is a common winter annual grass weed.

cont. on page 56

These questions came straight from the customers of lawn care operators, pest control operators and other professional pesticide applicators across the country—and probably reflect the concerns of your customers. The more your customers know about the products you use, how you use them and how much is used, the more confident they will be in you and your service.

## Communicate With Your Customers

Your customers expect you and your employees to be credible and knowledgeable sources of information about your products. Take time to talk with them about your safe and responsible use of pesticides.

Studies show that most people don't know that pesticide products are among the most highly tested products sold. The U.S. Environmental Protection Agency (EPA) registers only those uses of pesticide products that pose minimal risks.

- Emphasize that pesticide products must undergo stringent government-monitored testing before they can be sold. It is a long and costly process. For example:
  - It takes a chemical manufacturer eight to 10 years to test and register a product, at an average cost of \$30 million to \$50 million.
  - As many as 120 tests or more are performed, many specific to health, safety and the environment.
  - Only one potential pesticide in 20,000 makes it from the research lab to the market.
- Explain Integrated Pest Management (IPM) to your customers. Most do not fully understand the concept. Point out that a successful IPM program stresses prevention, pest identification and selection of the best method of pest control, which may require the use of pesticides. Tell how you incorporate IPM into your pest management practices.
- Identify the specific pesticides you use and the pests they control.
- Indicate that professionals use an array of products, many the same as those used by homeowners.
- Assure customers of the benefits pesticides provide for turf, trees and ornamentals, and in the home. For example:
  - Termites cause over \$1 billion in structural damage each year.

*"Are the pesticides you use safe?"*

*"Are the pesticides that professionals use stronger and more toxic?"*

*"When is it safe for my children and pets to return to an area after a pesticide application?"*



- One large, pest- and disease-free tree has the same cooling effect as 15 room-size air conditioners.

- A well-maintained lawn and landscape adds as much as 15 percent to a home's value.

- Discuss your safe and responsible use of pesticides as a professional applicator. Note the many steps you take to ensure that the pesticides you use are used properly.
- Advise your customers that you closely follow label instructions. The label contains instructions for only those uses approved by EPA.
- Outline the extensive training that is mandatory for professional applicators in order to apply specialty pesticides. Applicators are required by law to undergo training, certification and licensing, as well as to keep records of each job performed.

- Explain what happens to pesticide containers once a job has been completed. Note that containers are disposed of properly.

## What Else Can You Do?

Provide your customers with materials such as newsletters, brochures, fact sheets and bill stuffers that communicate these messages. Be sure that someone at your company, who has a basic knowledge of the products and application methods your company uses, is available to answer questions.

## RISE Is A Resource

RISE is the voice for the specialty pesticide industry. Its members include manufacturers, formulators, distributors and other industry leaders.

RISE works in cooperation with your national, state and local user/applicator associations and is an additional source of information regarding issues facing pesticide users. We can help you in your role as a knowledgeable and credible information source to customers and to the public. A brochure on communicating about pesticides with your customers is available. Contact RISE to receive your copy.

We urge you to take an active part in your state and national association(s). We work together to support your business.



Responsible Industry for a Sound Environment®

This  
Is A Job  
For  
Roundup<sup>®</sup>  
Pro.

And  
So  
Is  
This



And  
So  
Is  
This



And  
So  
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When you're thinking of ways to expand your business and boost profits, Roundup® Pro herbicide may be your most useful tool. Roundup Pro can solve almost any lawn care problem you can think of. And it can create some opportunities that may surprise you.

## Think Of All The Possibilities.



### 1 GIVE NEW LIFE TO LAWNS

Take out areas of old worn, damaged grass or an unsightly varietal mix and start with a clean slate. The control you get from Roundup Pro gives new turf a healthy start. The perfect first step in a total or partial lawn renovation and to long-term relationships with customers.

### 2 ZAP 'EM AND WHACK 'EM

First, zap weeds with Roundup Pro; wait three days for it to move into the roots; then whack 'em with a string trimmer while they're still green. You'll get fast, effective results in hard-to-reach places. Plus, Roundup Pro gives you complete control—roots and all—with no regrowth.

### 3 BANISH BACKYARD BRUSH

Expand your horizons by using Roundup Pro to remove brush that can encroach on the perimeter of a backyard. The "roots and all" action of Roundup Pro also eliminates regrowth, so you'll achieve beautiful results that cutting alone just can't provide. It's a great way to increase your "trade area," giving you and your customer more yard to beautify.

### 4 MASTER MULCH BEDS AND TREE RINGS

Enhance landscapes and add to the natural beauty of the surroundings. It's easy to create mulch beds around trees, shrubs and ornamentals. Just use Roundup Pro to control the vegetation in these areas, then cover with mulch. Spot treatments keep them beautiful and beat hand-weeding, hands down.

To get more information on these and other profit opportunities, call the Monsanto Customer Relations Center at 1-800-332-3111 and ask for these sell sheets by name:

- Roundup Pro. The Brightest Idea Since Roundup.
- Zap 'Em And Whack 'Em.
- Mulch Beds Made Easy.
- Backyard Brush Control.
- Turf Renovation.
- Questions & Answers About Roundup Pro.
- Roundup Pro In The 21st Century.
- Product Label and MSDS.

# Do It Once. Do It Right. Do It With Roundup Pro.

**TABLE 4. PREEMERGENCE HERBICIDE EFFICACY RATINGS**

Herbicide	Crabgrass	Goosegrass	Annual bluegrass	Common Chickweed	Henbit	Lawn Burweed	Corn Speedwell
atrazine (Aatrex)	F <sup>1</sup>	P	E	E	E	E	E
benefin (Balan)	G-E	F	G-E	G	G	P	E
benefin+oryzalin (XL)	E	G	E	L	L	—	—
benefin+trifluralin (Team)	E	G	E	L	L	—	—
bensulide (Betasan, PreSan)	G-E	F	F	P	P	P	P
bensulide+oxadiazon	E	G-E	—	—	—	—	—
DCPA (Dacthal)	G-E	F	G	E	F	P	G
dithiopyr (Dimension)	E	G-E	G-E	G	—	—	—
fenarimol (Rubigan)	P	P	G	P	P	P	P
isoxaben (Gallery)	F	P	F	E	L	—	—
metolachlor (Pennant)	G	F	—	—	—	—	—
napropamide (Devrinol)	G-E	G	G	E	P	E	E
oryzalin (Surflan)	E	G-E	E	L	L	—	P
oxadiazon (Ronstar)	G	E	G	P	P	P	G
pendimethalin (Pre-M)	E	G-E	G-E	E	L	—	E
prodiamine (Barricade)	E	G-E	G	G	G	G	G
pronamide (Kerb)	F	P	G-E	E	P	P	E
simazine (Princep T&O)	F	P	E	E	E	E	E

<sup>1</sup>E=Excellent, >89% control; G=Good, 80 to 89% control; F=Fair, 70 to 79% control; P=Poor, <70% control; L=Listed on the label; — = Data not available.

These are relative ratings and depend on many factors such as environmental conditions, turfgrass vigor or health, application timing, etc., and are intended only as a guide.

cont. from page 52

In addition to the organic arsenicals, Fluazifop (Fusilade T&O) maybe used on tall fescue and zoysiagrass to control annual grassy weeds and suppress bermudagrass. Applications should be in spring when weeds are small and prior to the summer stress period.

Sethoxydim (Vantage) controls many annual grasses in centipedegrass and fine fescue. Spring applications are best due to cooler temperatures and younger weeds which are easier to control.

Chlorosulfuron (TFC 75DF) controls tall fescue selectively in Kentucky bluegrass and fine fescues. Low rates (1 to 5 oz/a) and spot treatments help minimize turf phytotoxicity.

Fenoxaprop (Acclaim) may be used on Kentucky bluegrass, fine fescues, zoysiagrass, and perennial ryegrass to control most annual grass weeds and to suppress bermudagrass encroachment. Spring applications are best and the turf should not be

under moisture or heat stress when treated.

#### Preemergence Crabgrass Control

As discussed earlier, turf managers should also be formulating their crabgrass control strategies during late winter. Crabgrass seeds begin to germinate when soil temperatures reach 53°F for several consecutive days. This timing often coincides with peak flowering of redbud trees.

The effectiveness of preemergence herbicides varies because of many factors. These factors include the timing of herbicidal application in relation to weed seed germination, the soil types, environmental conditions (e.g., rainfall and temperature) during and immediately following application, the target weed species and biotypes and cultural factors (e.g., aeration) following application. Generally, preemergence herbicides are most effective for annual grass control although some annual small seeded broadleaf weeds also are suppressed (Table 4).

Repeat applications of preemergence

herbicides usually are necessary. When exposed to the environment, most herbicides begin to degrade. Usually, the level of degradation that occurs from 60 to 75 days after application reduces the herbicide level in the soil to the point that its effectiveness on germinating weed seeds is lost. Repeat applications approximately 8 to 10 weeks apart, therefore, become necessary for prolonged preemergence weed control.

#### Summary

In conclusion, winter broadleaf weeds can be an opportunity or a headache for the professional turfgrass manager. If control is not attempted until spring, customers should expect the need for multiple applications and slow results. There are also restrictions on the use of many of these materials around trees and shrubs. Success, however, can be achieved with the combination of proper turfgrass management practices supplemented with appropriate herbicide use. **LM**



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# WEED CONTROL

## in landscape ornamentals

*Whether the weed is a grass, a sedge or a broadleaf plant dictates the control and the timing of the control.*

By CAROLYN STEADMAN

**W**ith all weeds, it's important to prevent the plant from setting and dispersing seeds, either by cultivation, hand weeding or herbicides. No seeds means many fewer weeds the next season.

There are several approaches to controlling weeds in ornamentals. Planning to eliminate weeds before planting and developing a post-planting strategy are ways to minimize the weed problems in landscape beds.

The plan-before-planting-approach developed by Dr. Joe Neal, associate professor at North Carolina State University (while he was a weed specialist at Cornell University) has five steps:

**1. Site assessment.** Survey the site for cultural and weed information. Note particularly any weeds that are difficult or impossible to control after planting such as bamboo, Japanese knotweed and field horsetail. Include the surrounding areas in the survey, as weeds can and do encroach on plantings. Scout for weeds in mid-to-late summer. Consider soil pH, soil type, drainage.

**2. Define the type of planting.** Does the plan call for only woody ornamentals, or will a ground cover or herbaceous annuals or perennials be used? The kind and mixture of plants will determine the usefulness of weed man-

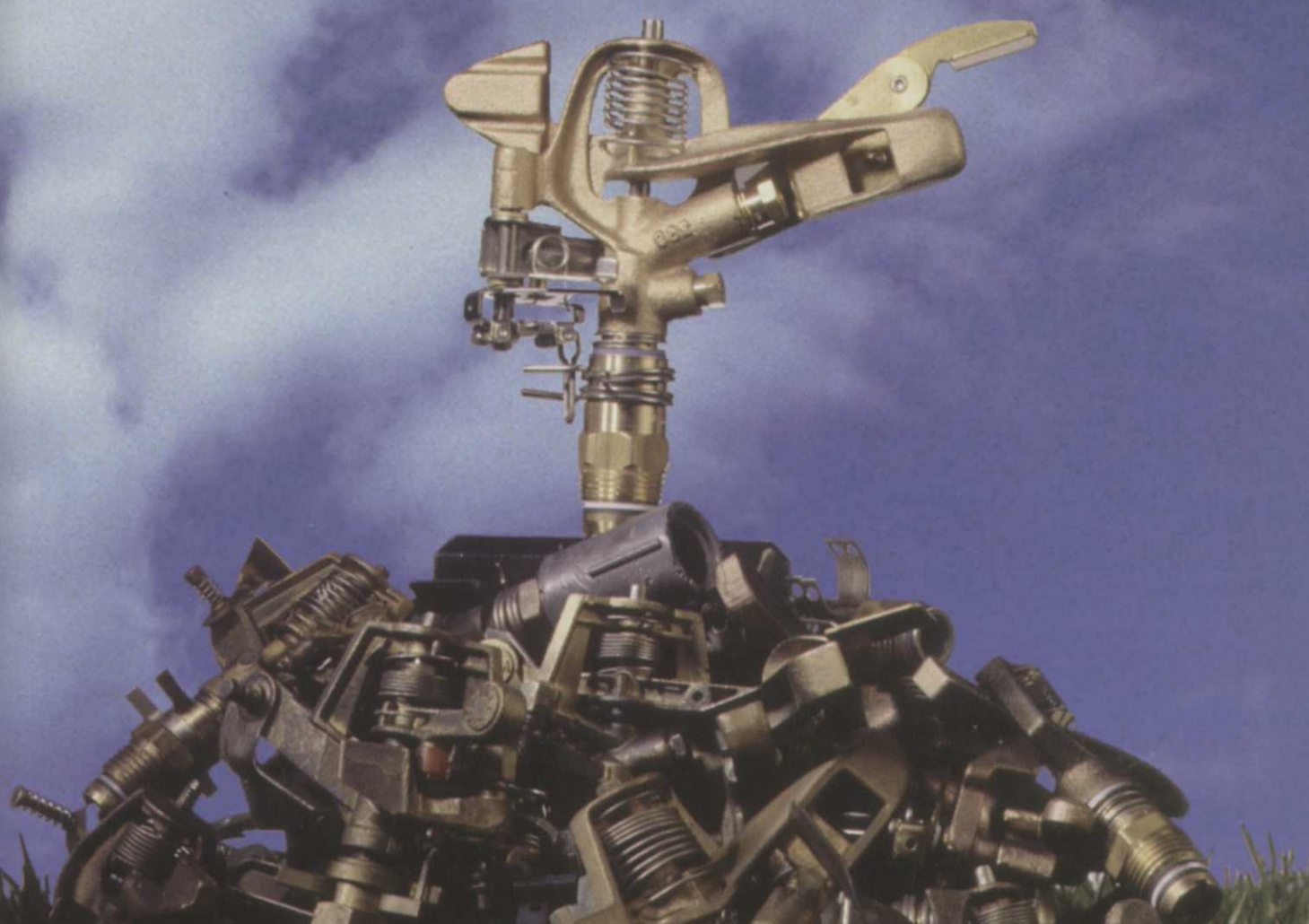


The kind and mixture of plants will determine the usefulness of weed management options like geotextiles, mulches and/or herbicides.

agement options like geotextiles, other organic and non-organic mulches and herbicides. A mixed planting of woody and herbaceous material has fewer post-plant options. For example, in a planting of trees and shrubs, geotextiles and a thin layer of mulch are options for weed control. There are also several herbicides that are labeled for use on woody plants that will injure herbaceous material. Geotextiles are not generally used in a ground cover bed, or with mass plantings of annuals or perennials.

*cont. on page 61*

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# Preemergent herbicides

**benefin+oryzalin, (XL)**, used for control of many annual grasses and some broadleaf weeds in newly planted or established landscape plantings, including some flower bulbs and ground covers. Irrigation, rain or shallow cultivation (one to two inches) is needed for activation.

**bensulide (Betasan, Lescosan, and others)** used for control of annual grasses and several broadleaf weeds in selected woody and herbaceous ornamental plantings.

**EPTC (Eptam)** used for control of annual grasses and many broadleaf weeds and some perennial weeds in ground covers and some flowers. Must be physically incorporated into a loose, clod-free soil to a depth of two to three inches immediately after application. Thorough mixing is necessary for good control.

**isoxaben (Gallery)** used for control of certain broadleaf weeds in landscape ornamentals, ground covers and ornamental bulbs. It must be activated by 1/2 inch of water after application.

**oryzalin (Surflan)** surface-applied herbicide for control of annual grasses and many broadleaf weeds in established and newly planted field-grown ornamentals, ground covers, bulbs and some flowers. It must be activated by 1/2 inch of water. It may be cultivated one to two inches.

**prodiatol (Factor, Barricade)** selective preemergence residual control of many; annual grasses and broadleaf weeds in landscapes. It must be activated with 1/2 inch of water as soon as possible after application.

**pendimethalin (Pendulum, Southern Weedgrass Control)** used for control of grasses and certain broadleaf weeds in woody ornamentals, perennials, wildflowers and ground covers. Should be applied to weed-free soil. Must be activated by irrigation and to remove granules from foliage.

**trifluralin (Treflan, Preen, and others)** used for control of annual grasses and broadleaf weeds in landscape ornamentals, ground covers, roses and many annual and

perennial flowers. Apply before weed seed germination or to clean cultivated weed-free areas. Must be incorporated within a few hours of application.

**trifluralin+isoxaben (Snapshot 2.5TG, Professional Preen)** used for control of broadleaf weeds and annual grasses in landscape ornamentals and ground covers and perennials. Professional Preen is a new product introduced in 1998. Can be applied prior to weed germination or immediately after cultivation.

Post emergent herbicides are applied to actively growing weeds. There are selective and non-selective products. The non-selective products injure or kill any vegetation contacted. The selective products kill or injure some plants but not others.

## Post emergent herbicides

**bentazon (Basagran T/O)** used for control of seedling broadleaf weeds, yellow nutsedge, and annual sedges in selected field grown ornamental trees, shrubs and ground covers. Apply as a directed spray to small and actively growing weeds under good soil moisture.

**fenoxaprop (Acclaim)** used for control of annual grasses in landscape ornamentals, annuals and perennials. Apply to young (seedling to 3-tiller) actively growing grasses.

**glyphosate (Roundup Pro)** used for non selective control of most herbaceous and many woody plants. Used for pre-plant cleanup and post-plant directed spray or spot spray for general weed. Apply to actively growing plants. Do not apply if rainfall or overhead irrigation will occur within six hours.

**fluazifop-p (Take Away, Ornamec, Fusilade II)** used for control of annual and perennial grasses. May be applied over the top of many woody and herbaceous ornamentals in landscapes. Should be mixed with a non-ionic surfactant. Spray annual grasses at two to eight inches tall before tillering. Spray perennial grass during spring growth flush but before heading.

*cont. from page 58*

3. **Select ornamental species and weed management options.** Choose species with design and site compatibility. If you have a hard-to-control weed on the site, it's useful to consult the label of the control to determine which ornamentals are compatible with the herbicide.

4. **Site preparation.** Control weeds which cannot be controlled after planting. The best time to control perennial weeds is before planting. They can be controlled by repeated cultivation, fumigation or Roundup Pro.

5. **Installation and implementation.** After all the preparation, don't introduce new weeds with the new plants. Watch out for weeds on soil balls as you transplant.

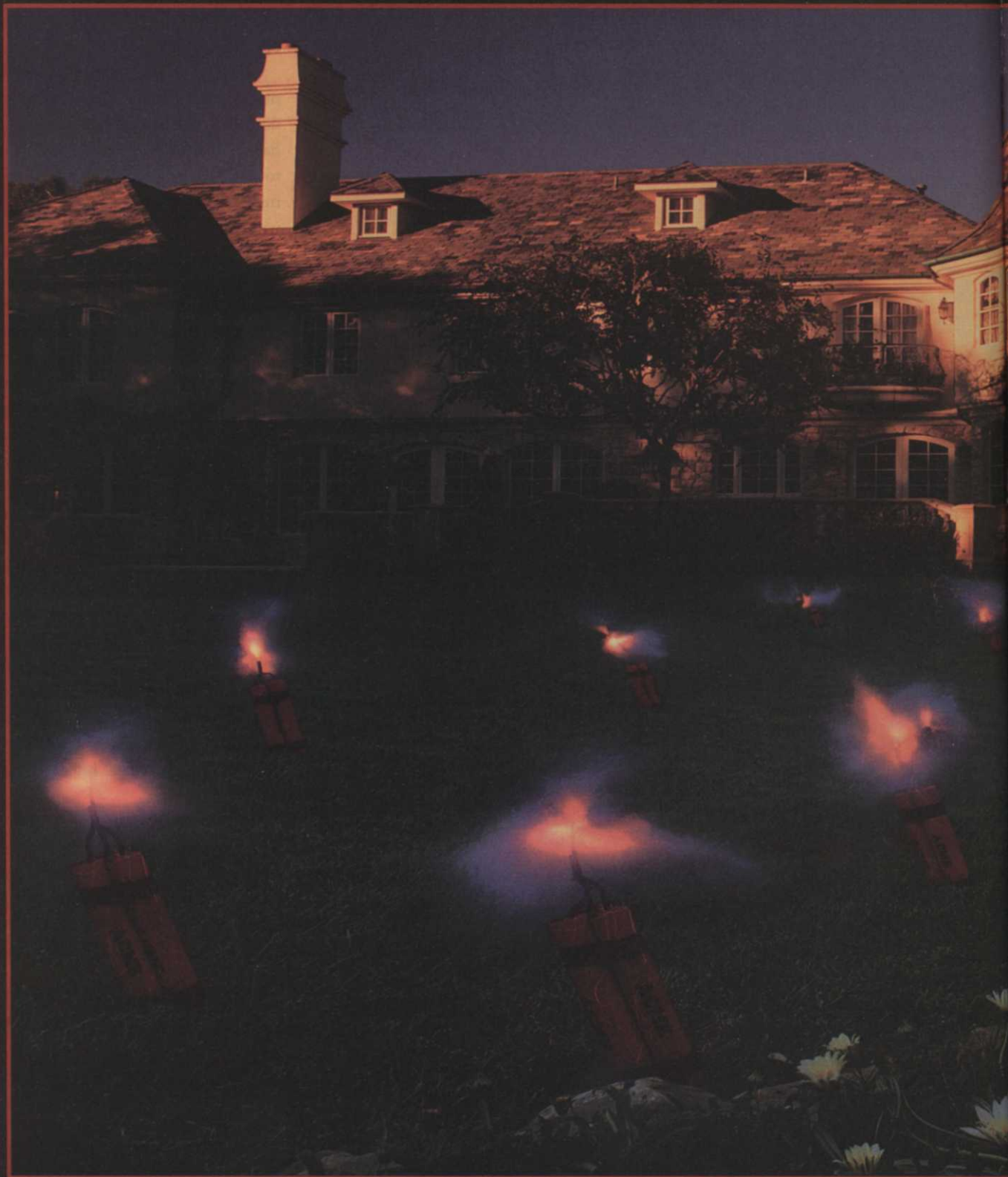
The post-planting and established landscape planting options include organic or inorganic mulches, hand weeding and the use of post emergent herbicides. Mulches serve several functions, they help to conserve soil moisture, they help to keep weed seeds from germinating and the organic mulches decompose and add organic matter to the soil. Organic mulches include many kinds of bark, compost products, pine needles, buckwheat hulls and many others.

To be effective, an organic mulch should be three to four inches thick. When using an organic mulch, it's wise to check the pH of the material. For example, pine needles have an acid pH and so are useful

*cont. on page 64*

**Pelargonic acid (Scythe)** non selective contact herbicide for control of most young, succulent and actively growing weeds. May be used in and around walks, driveways, flower beds, trees and shrubs. Ensure thorough wetting and complete coverage of all unwanted vegetation, but avoid run-off.

**sethoxydim (Vantage)** over the top or directed herbicide for the control of grasses in trees, ornamentals, and ground covers. Should be applied to small actively growing grasses that have not been mowed.



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is before they emerge. A preemergent herbicide application creates a zone of protection where weeds get whacked as fast as they germinate.

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# How to defuse a lawn.



maybe two or three postemergence herbicide applications. One treatment of Gallery® preemergent herbicide is all it takes. Use it spring or fall on

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cont. from page 61

around ornamentals that require a low pH such as rhododendrons.

Inorganic mulches include geotextiles, marble chips, crushed rocks and many others. Inorganic mulches do not decompose, and a layer one to two inches, especially when used in conjunction with a geotextile is usually enough. The area of the country often dictates the kind of mulch that's readily available. If weeds grow through or germinate on the mulch/geotextile fabric, remove them while they're small to prevent tearing holes in the fabric.

There are many herbicides registered for use in the landscape. Each one has specific target pests and plants that will not be injured by exposure to the chemical. The following is a sampling of herbicides registered for use on landscape ornamentals. It's not intended as an endorsement, nor is criticism implied by an omission. Always read and follow the directions on the label. **LM**

## Update on herbicide changes

Dr. Larry Kuhns, professor, department of ornamental horticulture at Pennsylvania State University, reports some recent changes in the herbicide market.

1. Dacthal, Derby, Pennant 5G and Snapshot WP are no longer available.
2. Regal Chemical Co. has generic products that are registered for landscape use. Regalkade G (granular formulation of proflaminate, the active ingredient in Barricade and Factor); RegalStar II (granular formulation of oxidiazon and proflaminate, the active ingredient in Ronstar and Barricade); and Regal O-O (granular oxadiazon and oxyfluorfen, the active ingredients in Ronstar+Goal).
3. There have been name changes: Fusillade is now Fusillade II; Prism is now Envoy; Roundup is Roundup Pro.
4. There is a new product, Professional Preen (granular formulation of trifluralin and isoxaben, the active ingredients in Snapshot 2.5TG)

There are many weed control choices for the landscape manager. If time allows for eliminating weeds before a new landscape bed is planted, an effective weed management option is already in use. The wide variety of herbicides used in conjunction with geotextiles, other mulches and hand weeding present workable options.

*For chemical control options that are registered for use in your area, check with the local experts. Always read and follow the label.*



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# Perennials that love the cool, cool shade

*Shade gardening evokes a calm, inviting feeling. It beckons one to the garden with wisps of coolness and fresh, earthy smells.*

Shade not only varies by season, but it also can vary by time of day. Morning sun, for example, is cooler and preferred by moisture-loving plants. Afternoon sun is hotter and a few shade plants tolerate this condition.

**Light to partial shade:** In this condition, shade is present for less than four hours a day. This could be an area where sunlight filters through deciduous trees with high branches, and east- or west-facing slope, or the shady side of a building.

**Full shade:** Full shade are those areas where shade is constant throughout the day.



*Myosotis Alpestris* (Forget-me-not), a partial shade groundcover.

## SHADE-LOVING PERENNIALS (A PARTIAL LIST)

### Partial shade

Acanthus	Boltonia	Digitalis
Aquilegia	Campanula (some species)	Erigeron
Aster divaureatus	Cerastium	Iris (some species)
Astrantia	Chelone	Lobelia
Baptisia	Chrysogonum	Myosotis
Bergenia	Clematis (some species)	

### Partial/full shade

Actaea	Dicentra	Viola
Asarum	Ferns	Polygonatum
Brunnera	Hosta	
Corydalis	Sanguinaria	

### Partial/full shade/ groundcover

Lamium	Epimedium
Aegopodium	Galium
Ajuga	Lamium
Geranium (some species)	Convallaria

**Woodland shade:** Under mature tree canopy with filtered light, well-drained, moist, humus soil.

**Wet or boggy shade:** In the low point of the garden, perhaps adjacent to a pond or stream. Soil in this garden is always moist to wet, with moderate to heavy shade.

**Dry, well-drained shade:** On a slope or in very sandy soil with summer drying. The shade is light to moderate.

### To install a shade garden

Consider the foliage effect when designing. Many perennials offer a sumptuous appeal with different leaf patterns, colors and textures. A deeply-shaded area can be brightened with the use of a variegated foliage plants such as *Hosta* and *Lamium*.

Thorough soil preparation prior to planting is essential to long term success. This is the only opportunity to work the soil completely. Once plants are established, drainage and aeration cannot be substantially corrected without removing the plants. Organic matter should be added to the soil to improve the texture and drainage. A four- to six-inch layer of organic matter, such as well-rotted manure, compost, peat moss, decomposed bark or leaf mold should be worked into the soil by digging, spading or rotary tilling.

Another key consideration is the moisture retention of your soil. Many perennials are adaptable to soils with varied moisture levels while other perennials are very specific to moisture level. **LM**



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**2.** Bobcat loaders are built to be dependable. Landscaper Roy Poirier of Barrie, Ontario, works each of his six Bobcat loaders up to 2,000 hours a year excavating, backfilling, grading, and loading and unloading topsoil and sod. "I can't say enough good about them," he explains.

**3.** Designed with muscle to spare, a Bobcat loader will dig all day — and can easily lift and carry sod, bricks, blocks and other heavy loads.

**4.** A hefty diesel engine with plenty of power makes every Bobcat loader a non-stop work-horse that quickly handles big jobs even in small spaces.

**5.** With brisk travel speeds, Bobcat loaders cover more ground in less time. "The loaders allow us to work faster and take on more and bigger jobs," says Eric Proffitt, co-owner of a landscaping firm in The Dalles, Oregon.



**6.** Besides being brawny and fast, Bobcat loaders have added reach and lift height to clear high-sided truck boxes and hoppers. Loading and unloading is a breeze.

**7.** Bobcat loaders come in sizes to match every job. The 773, for example, is our mid-size lift-and-carry champ. The somewhat larger 863 takes on heavy-duty work with added power and speed, and the extra muscle of the big 873 makes every landscaping job easier, faster and smoother.

**8.** The hydraulic pumps on Bobcat loaders are designed to generate plenty of hydraulic power to operate attachments like Bobcat® Augers, Landscape Rakes, Power Rakes, Trenchers, Tillers, Breakers and more. High-flow options are also available for some models.

**9.** Speaking of attachments, we design and build more than any other skid-steer loader manufacturer. Depending on model, you can select from some three dozen attachments, each with full warranty and Melroe's unequalled parts and service support.



**10.** Our reliable Bob-Tach system makes attachment changes fast, secure and hassle-free. A Bobcat loader operator can easily replace a bucket with Bobcat® Pallet Forks, Landscape Rake, Stump Grinder, Combination Bucket, Backhoe, Auger, Grapple and others — all as quick as a snap.

**11.** Only Bobcat loaders have drive chains that *never* need adjustment. We use endless loop, hardened steel drive chains configured in a "bow tie" pattern for longer life even in the most rugged conditions — with no periodic, time-consuming adjustments.

**12.** You can forget about axle grease. Bobcat axle bearings are self-lubricating — never need greasing. And our hub design offers great seal protection. Most other loaders require lots of grease — both axle and elbow.

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**14.** The Bobcat belt drive design allows the engine to run slower, resulting in quieter operation, longer engine life and lower fuel consumption — another feature found only on Bobcat loaders.

**THE bobcat ADVANTAGE**



**15.** Training kits, available from your Bobcat dealer, let you train new operators and bring current operators up to date with the latest safety and operation functions on Bobcat products. Spanish language versions are also available.

**16.** Bobcat loaders maintain high resale value year after year because of the Melroe Company's long tradition of quality-built products and after-sale support.

**17.** When you buy Bobcat equipment, you get the advantage of a worldwide network of Bobcat dealers offering industry-leading parts and service support. In fact, there are more full-time, dedicated Bobcat dealers and factory-trained support staff working exclusively to serve your compact equipment needs than any competing manufacturer in the world.



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WEEK 3



WEEK 7



WEEK 8



WEEK 9

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WEEK 5



WEEK 6



WEEK 10



WEEK 11



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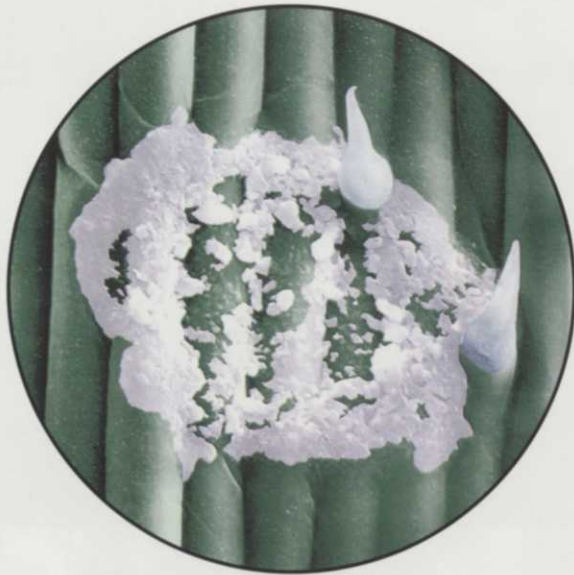
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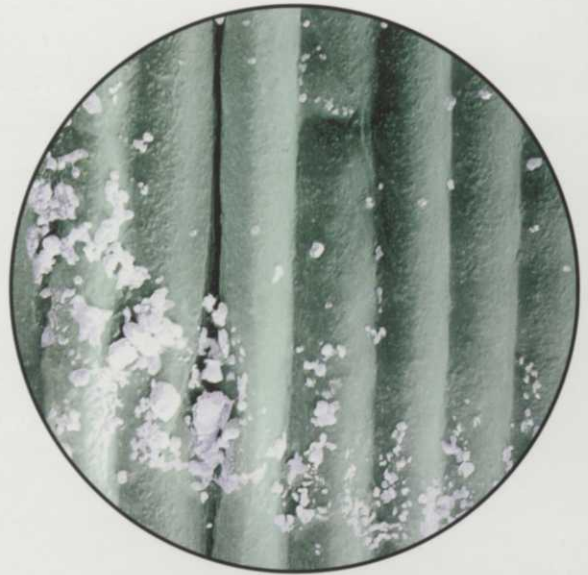


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after a 1/2" rain stress (SEM - 500X)<sup>††</sup>



**GENERIC FUNGICIDE**

after a 1/2" rain stress (SEM - 550X)<sup>††</sup>

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\*For best results, we recommend using 20% lower application rates on a 7-10 day schedule. Section 12(a)(2)(G) of FIFRA provides that it is unlawful for any person "to use any registered pesticide in a manner inconsistent with its labeling"; quoted language is defined in section 2(ee) of FIFRA and expressly excludes the act of "applying a pesticide at any dosage, concentration, or frequency less than that specified on the labeling unless the labeling specifically prohibits deviation from the specified dosage, concentration, or frequency." Thus, in the absence of specific label prohibitions, it is not unlawful under section 12(a)(2)(G) to use a registered pesticide at a dosage, concentration, or frequency less than that specified on the labeling of the pesticide.

User must have label in possession when applying these rates.

†For a copy of our Daconil Ultrex Super Weather Stik Guarantee, write to Daconil Ultrex Guarantee, ISK Biosciences Corporation, Turf & Specialty Products, 1523 Johnson Ferry Rd., Suite 250, Marietta, Georgia 30062

†† Micrographs have been colorized for demonstration purposes.

**C**redibility is a topic rarely discussed at golf course superintendents meetings. Credibility is trust and faith in another's ability. Credibility is a reason to give the benefit of the doubt. Lack of credibility is a life of frustration.

I cannot ask for credibility; I have to earn it. My success begins and ends with my credibility.

Organizational skills contribute to being perceived as a credible person. I need to correctly write a letter or report, return phone calls in a timely manner, and develop and follow policies and procedures.

Leadership is not telling people what to do. I need to ask the right questions to fully understand the conditions our membership expects. I need to take a good suggestion for improvement and explain it so everyone can understand. I need to make everyone feel part of the finished product. I need to yield to a better idea.

Like most golf course superintendents I want to be respected. I want members of the Birmingham Country Club to perceive me as a professional with a passion for managing their golf course.

I want to sit in a meeting and feel they want my ideas and vision for their golf course. I want to feel I am part of the club's history. I want to feel I am effectively representing the interest and well being of our golf course maintenance staff. I want our membership to have confidence in my representing their club.

As a superintendent in today's world, I must constantly improve myself. I attend turf conferences to improve my agronomic skills. Experience has shown me that I should spend an equal amount of time trying to better understand and improve my interpersonal skills.

It's important for professionals to periodically think about what our actions and words say to

[GOLF]

PAGE 4 G ▶  
Supers share greens tips

PAGE 8 G ▶  
GCSAA show review

PAGE 16 G ▶  
Critter control options

PAGE 18 G ▶  
Healthy turf for roughs

PAGE 24 G ▶  
Judy Bell tops with ASGCA

## Credibility, what we all need on the job.



**THOMAS MASON**  
Guest columnist  
Superintendent,  
Birmingham CC,  
Troy, Mich.

our bosses and members.

How am I perceived? Do we speak the same language? Do they understand the terminology I use in my daily life? I realize that I should periodically take some time to see things from a member's perspective.

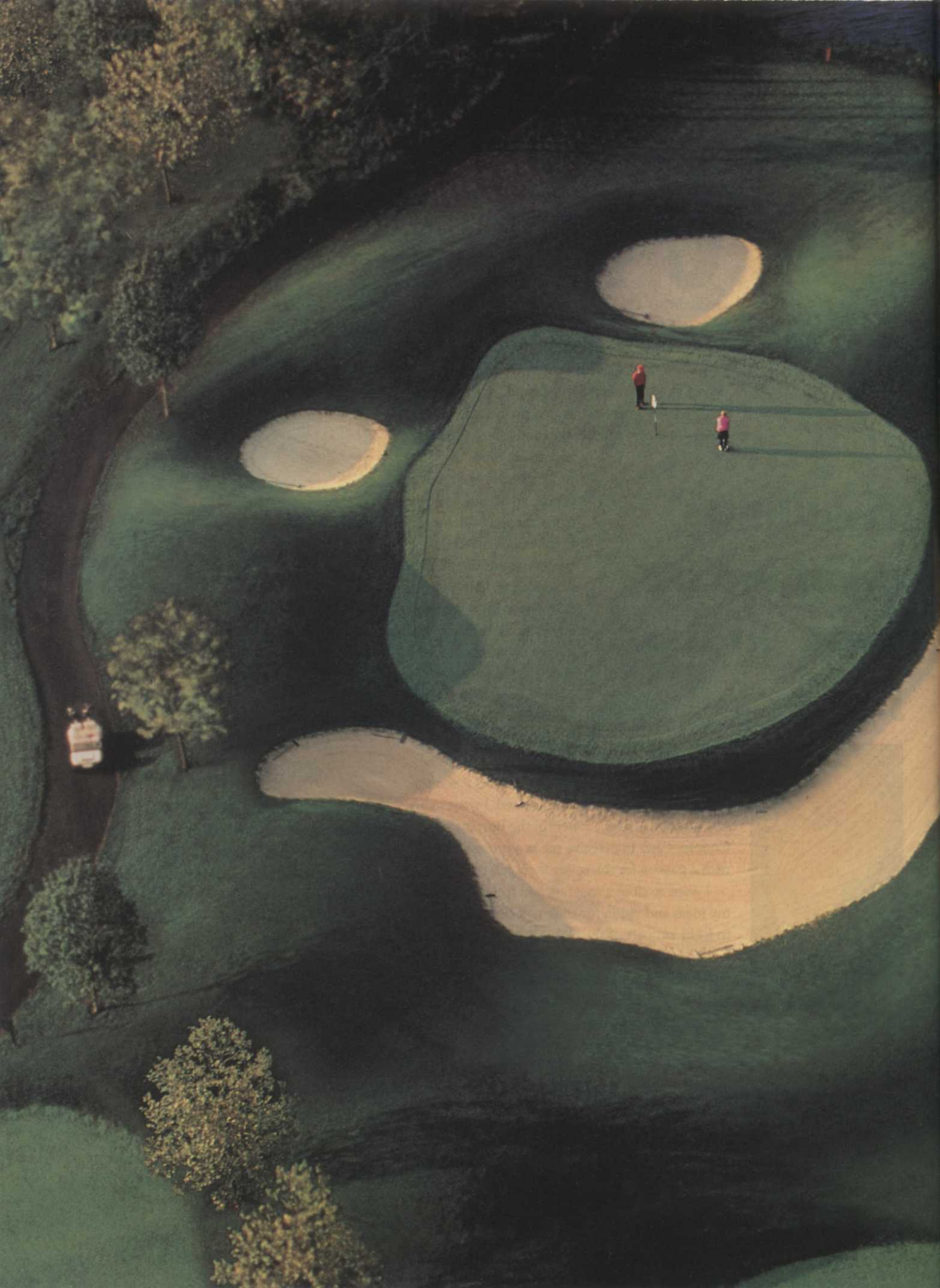
-----[SUPERS ON COURSE]-----

### Bickler's dream course came true

The 18-hole Encinitas Ranch Golf Course in Southern California opens this month. It was designed by Gary Bickler, ASGCA, San Diego. More than 20 years ago Bickler lived on a country road across from the Ecke flower fields and dreamed of designing a course on the property. The City of Encinitas made his dream come true by hiring him to do just that.

### Falcon Dunes finished months early


Superintendent **Pete DiMaggio**, CGCS handled the grow-in at The Falcon Dunes Golf Course at Luke Air Force Base, Glendale, AZ. Falcon Dunes opened this winter. Valley Crest was the prime contractor on the \$9 million project. Construction began in March 1997 and finished three months ahead of schedule. Gary Panks designed Falcon Dunes, which was built without the use of taxpayer dollars.



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happier place?*

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Circle No. 105 on Reader Inquiry Card

# Greens tips from pros

*A panel of veteran superintendents at the 1997 Ohio Turfgrass Conference shared strategies that work for them.*

By RON HALL/ Managing Editor

**F**or better greens consider a triangle whose sides are customer satisfaction, a balanced management program, and consistency of play. Consider all three in your greens management program.

That message surfaced over and over again when a panel of respected superintendents explained their greens programs at the Ohio Turfgrass Conference this past December.

Bob Brame, USGA Green Section, Cincinnati, began the discussion by reminding the 300-plus superintendents in the audience to concentrate on providing their greens with the basics—a good growing environment (adequate sunlight and air movement), fertilization, mowing and water management.

The following are some of the greens strategies offered by the superintendents on the panel:

**Matthew Shaffer**, The Country Club, Cleveland, Ohio, hand waters greens. Greens are on “the edge of wilt at any given time.” He uses natural organic fertilizers (supplemented with micro-nutrients) on his greens, predicated on soil tests taken every other year, about 3 ½ lbs. N per year.

His crew mows with lightweight 19 inch Jacobson walkers, and cuts every day, maintaining a height between 1/1000 of an inch and 125. On Thursday they usually begin double cutting and double rolling to increase speed for male members who want faster greens, maybe to high 10 or 11.

Shaffer believes in a regular and creative use of rollers, both Wylie and smooth. “We roll, we roll and we roll,” he said.

**Gary Price**, Snowshoe Mountain Resort, Slatyfork, W.Va., said “we try to stay away from any extremes. My overall philosophy is pretty simple.”

He double cuts some, keeping the height at 135 to 140, and rolls some.

“Our members want a true playing surface and decent speed,” he said. Price insists on keeping mowers lapped and properly adjusted. Edges get faced weekly.

**Mark Kuhns**, Oakmont Country Club, Oakmont, Pa., hosted the 1994 U.S. Open. Kuhn also favors hand watering because it keeps the greens firm. “You’d be surprised how far you can actually stress greens,” he said. He tries to maintain greens at 11 every day. The stimpmeter is *his* tool. He doesn’t



**Gary Price: no extremes**

## Don't skip that mowing

Terry Buchen, Terry Buchen Golf Agronomy, Williamsburg, Va., said that if a green is not mowed on Monday, it will not be back to the same condition (speed, firmness or smoothness) until at least Wednesday.

“The best conditioned courses get double cut at least every other day,” he said at the Ohio Turfgrass Conference:

Other trends he offered:

- ▶ a move by superintendents toward heavier greens mowers,
- ▶ more use of vibratory rollers on triplex greens mowers,
- ▶ top-dressing about once a week, at least once every two weeks, with many superintendents using straight sand,
- ▶ increased popularity of the Bioject system for

disease control; also good reviews for Heritage fungicide,

- ▶ increased use of fertigation because of improved systems,
- ▶ shorter cuts for greens collars,
- ▶ green speed of 9 feet or faster to keep golfers happy.



**Terry Buchen sees shorter cuts on collars.**

RH

think it's a good idea for anybody else on the course to be stimping the greens. (A sentiment that several of the panelists heartily endorsed.)

The Oakmont crew aerifies twice a year, and fills the holes with pure sand. Sand is broomed and watered in until holes are completely filled.

The Oakmont greens get about 3½ lb. N per year, most applied as a starter fertilizer after aerifications, supplemented with a dormant feeding of Milorganite the first or second week of December to bring turf back in spring.

Oakmont greens are double cut daily. Kuhns starts the season at ⅛ inch, bottoms out at ⅜, then brings it back to about ¼ by mid July or August.

He credited the fungicide Heritage with allowing him to control anthracnose and summer patch this past season.

**Edward Odorizzi**, The Country Club at Muirfield Village, Dublin, Ohio, says his course is blessed with "a great mechanic," and that his mowers are in top shape to mow daily, ⅛ inch, a bit lower in summer. That's one reason why his greens are generally regarded as some of the best in central Ohio. Another, and important factor, he said, is the open nature of his course—lots of sunshine.

He aerifies three times a year, twice with a Toro greens aerifier and once in late fall with a Floyd McKay unit. His crew topdresses with straight sand every three or four weeks.

His fertility program is about 5½ lbs. nitrogen, 2 lbs. phosphorus and 11 lbs. of potassium a year.

**Terry Bonar**, Canterbury Country Club, Cleve-



**Mark Kuhns says stimp-meter is a super's tool.**

land, has hosted several USGA and PGA tour events. "Topdressing is very important for us," he said. "We topdress a target of nine to 10 times a year. We've been using the same rootzone mix for over 25 years."

Bonar said he favors spoon-feeding in summer, about ⅓ lb. N. per week using a 20-20-20 Peters product. Depending on carry over, he may cut back to half that amount, or perhaps just iron. "I can look at them (greens) on Wednesday and decide how much to put on them on Thursday," said Bonar.

Daconil has been his fungicide of choice, sprayed weekly. It eliminated dollar spot and brown patch this past season. The fungicide Heritage cleared up a developing problem with anthracnose, he added.

He tries to maintain green speed at 9½ to 10½ every day. "If you're consistent every day and you have a decent speed, they're (the members) not as concerned about what the roll is today," he said.

**Joe Baidy**, Acacia Country Club, Cleveland, and a former president of the GCSAA, believes a superintendent has to build some flexibility into his/her program. "I do what the grass plant needs," he said.

Baidy started this past season mowing at ⅛ and went down to ⅜. He said that mowers are checked daily, lapped when needed. The Acacia crew double mows on Wednesdays and on weekends and for tournaments, and rolls several times a week.

Baidy believes in spoon feeding turf each week in the summer, and uses Primo growth regulator every two weeks. He aerifies in spring and fall and topdresses every two or three weeks.

"Understand what your membership wants, and give them what they need," said Baidy. □



**Terry Bonar seeks consistent rootzone mix.**



**Joe Baidy: understand what members want.**



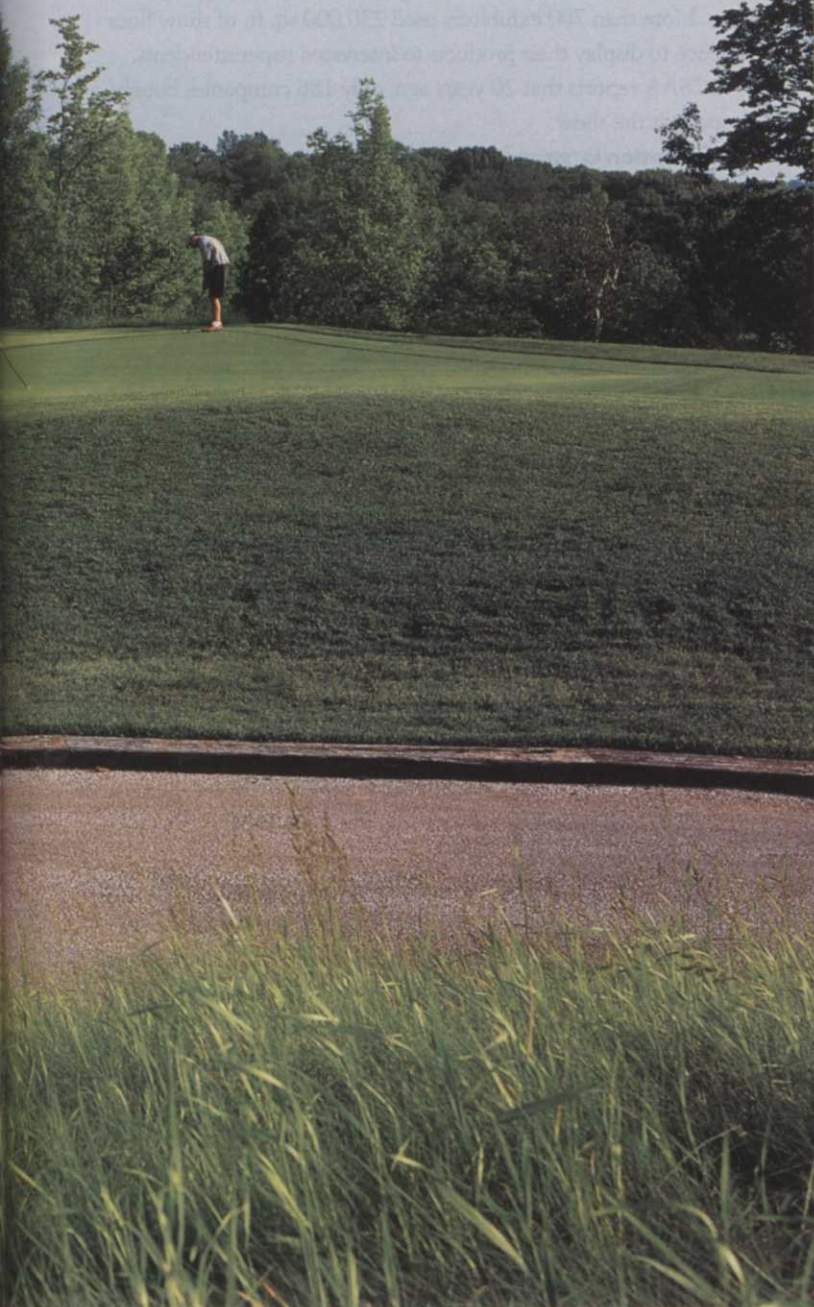
**Ed Odorizzi thankful for a great mechanic.**

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Circle No. 120 on Reader Inquiry Card

# GCSAA SHOW hits on hot topics

*From the growth of golf to innovative management tips, the 1998 GCSAA conference provided a wealth of helpful information and commentary.*

*by Ron Hall & Terry McIver*

**T**he 1998 Golf Course Superintendent's Association of America conference and show surpassed expectations for both attendance and exhibitor participation, reports the GCSAA.

Seminar attendance at the Anaheim, Calif. Convention Center, hit 5,620, a 200-plus increase over the 1997 show held in Las Vegas.

Overall registrants reached 20,500 which is about 1500 less than the record, Dr. Jeff Nus of GCSAA told LANDSCAPE MANAGEMENT. "We should really bust the records in Orlando [in 1999]," predicts Nus.

Attendance at seminars, the Gala and Environmental General Sessions hit record numbers however.

More than 700 exhibitors used 230,000 sq. ft. of show floor space to display their products to interested superintendents. GCSAA reports that 20 years ago, only 186 companies bought space at the show.

#### **Association is 'strong'**

The increased attendance is a reflection of the state of the association, which is reported as "strong" by outgoing GCSAA president Paul S. McGinnis, CGCS.

The Association boasts 18,000 members around the world.

"We're already setting new records in growth this year, with 8,400 at pre-conference seminars focused on education and timeliness," says McGinnis.

Steve Mona, CAE, who serves as the association's chief executive officer, reports the group is financially strong in terms of revenues and conference attendees. "Membership now incorporates 60 countries around the world," says Mona, who believes the association can best serve its members everywhere by adding non-agronomic information to mix.

#### **Golf popularity grows worldwide**

Golf is becoming more available to the public, and the National Golf Foundation says that bodes well for the growth of the game.

Richard L. Norton, vice president and general manager of the NGF, says the growth of total courses has gone from 13,353 in 1986 to 16,010 in 1997.

The US accounts for half of the world golf market, says Norton, with an estimated 25 million players. Asia was second with 15 million, followed by Canada, the UK, Australia/New Zealand, Europe, South/America and Africa.

#### **Special people speak out**

Gaining special recognition at this year's GCSAA show were former vice president Dan Quayle; PGA golfer Peter Jacobson; and golf commentator/professional Ken

*cont. on page 12G*

### **New GCSAA officers**

GCSAA's new president is **George E. Renault III, CGCS**, superintendent at Burning Tree Club in Bethesda, Md.

Vice president for 1998 is **David W. Fearis, CGCS**, superintendent at Blue Hills CC in Kansas City, Mo.

Serving GCSAA as secretary/treasurer is **R. Scott Woodhead, CGCS**, superintendent at Valley View Golf Club in Bozeman, Mont.



LANDSCAPE MANAGEMENT's golf industry "Person of the Year" Paul Latshaw, Congressional CC, with LM Publisher John Payne, right, and Editor-in-Chief, Terry McIver.



John Hedges, right, director of Hoffco Outdoor Power Equipment, and John Schmidt, a representative for Comet, check out another fine issue of LANDSCAPE MANAGEMENT.



Greeting guests at the Kawasaki reception, from left, Mark Kelly, director of marketing, with Kathy Matyniak, Roger Howe, Vince Iorio.



Hunter International pays tribute to founder Ed Hunter, who died January 23 at the age of 81.



Bob Katula, president of Links Diagnostics, Inc., explains how the company provides digital images of golf courses, to evaluate turf conditions.



AgrEvo's George Raymond is flanked by giant insects at an afternoon press conference as he presents information about the pyrethroid insecticide DeltaGard, effective against surface-feeding pests.



John Deere's Clair Peterson, left, manager of event marketing, visits at the John Deere booth with J.W. Borders, from Deere's Arizona distributor, Arizona Machinery.

## A look ahead

What's in the future of the golf management industry, and how do superintendents fit in? These are big questions.

A small panel of green industry suppliers did their best to answer them in a short amount of time during a Friday Forum held in the GCSAA media room.



**Kelty:** Attack of the multinationals.

Present at the forum was **Michael Kelty, Ph.D.**, vice president, professional business group, The Scotts Co.; **David Fearis, CGCS**, Blue Hills Country Club; **Gene Hintze**, director of

turf and ornamental products, Novartis; **William Foley**, chief executive officer, LESCO, Inc.; and **Harold Pinto** of Jacobsen Division of Textron, Inc.

Conditions of the game are apparently changing, if the 1997 U.S. Open is any indication, says Foley. There, superintendent Paul Latshaw had the greens and fairways double mowed and fast as can be.

"We need to find ways to help superintendents with what they will need to maintain these great conditions," said Foley.

According to Hintze, the superintendent is looking for total solutions, basic research and development.

"New solutions are already being developed that will make the superintendent's job easier and course conditions better. The tools are on the way."



**Hintze:** Supers want total turfgrass solutions.



**Foley:** Great conditions demanded on courses today.

"Competition and consolidation is what it comes down to," said Kelty. "Multinational companies are moving in, there's a big shift in the marketplace and margins are down. The next five years will be critical."

Pinto emphasized the industry's global reach.

"The industry is growing fast, except for shrinkage in Southeast Asia. This shrinkage will impact overall growth, and competition will intensify. Look for a lot of consolidation, but the industry will continue to grow. We must think positively."



**Pinto:** We must think positively!

### How to help the EPA

To further improve industry relations with the ever-zealous Environmental Protection Agency, Hintze said the key is to "work with the EPA. We need to first understand the ground rules. And we need to have a common united voice to stand up to the EPA, with logical, professional responses."

"There have been a lot of scares," Kelty said. "EPA is a client-based organization for the Food and Drug Administration. I'm optimistic that science and technology will win out." □

## Innovative supers

Superintendents received some valuable information on how to get things done in a variety of time and money-saving ways during the Innovative Superintendent Sessions at the GCSAA show.

**Alan C. Bathum**, Cascade Hill CC, Rockford, Mich, had to do something about water-logged bunkers.

1. He met with other supers to get their thoughts.
2. He got estimates on architecture and construction.
3. He met with club members and board to get approval. Photos of ideal bunker conditions helped him explain the problem.
4. A survey was done to determine priorities for club improvement. The job was soon finished.

"Make presentations to small groups and hire an architect early in the process for credibility," says Bathum. "Use professionals you can work with."

**Stuart W. Eyman**, Otis Golf Club, South Dennis, Mass., also gave a presentation on bunker renovations.

"Keep in mind, renovations don't last long," Eyman says.

Eyman says the Otis bunkers contained many stones which wound up on the greens. To solve the problem, he:

1. Made the bunkers smaller, raked back the fill area and screened subsoil.
2. Subsoil was returned to the site and rolled in.
3. Eyman obtained a mixture of sand and clay for backbuilding.

"It's a lot more manageable now," says Eyman. "All I have to do is re-edge it."

Got players who walk anywhere and everywhere? **Robert F. Murtaugh, CGCS**, calls those areas, "goat trails."

Most of the traffic damage Murtaugh sees at Perry Park Country Club, Larkspur, Colo., occur close to tees. His solutions:

1. Stone sculptures for stepping.
2. For dead grass, Murtaugh recommends peat moss.
3. Cart tracks on grass can be overcome by putting up ropes when renovating to give the area a chance to grow.

4. Landing steps should be placed at the top of stairs, so golfers will pivot on the step, not on the turf.

**Thomas Mason**, superintendent of the Birmingham Country Club, Birmingham, Mich., shared some of the things he's learned in 20 years with his club.


"Leadership with credibility and organizational skills provides the opportunity to be successful," he said. (See Mason's column on page 1G.) □



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cont. from page 8G

Venturi, recipient of the Old Tom Morris Award for 1998.

Jacobsen, during the Wednesday night opening, called for a change in course design: "with only greens, fairways and roughs. No cuffs, less

water and anything that requires hand mowing."

Quayle, himself an accomplished golfer, entertained the crowd at the Environmental General Session with golf stories and political commentary.

Quayle stretched things a bit when he called repairing divots and raking sandtraps a show of environmental awareness, but he then thanked the superintendents for doing "a great job" and

◀ In this atmosphere of buyouts and acquisitions, Turf Seed, Tee-2-Green and Pure Seed Testing are not for sale, says President Bill Rose, at the Tee-2-Green breakfast.



◀ David Mastroleo, Hillcrest Country Club, named International Seeds' "Man of the Year" for his work with turfgrass test plot presentations.

crest Country Club, Los Angeles, received the 1998 Distinguished Service Award for his contributions to the industry.

Venturi, awarded for his contributions to the game of golf, said he never played a round of golf during which he was not humbled.

"Golf is a special game, where respect has to be earned," said Venturi. □

keeping courses in top condition.

David Mastroleo, golf course superintendent at Hill-

## New product news

**AgrEvo** introduced its proprietary pyrethroid DeltaGard during the GCSAA show. Marketing Manager George Raymond calls DeltaGard a "significant technological advancement for the golf industry." According to Raymond, products containing DeltaGard can be used with exponentially lower rates of active chemical ingredient than the high-dose insecticides of the past because of Delta Gard's unique potency. Labeled for adult annual bluegrass weevil, adult bill bugs, chinch bugs, mole crickets, adult black turfgrass ataeinus and many other surface feeding insects.

**Terra** premiered its new GoldCote polymer coating technology, slow-release fertilizer.

"Goldcote takes slow-release technology one step further in providing slow release of both nitrate nitrogen and potassium nitrate unlike the majority of other controlled release fertilizers," says Karen Hartman, Southern Division Manager for Terra's Professional Products. Fertilizers with GoldCote are available in urea, monoammonium phosphate and potassium nitrate. Custom blending is available.

**Zeneca** reviewed its plan to acquire ISK's worldwide chlorothalonil business. Zeneca Business Director Keelan Pulliam also reports the company has purchased Mogen, a Dutch biological disease control company. "We are investing in biotechnology and plant breeding," says Pulliam. Zeneca has submitted its Heritage fungicide to the EPA for use in all turf applications.

"We're in the generic market now [with chlorothalonil]," says Technical Business Manager David Ross. "We've got our work cut out for us.

"Clearly, [chlorothalonil and Heritage] are competitive," says Product Manager Tony Rademaker, "but Daconil is the dollar spot control product, Heritage is not."

**Kawasaki's** Mule utility vehicle is now available in hunter green. The uv drives and handles much like a car or pickup truck, yet is lightweight,

highly-maneuverable and can weave its way through tight spaces.

**O.M Scotts** company says its new Contec controlled-release fertilizers provide more control and flexibility in nitrogen release rates than ever before. The Contec line also features consistent particle sizing which ensures more even product distribution and a more predictable growth pattern.

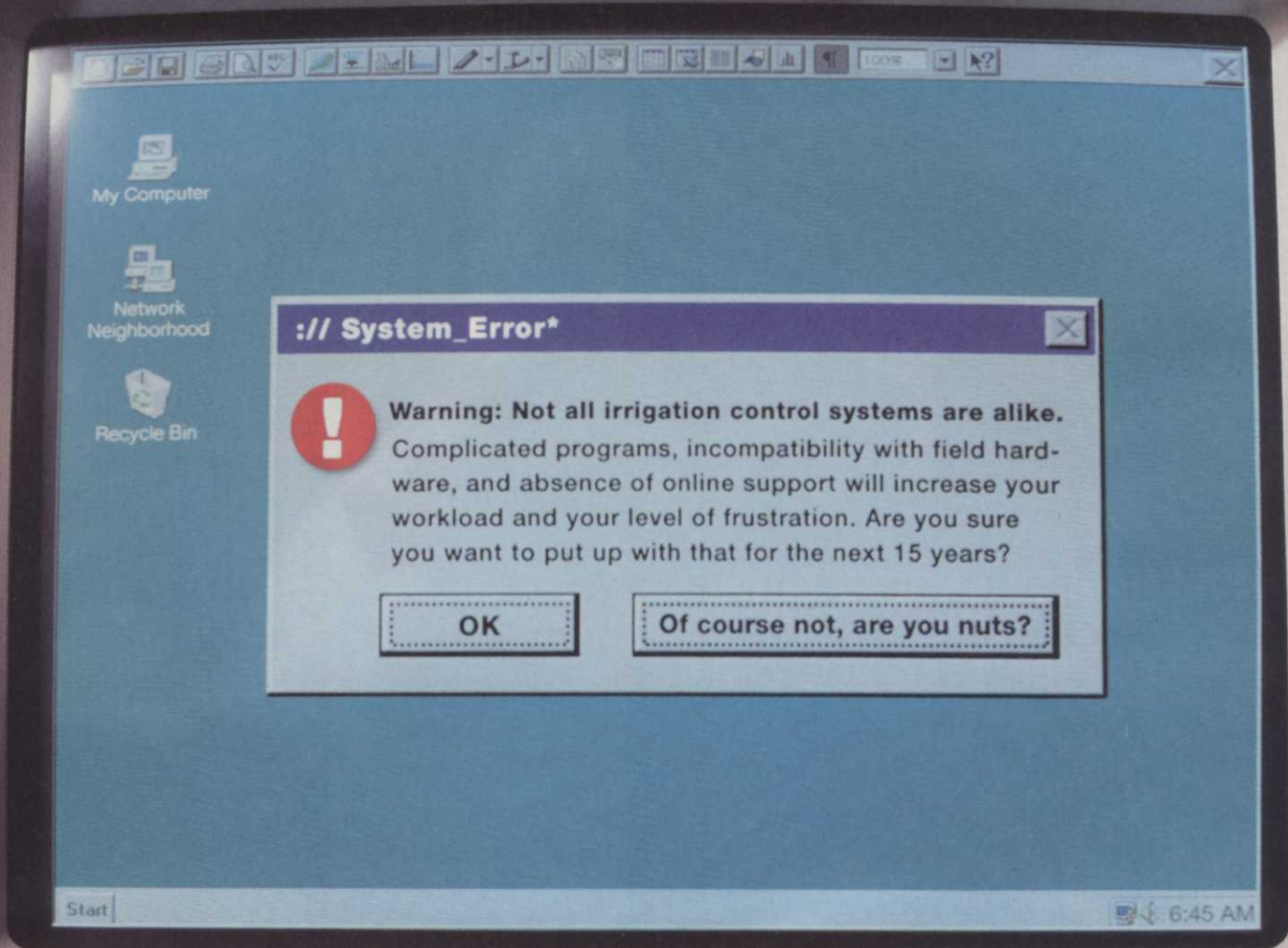
**Seeds West, Inc.** introduced its fine, certified, turf-type bermudagrass blend, Bermuda Triangle. The blend features certified Yuma, Sultan and Sydney turf-type Bermudagrasses, which, according to the company, have improved turf density, color and texture with a wide range of adaptation. It will be available from Pennington and Seeds West.

**Toro's** "new generation of triplex mowers" feature a design that places the operator in front of the engine, with cutting units that can shift from side to side up to 22-inches, to allow for additional trimming overhang or to vary the wheel tracks within the width of the cut. Toro reports it will move more into products for sports field maintenance. Toro Irrigation's Site Pro continues to use a Windows '95 platform.

**Spanish Training Services, Inc.**, Evanston, Ill., offers language training for those with Hispanic workers on staff. Jennifer Thomas says she has also developed a "Spanish for Turf Equipment Technicians" for the Turf Equipment Technicians Association. Etonic covers the cost of Thomas's speaker's fee for GCSAA chapters.

**Jacobsen Division of Textron** called it "the largest new product roll-out in Jacobsen's 77-year history." New from the company: HR-9016 Turbo wide-area rotary mower; LMF-3800/3400 lightweight fairway mowers; SandScorpion electric/gasoline/diesel powered bunker/infield rakes; Aero King greens aerators and a fairway aerator; and new Turf Sprayers.

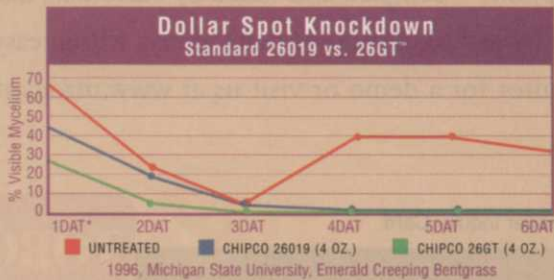
**Ransomes'** new E-Plex II electric greens mower and Greensplex II both have a new pivoted center cutting reel that swings out from under the mower for quick, easy servicing and maintenance. The reel has an automatic time delay to prevent accidental cutting into the green collar. □



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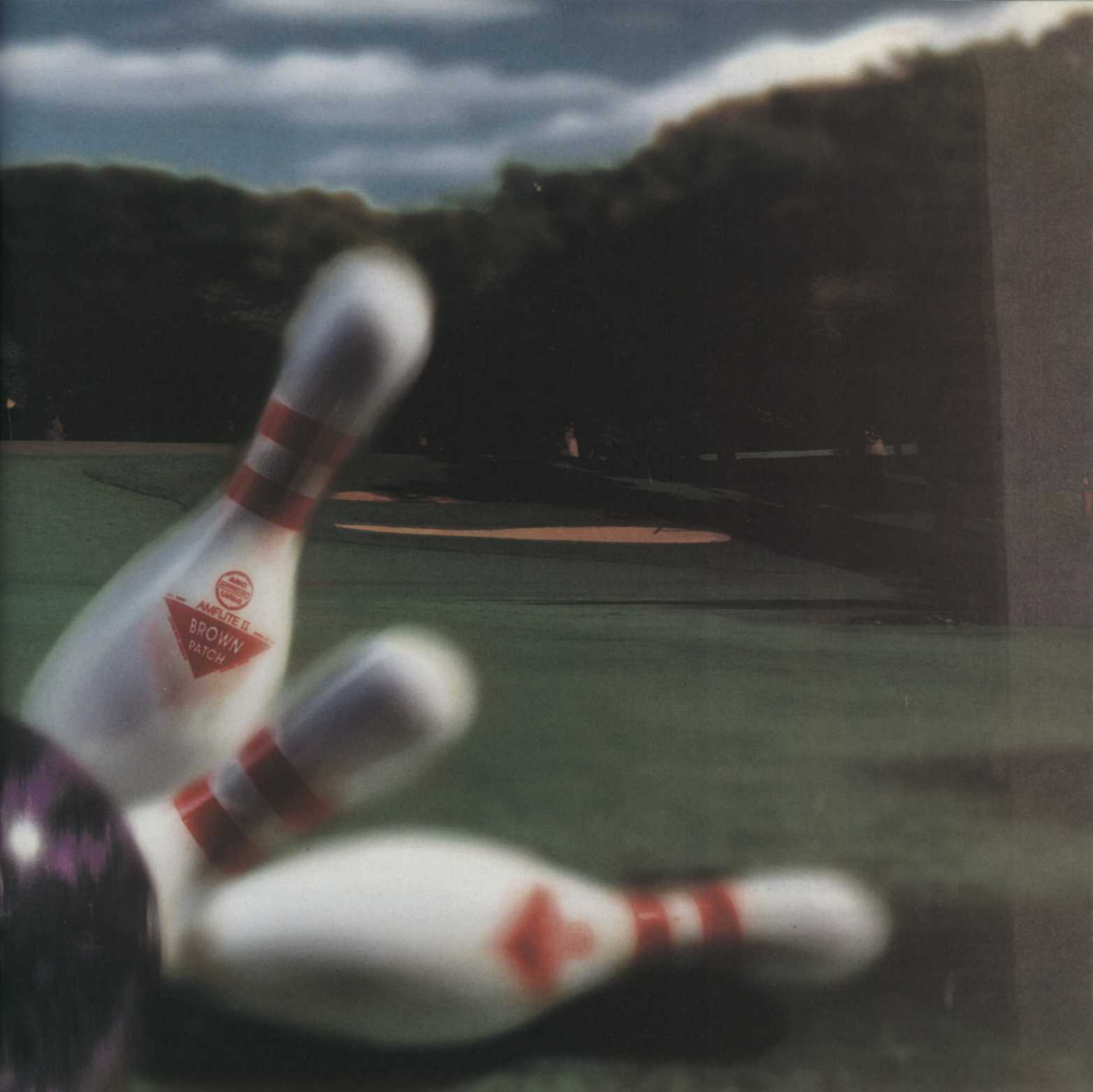
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You get them all with new CHIPCO® 26GT™.

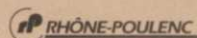


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# Critter control options

*There's a wide variety of remedies for nuisance pests.*

**L**andscape Management reader advisor Jerry Coldiron of Boone Links/Lassing Pointe golf courses, Florence, Ky., says he's had problems with many species of critters that plague the turf, thanks to the courses' rural location.

"We have a definite geese problem, and we've tried all kinds of things as remedies," says Coldiron, "like stringing piano wire or fishing line along the lakes, and letting the grass around the edges grow up higher, which goes with our back-to-nature approach anyway. The geese don't feel safe in long grass areas, so they tend to stay away."

Jerry's also had to deal with skunks and raccoons. He says raccoons are easy to trap, and are set free away from the course.

"We've also used 'Hav-a-hart' traps, which resemble the animal carriers used by airlines. The critter is lured in with food."

For deer control, Coldiron says he's used ropes, aluminum pie pans, human hair and soap as repellents.

For more information on pest control, see the accompanying sidebar. □

## Controlling nuisance wildlife

Armadillos, opossums, raccoons, skunks, foxes, wild pigs and various birds may damage turf by digging in search of webworms, cutworms, white grubs, earthworms or other juicy prey. Often you can put a stop to this by eliminating the food supply—controlling the insect infestation.

Other pests, such as moles, and pocket gophers damage turfgrasses by burrowing and pushing up ridges and unsightly mounds of soil. Getting rid of these pests requires patience, persistence and knowledge of their habits.

Note that in most areas, urban wildlife is protected under state and local laws. Professional turf managers should always check with the local conservation officer or state wildlife agency before controlling nuisance wildlife, especially if lethal methods are to be used.

**Birds:** Except for starlings and a few other pest species, birds are considered beneficial and are protected by federal and state laws. The only appropriate or effective tactic for reducing bird damage to turf is to eliminate the pests that are attracting them.

**Canada geese:** Steep-sided ponds are less attractive than those with shallow shorelines or open beaches. Geese can be excluded by erecting a three-foot woven wire fence around the pond at water's edge. Or, a two- or three-strand fence made from 20 lb. test or heavier monofilament fishing line. Hang narrow strips of aluminum foil every 3 to 6 feet to make the barrier more visible.

RejeX-IT AG-36 is registered for use on turfgrass and is effective for repelling geese and other waterfowl.

**Chipmunks:** Hardware cloth is effective. Use 1/4-inch material, and bury it 6 to 8 inches deep to keep chipmunks from burrowing under sidewalks, in gardens and other sensitive sites. Wire mesh live-traps can be purchased or sometimes rented from animal shelters. Good baits include a mixture of peanut butter and oatmeal, nutmeats, pumpkin or sunflower seeds, raisins or prune slices or grain-type breakfast cereals. Place the trap close to the burrow entrance or along pathways where chipmunks are active.

**Moles:** Trapping is the most effective method for controlling moles. Trapping is usually most effective in the spring or fall, when moles are active near the surface. You must first locate the active, main surface runways.

**Raccoons:** Controlling white grubs reduces the food supply and usually discourages raccoons from digging. Unlike moles, raccoons like a varied diet and can easily forage elsewhere.

Live trapping is the most effective, non-lethal method of getting rid of raccoons. Use Tomahawk, Hav-a-hart or similar type traps of the appropriate size. Effective baits include chunks of corn-on-the-cob in the milk stage; sardines and other fish; and fish-flavored canned cat food. Melon, prunes, fried bacon, or peanut butter, syrup or honey on bread may also work.

Raccoons are often quite wary about entering a trap. They can often be made less cautious by providing a natural footing on the trap floor. Do this by pushing the wire cage back and forth on the ground until the bottom mesh is covered by soil. Twist-tie the door(s) open for several days so that the raccoon can get used to the "metal object that gives free food." □

Source: *Destructive Turfgrass Insects: Biology, Diagnosis and Control*, by Daniel A. Potter, 1998, Sleeping Bear Press, Inc. For more information, contact Ann Arbor Press, 121 S. Main St., Chelsea, MI 48118; 734-475-8787.

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# Smoothing out THE ROUGHS

*Step-by-step account of how one Chicago-area golf course keeps rough areas attractive with healthy turfgrass.*

By BRAD ANDERSON, CGCS

**G**rowing good roughs starts with drainage at Midlane Country Club. Cart traffic over wet soil causes thin and patchy cover in our roughs.

The best method of draining rough is to alter the surface grade with a well placed swale, but in nearly every case the topography doesn't permit it. Our only alternative then is the installation of an underdrain system. Here's how it works:

Survey to identify the low spots. Flag low spots to designate the installation of surface risers.

Place off various trenching routes to find the one which connects the low spots in the least linear feet. Paint the route on the turf.

Wire track the trenching route. Paint hash marks where irrigation lines or wires will be crossed.

Find the closest point of discharge and survey for a minimum of 1 percent grade. In the event of having nothing close to dis-

charge into, I find the nearest swale to daylight the water back to the surface. Daylighting water hasn't been a problem as long as it's channeled into a swale which is outside of the natural flow of golf cart traffic.

Install tile and gravel to trench. Add vertical risers to the low spots. A well placed riser will evacuate the water before it has a chance to puddle, and saturate soils.

Seed bare areas in the following sequence:

- ▶ core aerify two to four times with  $\frac{3}{4}$ -inch tine,
- ▶ level off depressions with C.E.C.-

rich, pulverized topsoil,

- ▶ hand-rake level,
- ▶ apply starter fertilizer,
- ▶ drop seed at a rate which lays down at least 10 seeds per square inch,
- ▶ hand roll with 50-gallon roller,
- ▶ cover with straw or fabric,
- ▶ rope off and irrigate for establishment.

For a seed mix I like to use (by seed count) 70 percent bluegrass and 30 percent fine fescue. The bluegrass is very slow to germinate, but the fescue is up in six to eight days, stabilizing the soil. During the



Members at Midlane Country Club get a colorful and attractive first impression as they approach the club house in anticipation of an enjoyable couple of hours of golf.

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first year the bluegrass makes up as little as 25 percent of the stand, but with each successive application of nitrogen the bluegrass pushes the fescue out. This gives me complete control over what percentage of bluegrass I desire in my rough.

In our part of the country (northern Illinois), ryegrass is susceptible to crown dehydration in winter, and pythium blight in summer. Because of this it shouldn't be used in areas where drainage is a problem.

Having evacuated the water, and re-grassed the areas which are bare from poorly drained surfaces, my next step is the reconditioning of the underlying soils. For the last four years I have been working at this process with a tractor-drawn core aerifier. We have aerified all of our rough with one-inch tines at least twice. We usually wait to aerify rough until the second week of October because it's such a messy process. We continue to aerate right up until the ground freezes.

The next thing we address is fertilization. The fertilization of rough is a two edged sword. If rough is under-fertilized, it will not stand up to traffic and weed invasion; if it is over-fertilized, it can become expensive to keep up with the mowing.

It has been my experience that the manhours associated with mowing areas treated with higher-grade, slow-release nitrogen sources are proportionately less than that required to keep up with the mowing of areas treated with cheaper more soluble sources.

Rough fertilization should be done with quality materials, applied by someone with a good eye for determining where the product needs to be put down. Applications should be limited only to those areas which are weak from cart traffic and nutrient deficient soils. Wall to wall applications usually end up over stimulating healthy areas to the degree that overtime mowing is wastefully incurred. Another downside of wall-to-wall fertilization is the amount



**Brad Anderson's rough improvement program focuses on reconditioning poorly drained and compacted soils.**

of time and product required to combat algae and pond weeds associated with nitrogen and phosphorus runoff.

I have had the best results with an early May, 275-lb.-per-acre application of a 16-16-24 analysis, comprised of methylene urea, diamonium phosphate, and sulfate of potash. The high rate of diamonium phosphate builds density, and gives the turf a jump start in spring. The methylene urea gives me an even rate of release right into mid summer. In fall I might make another application of a 1-0-1 analysis if I feel it's needed.

It's of merit to note that the areas of our roughs which are irrigated rarely ever require fertilization. In addition, these same areas require very little herbicide application for weed invasion. This should be a consideration for anyone who is in the planning stages of a new irrigation system. How much time and material is spent on fertilizing and spraying non-irrigated rough? Will the installation of sprinklers in

those areas effect a significant payback savings in product application over a reasonable period of time?

Occasionally an area of rough is heavily shaded. It's almost impossible to grow hardy rough turf in the kind of shade that we have on some of our golf courses. If the trees can't be thinned to allow more sunlight to reach the turf, then we must either rope off the shaded area, mulch everything under the dripline of the trees, or install a cart path to direct traffic through the shade.

Bentgrass is a wonderful fairway turf, but as a rough grass it's probably the worst. The challenge of keeping bentgrass out of our roughs is especially difficult by virtue of the fact that it's stoloniferous and inclined to spread outwards from the fairway edges.

In the future we will be able to apply a chemical to remove bentgrass from rough, but experimentation of the formulations is still in research and development. For now, the only effective way of removing bentgrass from our roughs is to physically remove it with a sod cutter.

In summary, my rough improvement program is predicated on the reconditioning of poorly drained and compacted soils. Starting first with a drainage system that will evacuate water as quickly as possible, thus reducing the compacting effect of traffic over saturated soils, followed by an aeration program for opening up the soil, and finally a fertility and herbicide program that's customized to give various zones what they need, no more and no less.

If these programs are not equal to the wear and tear of golf carts, then the only remaining alternative is asphalt paths. Now we're dealing with human nature which presents a new set of problems. **LM**

—The author is a certified golf course superintendent at Midlane Country Club near Chicago.

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landscape business  
resource in the  
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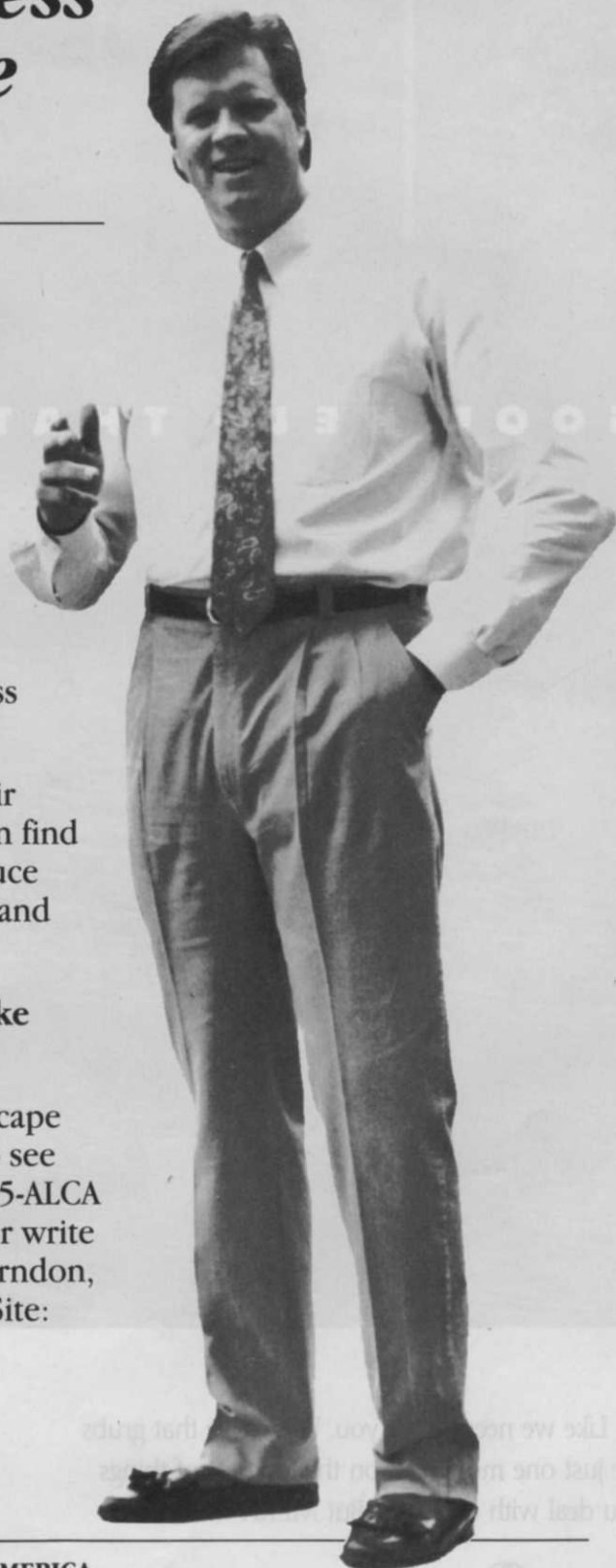
“When I started my business in 1983, I needed expert advice,” says Joe Skelton, president of Lifescapes, Inc., Canton, Georgia. “That’s when I joined ALCA.

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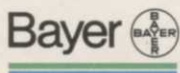




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## Architects honor Judy Bell

The American Society of Golf Course Architects chose Judy Bell, immediate past president of the U.S. Golf Association, to receive its 1998 Donald Ross Award. Bell will receive the award at a banquet on Monday, April 27, at the Riviera Country Club in Los Angeles during the 1998 ASGCA annual meeting.

"Judy Bell has devoted many years to the selection and preparation of tournament sites," says Alice Dye, president of the Society. "Her work in the USGA's selection process that presents great golf courses for tournaments has helped millions of people, especially those watching on television, appreciate the artistry of golf course architects. Her appreciation of good strategic design is rooted in the game of golf that she plays so well and loves so much."

Bell, of Colorado Springs, CO, was the first woman named to the USGA Executive Committee in 1987. She served as USGA treasurer in 1991, secretary in 1992-1993 and vice president in 1994-1995 before being elected president in 1996.

Bell and Dinah Shore are the only two female recipients of the award, named after Donald Ross, the legendary golf course architect and one of the founding members of the ASGCA.

## *Golf course design info is on the web*

Developers, municipalities, and interested golfers seeking more information on golf course development can consult [www.golfdesign.org](http://www.golfdesign.org), which now boasts more than 20,000 hits per month. In addition to the Architect's Corner, the ASGCA web site contains information on all members of the Society, tips for remodeling a course or building a new one, media information, and other helpful material.

## Le Sage gets big honor from AEC

The Alliance for Environmental Concerns (New Jersey) presented Armand H. Le Sage with its 2nd Annual "Illona Gray Environmental Award" at its annual meeting last fall at Fiddler's Elbow Country Club, Bedminster, NJ. Le Sage is golf course superintendent of White Beeches Golf & Country Club.

The AEC is an organization comprised of individuals from the pesticide regulated community in New Jersey. It represents professional pesticide users at the state regulatory and legislative meetings; it educates members concerning certification, training and licensing through newsletters, seminars and conferences; it communicates facts about responsible pesticide use to the public; and it joins forces with allied associations to coordinate appropriate responses to key issues.

Le Sage has served twice as president of the AEC and has been on their Pesticide Regulation Task Force. He is an active member of GCSAA and is participating in its Ambassador Public Speaking Program. He is also a member of GCSNJ and is a guest lecturer in the Turf Management Program at Rutgers University. A decorated Vietnam veteran, he and his wife Mary-Justine Lanyon, have two children.

John Buechner of Lawn Doctor made the presentation to Le Sage who is retiring as a board member after 11 years of service.

## Combined turf evaluation effort

The USGA, the GCSAA and the National Turfgrass Evaluation Program (NTEP) combined resources to manage a national research project to evaluate grass varieties (cultivars) on actual golf course settings.

Practice putting greens built to USGA specifications at 16 different golf courses across the nation featured bermudagrass and/or bentgrass varieties. The northern locations tested bentgrass cultivars and the far-south venues are looking at bermudagrass varieties. Both are being evaluated in the transition zone.

The USGA/GCSAA/NTEP project has been using the combined efforts of superintendents, university researchers and USGA Green Section staff for monitoring and evaluation.

Here is a list of the on-site GCSAA/USGA/NTEP research trials last year: CC of Green Valley, Green Valley, AZ; Westwood CC, Vienna, VA; Westchester CC, Rye, NY; The Missouri Bluffs, St. Charles, MO; The Jupiter Island Club, Hobe Sound, FL; The CC of Birmingham, Birmingham, AL; SCGA Members Club, Murrieta, CA; Purdue University North, West Lafayette, IN.

North Shore CC, Glenview, IL; Lakeside CC, Houston, TX; Fox Hollow at Lakewood, Lakewood, CO; Crystal Springs GC, Burlingame, CA; CC of Mobile, Mobile, AL; Boone Links/Lassing Pointe GC, Florence, KY; Bent Tree CC, Dallas, TX; GC at Newcastle, Bellevue, WA.

**L**ike locomotives steaming towards each other on the same track, the Green Industry is on a collision course with consolidation. It'll change the industry, first one segment then another like nothing before it.

This is no secret to anybody familiar with the industry. But the speed that it's happening; that's surprising; and it's likely to accelerate.

An obvious example is giant TruGreen/Chem-Lawn/Barefoot Grass absorbing more established lawn care companies and increasing its share of the application market each season. TG/CL has no competition, not beyond local or, in some cases, isolated regional markets. TG/CL has been on a tear throughout the 1990s, and it shows no signs of slowing down.

The consolidation of chemical lawn care businesses is not necessarily a model for the consolidation for any other segment of the Green Industry. Each segment will be represented by a national presence, or perhaps several. But these mega-presences will develop in their own unique ways.

The process is already well under way:

- ▶ in the golf market with the continued growth of large golf course management companies,
- ▶ in institutional grounds care with organizations like Marriott and ServiceMaster,
- ▶ and now in the fragmented, and still relatively young, landscape services market.

One of the most eagerly awaited events at the recent ALCA Executive Forum was an afternoon reception sponsored by a new landscape services company known as LandCare USA (see article on page 26L).

About 100 people attended the reception, most of them independent landscape company owners. They learned at the reception that six of

[LANDSCAPE/GROUNDS]

PAGE 4L ▶

Profiles in irrigation contracting

PAGE 15L ▶

Computer imaging, picture perfect

PAGE 20L ▶

Build your workers to keep them

PAGE 26L ▶

National landscape firm is born

## Consolidation is in green industry's future



*Ron Hall*

**RON HALL**  
Managing Editor

their colleagues had joined forces to launch a national landscape operation.

While the purpose of the reception was strictly informational, it's message seemed to be: *we're just getting started and we're looking for like-minded companies, maybe like yours, to become a part of us.* Some of the company owners at the reception will join.

Others, those who want to remain independent, surely left wondering what consolidation means to them and their companies. **LM**

### [PEOPLE & PROJECTS]

#### Ruppert promotes two

Ruppert Landscape Co., Ashton, MD, promoted Chris Davitt to senior vice president/director of operations. He's been with Ruppert 17 years. Bill Meissner, with the company five years, succeeds Davitt as director of landscape installation. Ruppert has 800 employees in 13 branch offices on the East Coast.

#### Miraval project on time

The Groundskeeper hustled to finish the Miraval resort community project in the Catalina Mountains. The Tucson-based company, working with the landscape architect and general contractor, planted nearly 13,000 trees, shrubs and groundcovers and laid 11 1/2 miles of irrigation line to finish the installation at the same time other trades were completed. The project earned an award from The Arizona Landscape Contractors Association.



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# PROFILES IN irrigation contracting

*These contractors know how to make money by installing irrigation systems. Their companies are bonded, their employees are trained, and they know how to bid.*

By BRUCE SHANK, BioCom  
Part II of a Series

**T**hree contractors from across the country are presented here to give you a feeling for the regional differences in irrigation. All evolved into irrigation from another occupation because the need was there. All three contractors successfully responded to their markets in their own ways. There is no single formula for success.

However, there are basic tenants that apply to success. They include:

- ▶ a close relationship with irrigation distributors, irrigation consultants, landscape architects, and water agencies,
- ▶ employment of trained and certified irrigation specialists,
- ▶ knowledge of bidding and bonding practices,
- ▶ strong business discipline and record-keeping,
- ▶ involvement in local landscape, golf, municipal and water conservation organizations,
- ▶ attendance at major regional and national trade expositions, and
- ▶ a fascination and sincere interest in

nature, plants and man's designs for them.

#### **Maldonado Nursery & Landscaping, Inc.**

The story of Maldonado Nursery & Landscaping is one of a fast-growing metropolitan area, a family business following a common evolutionary trail in the landscape industry, and water shortages.

Founded in San Antonio, TX, during the 1980s, Maldonado grew rapidly with the surge in the city's business. Like Miami and Los Angeles, San Antonio has grown as both U.S. and Mexican businesses have increased trade. Ironically, San Antonio's growth has been matched by a growing water shortage in the region.

The 10-year-old company was launched by **Roy Maldonado, Sr.** as a landscape construction company for residential and small commercial projects. It didn't take long for the company to generate enough work for his three sons, Roy Jr., Jerry and Oscar, to join him.

As the business grew, the family realized they were losing jobs to landscape companies with irrigation divisions. Roy gave Jerry the responsibility for figuring out how to solve the problem. "We were getting beat

out on bids by companies with a complete landscape construction package and ran into scheduling conflicts with our irrigation subcontractors," explains Jerry. "Although we ran into irrigation on most jobs and had a fair understanding of it, we didn't work closely with irrigation distributors."

After six years, Jerry and Oscar started to develop the irrigation division by getting licensed. "Texas has an irrigation license law, so we got licensed," Jerry recalls. "At first, we shared the landscape trucks. It didn't take us long to figure out that fully stocked trucks were the only way to go, so we added racks and bins to a few trucks. When we did that, we felt more like our own division."

Maldonado keeps accounts with all local irrigation suppliers. One supplier, Alex Garza with GPM Supply, was especially helpful, says Jerry gratefully (Garza now has his own irrigation consulting business). "Alex helped us with design and introduced us to AutoCAD irrigation programs. He encouraged us to get involved with the Irrigation Association, the Texas Turf Irrigation Association, and local groups.

"We got to know irrigation designers and landscape architects and learned what they want in an irrigation contractor," he adds. "Through them, we got on more bid lists and met many more general contractors. We discovered that general contractors select who they feel comfortable with more than who has the lowest price. Because we had an existing landscape division, we could do more for general contractors and had a track record to get bonding. The more irrigation work we did, the bigger the jobs got. We subscribe to the Dodge Reports to stay on top of construction projects being planned here. We also participate in the annual builders show by installing an irrigated landscape on a model home. More than 30,000 people attend that show, including builders and developers."

Two years ago, Maldonado became a certified backflow prevention tester, which brought him into close contact with the

city water department. That relationship became especially important when the local Edwards Aquifer started dropping to seriously low levels and water restrictions were developed. "Irrigation is part of the solution to water shortages, not the problem," Jerry stresses. "When restrictions are implemented, landscapes without irrigation systems are at risk most. If you have a system, you are allowed to set your controller to irrigate at specific times. If you don't, you have to stay home from work to water when the city says you can."

San Antonio issues fines for those irrigating at the wrong time. Irrigation systems are regulated by the Texas Natural Resources Commission for sprinkler spacing and flow. The public is given a phone number to report those who don't follow the rules. "People don't want to risk their

larger, multi-function company helps Maldonado. "We always promote from within," boasts Jerry. "Everybody starts as an assistant and works their way up. By the time they become foremen, the company's values and procedures are instilled in them. Those who show an interest in irrigation are properly trained and developed to be future foremen. They grow and we grow, just as we grow as San Antonio grows. By doing our part to make sure that San Antonio's water isn't wasted, we guard the future of our company. This is a family company and we want to hand it over to future generations of our family. Nobody cares more about conserving water than we do!"

#### **Landtrends, Inc.**

Water is also a major concern in San Diego, CA, home of Landtrends, Inc. Virtually every landscape project the company



**Glenn Moore says his best golf course irrigation system work is the product of solid referrals from satisfied customers.**

landscapes burning out or getting a fine for having an improperly designed and installed irrigation system," Jerry remarks. "We protect them from both threats."

Maldonado's operations have continued to grow in spite of drought. They added a nursery three years ago and started a maintenance division last year. "The advertising we do for those divisions has increased people's recognition of our company," says Jerry. "They see our trucks all over San Antonio and know who we are from our radio, newspaper and Yellow Pages ads."

The fact that irrigation is a division of a

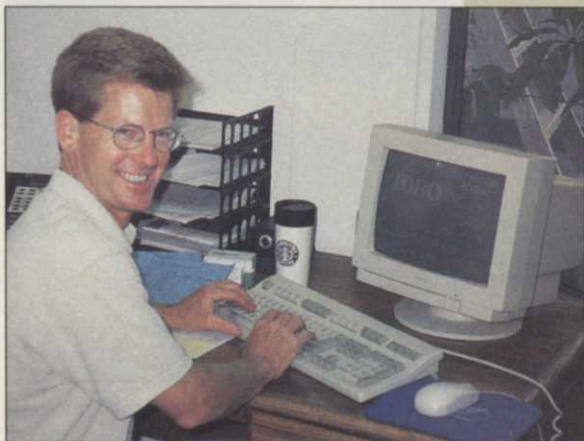
installs involves irrigation. Most building permits require an irrigation plan. So, when **Jon Ewing** started Landtrends in 1981, he knew immediately that irrigation had to be included in his service mix. Today, he has 300 employees in two states and his company is a leader in implementing new irrigation technology.

"In many instances, irrigation is a third of the contract," reveals Ewing. "It's the nature of the landscape business in Southern California. We have at least two trained irrigation specialists on every construction crew and at least one on each maintenance

crew. Those individuals are strongly encouraged to become Certified Landscape Technicians in irrigation."

The California Landscape Contractor's Association (CLCA) created and the CLT Program, which is used in other states today. As president of CLCA three years ago, Ewing encouraged other states to adopt the CLCA program.

"We find that a landscape architect or irrigation consultant is involved in many of the projects we do," observes Ewing. "Our job is to install irrigation to their high standards and to stay on the leading edge of irrigation technology. We work closely with builders, developers and condominium associations to give them the information they need to manage water costs. Water and landscaping represent the highest cost for associations or owners after a project is built. Many now use treated effluent water



**Eric Shepard of Landtrends can check up on irrigation systems from miles away, thanks to computer technology.**

for irrigation to cut costs. It takes the best knowledge and technology to manage these resources properly."

Landtrends is now able to communicate with a property's irrigation controller from its office 24 hours a day. Eric Shepard, Landtrends project manager for Aviara in Carlsbad, CA, tracks daily water use and performance for the exclusive development's 400 acres of commons. "Every morning I get to the office and check on the 38 satellites at Aviara, 20 miles away,"

## How to price irrigation services

If you have been subcontracting out irrigation work, you have general idea of pricing. You already know that the subcontractor has to make a profit in the work he does. The key, according to Jim Huston, president of the management consulting firm Smith Huston, Inc., located in Englewood, CO, is to price labor and materials separately. Both should include overhead and profit. The resulting totals should be listed separately on the invoice. Both will have their own profit included.

Mark up materials a minimum of 20 percent (ten percent for overhead and ten percent for profit), Huston recommends. Check the retail or manufacturer's list price in your area. If your 20 percent figure is below the retail price, you might be able to increase your margin. If a distributor or retail merchandiser gives wholesale prices to anyone, you have a problem. Consider changing distributors or brands to differentiate your materials from retail choices.

Various industry research reports provide general observations regarding material pricing. Sprinkler heads, valves and controllers represent two-thirds of the cost of materials. Expenditures for each of these three items are approximately equal. This should alert you to plans which understate controller prices, for example. Wire, pipe and fittings constitute the other third of material cost. You might want to use different mark ups for different types of material.

Cost of labor is a misnomer. It really includes a number of different things and is based upon time — for the crew, for vehicle(s), for travel to and from the job site and picking up materials, for specialized equipment, and for fuel or power used. Miscalculate the time a job takes to complete and you either lose profit or price the job too high. Labor cost per hour can vary according to the type of work and equipment used.

On top of straight time costs, you need to add labor burden, a term that includes everything else needed to enable that crew to be out working. Some items are general and administrative costs, rent, taxes, insurance (i.e. liability, worker's compensation and health), advertising, legal fees and dues. Finally, add in a percentage for profit. Total these costs for a month and divide by the number of billable hours in the period. Now that everything is broken down by the hour, pricing is easier and more accurate.

Landscape contractors have a pretty good idea of their costs. What they aren't sure of is time. Once you get a crew trained for irrigation, concentrate on timing. Be reasonable and set goals for crews that are reachable.

Focus on consistency and anticipating unusual problems in advance. Once you get timing down, you can predict billing fairly accurately. One good serviceman can generate a \$100,000 in billing, says Huston.

While this is textbook business management, Huston urges contractors should also learn about the prevailing pricing in their market. "Once you understand the pricing structure in your area, you can use the market to your advantage," he adds. "Take a serious look at service contracts for your customers. They are often more profitable than installation and are easier to schedule."

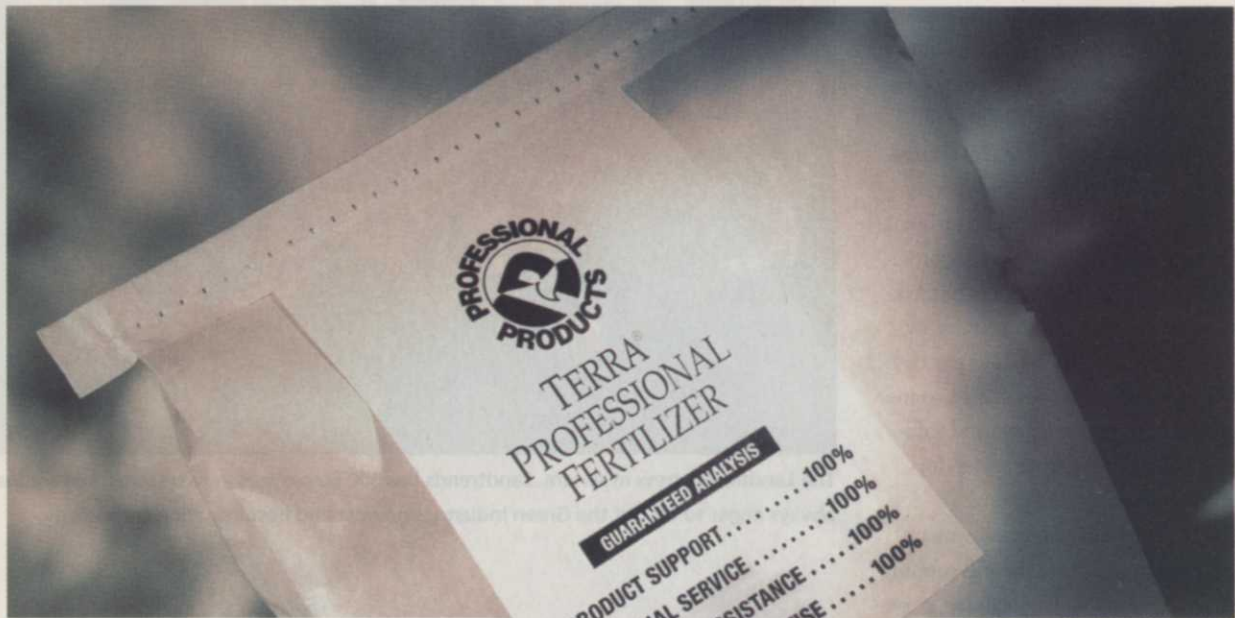
reports Shepard. "I can see immediately from checking flow whether a headed was blocked or a sensor caused a satellite to skip a station. The computer also tracks amperage, so we know if a solenoid went

bad or a valve is stuck. That station is checked by the crew as soon as it arrives on site." The Aviara crew consists of 18 full-time landscape and irrigation workers.

Landtrends has a similar setup for the



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Tracking water use and making improvements can save associations tens of thousands of dollars each year. "We saved one client \$30,000 per year on his water bill," Shepard points out. "With remote access to irrigation information, we could conceivably manage an entire city's irrigation system. That type of control is very important when you begin to use effluent water. It's not that the water is dangerous, it's actually very safe. Instead, it's because the treatment plants need to know how much effluent water will be used per day."

"We feel obligated to our clients to invest in the computer hardware and software required to take the next step forward in irrigation control," promises Ewing. "We are getting business now because people know we are up and running with advanced control. The learning curve has also been shortened with help from Toro for being one of the first to use its technology."

#### **Glenmore Landscape**

Both Jerry Maldonado and Jon Ewing want to install the "Big System"—a golf course. Until you have completed four golf course irrigation projects, it's hard to get on "the list." Not only is **Glenn Moore** on the list, his Glenmore Landscape Service, is many times the preferred contractor on the list.

"I grew up in the back of my dad's Cushman truckster," he quips. His dad, **Sherwood Moore**, is one of the top-ranked golf course superintendents of all time. His tenure at Winged Foot, Woodway Country Club, and the Captain's Club have made him the Henry David Thoreau of golf course management. New England is a very close network of gifted, hard-working traditionalists. "I was a lucky guy to be the son of such a well-respected person," says Glenn.

Like any son of a famous person, Glenn had a lot to prove to establish his own credibility. But he stuck close to home to do it. His first project was to automate the



**The Landtrends crew at Aviara. Landtrends has 300 employees in two states. The company is always eager to try out the Green Industry's newest and best irrigation technology.**

irrigation system at Woodway when he was still a teenager. The club had a quick coupler and hose system, he recalls. The mains were cast iron pipe. The club decided to contract out the first few holes with the club's staff doing all the cleanup and much of the wiring. They were not happy with the results and decided that they could do a better installation job in house. The club bought a used trencher and as soon as play dropped off in the fall, they started cutting in trenches. They completed the rest of the system in-house. Glenn was only a teenager and the superintendent's son, so people were surprised when the retrofit worked like a charm. He was 'hooked' on the work, he says.

Moore started attending seminars given by distributors. One of them was presented by Koonz Sprinkler Supply. Another was taught by an irrigation contractor from Hungary named Louis Toth. Both men would later become presidents of the Irrigation Association.

When he wasn't working on the golf course, Glenn drove an old dump truck loaded with mowers to make extra money.

He started to sell and install irrigation on his wealthier customers' yards. Soon, people were asking him to do ballfields. His customers who were members of golf clubs in the area starting spreading the word. He started getting calls from superintendents.

"If you do good work, you will succeed," he warns. Glenn has done jobs costing more than \$700,000 but it takes years of proving yourself on smaller jobs to get an opportunity like that.

"I was lucky to cut my teeth with some great golf course superintendents, architects and irrigation consultants, Glenn says. Although his company is listed in the Yellow Pages, all his work comes from referrals.

Networking is clearly one of Moore's strengths. He has served on the board of directors of the Irrigation Association and currently serves on its Certification Board. He has also served on the boards of and help every office in several state landscape and irrigation associations. He and fellow contractor, Jesse Anderson, formed the Connecticut Irrigation Contractors Association. □

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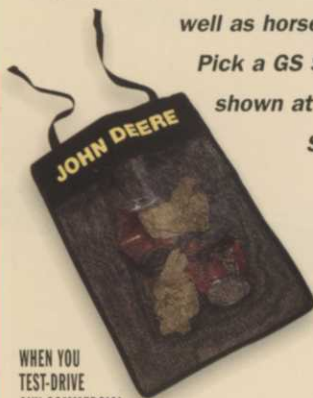
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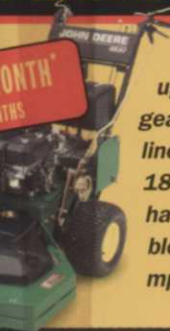
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# Computer imaging lets you be picture perfect!

*Landscape imaging gives residential customers a chance to "see" their landscapes before they're installed.*

By RON HALL/ Managing Editor

**C**omputer imaging for landscape designers is changing the way contractors attract residential customers. The proponents of landscape imaging claim that it

- ▶ speeds the design process,
- ▶ allows rapid design changes,
- ▶ gives clients more opportunity to participate in the design process,
- ▶ increases the contractor's chances of selling the job.

"It doesn't come down to, purely, how do we create better designs," says Jim Karo, president of Visual Impact Corp., Hopatcong, NJ. "It really comes down to better communications. How to better deliver a concept to your customers, have them understand it, agree with you and move forward. And in less time."

Traditionally, landscape designers have relied on pen and pencil drawings to help customers and potential customers visual-

ize the landscapes that the contractor is proposing. Some contractors now produce these site plans with their computers. The overhead site plan is a view from above the property. It shows representations of structures such as homes and outbuildings, features such as creeks or hills, and any proposed landscape improvements such as patios, decks, pools, trees and ornamentals. These are all drawn to scale, sometimes lovingly so.

These drawings serve several purposes, including the location and size of landscape features and plants. They can serve as a working plan for installers. The designer also counts on the site plan to help sell the project to the client.

But, as Karo points out—"Your friends don't come to your house in helicopters. It doesn't matter what your landscape look like from up there. It matters what it looks like from the curb."

He says that customers are more likely to respond favorably to a more realistic view of their proposed landscape. This is where computer imaging is strongest. Here, basically, is how it works. Like everything else, familiarity with the program speeds the process.

The "designer" takes a photograph of a client's, and scans the photograph onto a computer. Obviously, the better the quality of the photograph, the better the computer image. For most purposes, a small, automatic-exposure, self-focusing, 35 mm camera will do just fine. Or, the designer can use a digital camera and immediately download the image. If he or she has a laptop they can do this in the cab of their truck, or in a client's living room. For now anyway, the image from a digital camera is



The 'before and after' capability of selling with imaging programs makes them just the thing for the faster-paced lives that many people seem to live.

not as sharp as a photograph, but the price of digital cameras keeps falling and the quality gap is narrowing too.

Once they've scanned the photo of the house into the computer, they go to the imaging software's library and retrieve whatever features (pavers, retaining walls, etc.) or plant material. They "layer" and size these landscape features onto the image of the house and surrounding property. These libraries offer several thousand plant choices, just about anything that's commercially available.

"What you want to create is an image that looks so realistic that you can't tell that it's an image," says Karo. "You want to wow the customer. The customer has to see your idea. The customer has to understand it."

That's why most customers prefer to see a photo realistic image of what their landscape is going to become rather than an overhead site plan. Even so, he acknowledges, the site plan is valuable too, particularly for job costing and also to give



The question to pose to potential customers when showing them this comparison might be, "Would you rather live in the 'before' house or the 'after' house?"

the installation crew a plan to work from.

"It also makes a lot of sense to do it on a computer because you can make your

moves and changes a lot quicker," he says. More and more landscape companies are offering the computer-generated image, then putting together more detailed plans if the job looks like a "go".

Landscape imaging has caught the eye of other industries, says Karo. For example, some real estate developers are using it to show prospective homeowners what their property could look like with a professional landscape. Or, even, to sell the landscape as part of the home package.

Nurseries and garden centers are beginning to use it to increase plant sales. One growing trend is to offer free design services with, say, a certain amount in plant sales to a client.

"This is a tool, just like all the other tools you have in your business. It really comes down to, how can it help my business? How can it make me more effective? How can it separate me from everybody else out there?," says Karo.

"And, how can it help me sell the job that much quicker?" □

## Getting started is getting easier

Computerization is a necessity for today's grounds manager or landscape company. Computers save labor and time when it comes to performing routine, repetitive tasks. And, increasingly, they're being used as a creative tool.

The good news for landscape companies is that the price of personal computers and software keeps dropping, and the tasks that they can perform—including landscape design—keeps increasing.

Here, in a nutshell, is what you'll need to create landscape designs with imaging, according to Jim Karo, president of Visual Impact Corp., maker of Computer Landscape Design Software:

- ▶ a personal computer with, at least, a Pentium chip and 16 meg. Most new computers have 32 meg. The software is designed to be used with Windows '95, and will be compatible with the to-be-introduced Windows '98.
- ▶ a monitor. Buy the largest one you can afford.
- ▶ a scanner. You should be able to find one that will scan at 300 dpi for under \$300.
- ▶ a color printer. Again, you can buy an acceptable one for under \$300.
- ▶ a 35 mm camera to take photographs of client's properties. The small, automatic-exposure, self-focusing models costing \$120-\$300 will work fine.
- ▶ A Zip drive to back up your designs after they've created on your computer.
- ▶ imaging software from a reputable company. And one that continues to offer new products, upgrades, and prompt technical support.

—rh

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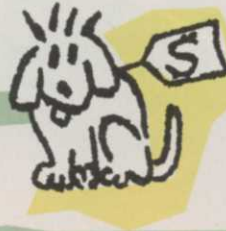
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# Build your Workers

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*Worker recruitment, training, and retention  
become more critical in 1998's  
low-unemployment economy.*

By RUTH E. THALER-CARTER



**Lebo Newman says training should be on-going.**

Once someone is on his team, Eric P. Cross seeks to "grow" them through development and rewards.

"We keep them focused," says Cross, president of Duke's Landscape Management, Inc., Hackettstown, NJ. "We make the work fun, as much as possible, by being creative, friendly and challenging." Cross also remembers the basics: "We pay well, often better than our competitors, and we offer bonuses, a 401K retirement plan and health insurance."

To encourage and retain his 40 employees, Cross has a policy of on-going rewards. We have monthly training sessions for all employees," he says. Once the work is done, we make it into a pizza party, with a birthday cake for everyone whose birthday is that month. If a crew has been sweating their guts out in the summer heat all day, I'll get them ice cream when they come back to the shop. I like to surprise people with gift certificates, ball game tickets." Cross also makes constant use of educational resources of state professional organizations, nearby Rutgers University and area junior colleges. He also occasionally brings in motivational speakers "to get people pumped up" and excited about their work.

On the practical side, Cross makes sure his company keeps its equipment and trucks in good shape. "That's a way of showing our people that we care about their safety," he explained.

One proof that these policies do result in valued employees, notes Cross, is that "other

companies often try to hire our people because they know our crews are well-trained!"

One area that Cross already is working to improve in the new year is the company's promotional structure. "We're bringing in a consultant to help us look at how people can move up in the company, among other concerns," he says. "We'd like to do a better job of that, because people who know they have a career path are more likely to stay with you.

In fact, we have a whole list of things we want to look at with the consultant's help to make things better in 1998."

All of these efforts are not only important but invaluable for any landscape company looking to succeed in the new year, especially one with a goal like Cross's of 20 to 25 percent growth this year. "Our employees make the company," says Cross. "They are our most important asset."

The static nature of the local economy is pushing Tim Aalbu, president of Aalbu Landscape Maintenance in Everett, Wash., to recruit harder. "We will be working with our state association on cooperative job fairs, to promote both our industry and our own companies," he says.

He will also be working outside the industry with organizations like the Private Industry Council.

"Unemployment is at its lowest in our area since the early 1970s, the local market has dried up, so we're going out of our area to look for new people," he says.

This may include offering a shuttle service to pick up and



photo: Fred Bird

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return workers needing to ride a ferry to work. Or, "we may create partnerships with agencies that work with the disabled and disadvantaged," Aalbu says. "We'd have to be careful about the type of job, but we believe this is an untapped niche in the workforce."

While looking for new people in new places, Aalbu also works hard to keep those already in the company. "We just had our annual company holiday party, and gave out \$20,000 in bonuses," he said. "The labor market meant that we were very short-staffed throughout the year, and everyone did extra work."

Aalbu also started a 401K retirement plan and kicked in \$10,000.

Realizing the employees who feel valued tend to stay put, Aalbu says he gives "a lot of attaboys" and is aware of every good thing an employee does that deserves a little extra recognition.

"We do a lot of little things to make people feel encouraged and appreciated."

Training is another way of rewarding, encouraging and motivating staff, but it's also vital to providing valuable service and building client loyalty.

Training is vital for Redwood Landscaping in Santa Rosa, Calif., according to Lebo Newman, president. His exterior commercial maintenance company operates across nine counties in northern California and has about 200 employees during peak seasons.

Redwood invests at the front end of the process, by "spending a lot of time making sure a new employee will fit in"

before hiring, and then providing on-going training with an eye toward developing career employees.

The company's training program reflects Newman's long-time involvement in industry certification, which originated with the California Association of Landscape Contractors (CALC) and now is a focus of the Associated Landscape Contractors of America (ALCA).

"Our training program has been linked to certification all along, but is only part of our training focus," says Newman.

"Training is such a multi-faceted effort at our company that our employees often refer to Redwood University." Redwood's training starts with a six- to eight-hour orientation for every new employee. It covers administrative details to safety to company culture, "our basic value of courtesy and service," says Newman. To ensure both confidence and safety, "not one piece equipment can be used unless you've been trained on it," he adds. Keeping track of such extensive training is done with a "master sheet" for each employee. It notes every training activity each employee has completed.

Even new managers go through "Redwood University," Newman adds. "We don't assume that anyone knows how to run anything. That's not just for safety reasons. We are teaching our company's style,

technique and culture." That includes being "the least offensive" to neighbors and customers when operating noisy equipment such as leaf blowers, a hot issue in the California. "We've gotten a lot of calls about how polite our people are and how much their courtesy is appreciated."

At Bio Green in Ashburn and Manassas, Va., the benefits of training go beyond meeting state regulations. "A training program lets us assess the value

of employees, have a mechanism for constant re-evaluation, builds consumer and customer confidence in our company, expands our market, and gives us a basis for employee raises and promotions," says David Schrader, staff agronomist and sales vice president.

Training is a tricky issue, though, in a company that has about 20 employees in the winter and 60 in spring and summer. "We walk a fine line on how much to invest in training, because we have a huge number of new people every year," adds Schrader.

Bio Green uses a state-mandated two-tier training system for pesticide application, which involves 40 hours of training and a 50-question exam to obtain registration status.

The "initial hump" for Bio Green, Schrader says, is to get people through the testing process to keep enough certified people on staff.

Achieving state registration and certification is an incentive for employees, who receive "an automatic bump in pay" once they pass the test. Bio Green has a formal tracking mechanism: a written list of Route Foreman Skill Levels that break down to four different levels of competency, with progress to each skill level verified by the vice president of production and branch manager.

One of the best training tools in the industry is the ALCA Certification program. "We offer a full two days of training to prepare for the Certified Landscape Technician (CLT) test, and we're finding that we have people taking it simply as a training resource," says Beth W. Palys, CAE, executive director of the Landscape Contractors Association (LCA) of DC-MD-VA, in Rockville, Md. Many larger companies, she says, use certification guidelines as part of their in-house training programs, above and beyond preparation to taking certification tests. That's because "certification is seen as a process that validates landscaping expertise," she said. "It's not an easy test to pass, so doing so means that a person has a technical value to both the company and the industry."

"There is a real need to differentiate between companies and find qualified people. Training and certification are one way to do so." □

—Ruth E. Thaler-Carter is a freelance writer-editor based in Baltimore, Md.



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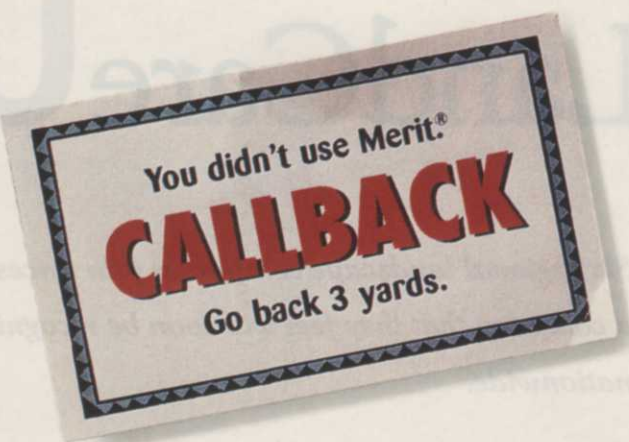
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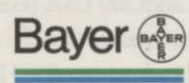
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# LandCare USA arrives

*Six regional landscape companies join forces to found a company that they feel will soon be recognized nationwide.*

**F**ive landscape companies and one tree company are the founders of a new national landscape services company. By the time you read this, other landscape or tree care companies may have merged with Land Care USA.

This consolidation is needed, say the founders of LandCare USA, to better serve the growing number of properties owned or managed by regional, national real estate and other commercial concerns.

"There's a tremendous consolidation of the owners and managers of real estate," said William F. Murdy, chairman and CEO of LandCare USA.

"They're looking for larger professional companies to continue to consistently deliver what they want on their properties."

The founders are:

**Roger Braswell**, president of Southern Tree & Landscape Company, Charlotte, NC.

**Bruce Church**, president of Church Landscape Company, Chicago.

**David Luse**, CEO of Arteka Corporation, Eden Prairie, MN.

**Jeff Meyer**, president/CEO of Desert Care Landscaping, Inc., Phoenix.

**Hal Cranston**, president of Four Seasons Landscape & Maintenance, Foster City, CA.

**Linda Benge**, president and CEO of Trees Inc., Houston.

They reportedly received cash and stock, and positions on the LandCare USA board, in return for merging their companies into the new national company which is headquartered in Houston, TX.

On Feb. 16, they, and more than 50 other landscape company owners and managers, gathered in a

ground floor room at the Vinoy Hotel during an afternoon reception at the ALCA Executive Forum here. The purpose of the reception was twofold: to explain the concept of LandCare USA to the landscape professionals who were attending the ALCA forum; also, to attract new member companies. LandCare USA was formed late in 1997.

Hal Cranston, who recently agreed to serve as Chief Operating Officer for the new firm, said that he and business partner Jim Marcus, joined the national firm to grow Four Seasons Landscape.

"We look at this not as an exit strategy but really as a growth strategy," said Cranston. "We've spent over 30 years building our business from one location to eight locations. And every other year or so we would add another branch or maybe open another location. We wanted to accelerate that process.

"We felt this was the way to get to the next plateau where we could obtain additional resources.

"We also, most importantly, wanted to stay involved in the business and let our employees participate in the growth and in the expansion," he added.

Notra Capital Ventures II, also based in Houston, is backing the new venture. John R. Oren, managing director, said that Notra has, within the last 10 years, been involved in consolidations of other industries fragmented by the presence of many smaller companies: heating/ventilation/air conditioning, same-day delivery services (Oren himself owned a company in this business), ambulance services, bus services, and metals.

He stated that several of the national companies backed by Notra then went public and are now traded on the New York Stock Exchange. This is also the goal of LandCare USA, with an initial public offering perhaps as early as May, it was stated several times at the reception.

Oren said the consolidation's goals are threefold: share holder value increase, customer service in-



**Hal Cranston is LandCare USA COO but he's still looking to grow Four Seasons.**

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emission standards. **Maintenance Reduction** Honda's trimmers use straight gasoline, eliminating the hassle of mixing gas and oil. And they can run two times longer than comparable 2-stroke engines on the same amount of fuel! **Effort Reduction**

The engines also suppress spark plug carbon buildup and carburetor clogging, maintaining like-new starting ease. **Price Reduction** Starting under \$320,

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crease, and employee improvements.

"We act as sort of a key agent to bring entrepreneurs together to create a company that essentially partners up with the business owners to help them grow their businesses in a way that they could not do as privately held," said Oren.

LandCare USA President Murdy, who came from the real estate industry, emphasized that the new company wants to "maintain the entrepreneurial spirit and fervor" of the joining companies rather than having "an homogenized, one-size-fits-all, report-it-all-this-way company."

Added David Luse, Arteka, Eden Prairie, MN. "I think the operative word here is partnership, merging rather than selling out. We have no interest in that (selling out). The interest is to partner with other leaders around the country and gather all of those best practices and build another great company."

Added Mark Yahn, Ground Control,

Orlando, "My business wasn't for sale either.

"Since we've become committed to the concept, we've contacted a lot of our friends in Florida."

In response to questions from some of the landscapers at the reception, Murdy said that LandCare is focusing on companies with strong commercial landscape installation/maintenance and/or tree care presences in their particular markets. He said that \$1.5 to \$2 million in revenues is about "the bottom end" of the range for partnering with LandCare USA.

"We're trying to be as flexible as we can within the confines of being able to have something that continues to deliver. But



Mark Yahn enthused about LandCare USA.



Bill Murdy said consolidation underway.

residential we're not focusing on. Or on owning inventory like nurseries."

Again, in response to a question from the audience, Murdy said that LandCare USA looks to expand into other markets across the country. "We

have a national presence, but it has a lot of holes," he admitted.

"Professional real estate and management organizations are looking for other professionals who can deliver to them in a responsible and responsive way the kinds of landscape services that they want," he said as the reception ended.

"As more of these combine, the people who can deliver in more than one place are going to be advantaged." **LM**

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A million dollar per year "entrepreneur of the year" says that most of his peers' and competitors' marketing is anemic, me-too-istic, dull, full of costly waste, and ineffective. Arrogant? Egotistical? Marty Grunder says: "React to me any way you like—but one thing is for sure, if you are in the landscaping business or maintenance business, whether you are small or large, my marketing methods can easily double or triple your business in just one year, provide better customers, help you target and get exactly the kind of business you want, increase profitability and stability, and absolutely mystify and trump your competitors."

Big talk? Yes, it is, but this Grunder wisacre has been showing off—and blowing sceptics away—his entire life. As a freckle-faced, red headed Dennis-the-Menace type kid, he started his business with nothing more than a "push" lawn mower and chutzpah. That little business went to 75 regular customers almost overnight. As a full-time student at the University of Dayton, while his buddies drove to school in old "beater" cars and flipped burgers for pocket money, Marty arrived in his Grunder Landscaping Company truck and, at age 21, did over \$300,000.00 in business. Last year he was named Young Entrepreneur of the Year by the Small Business Administration's Midwest Region, in the 1 to 25 employees category. Currently, Marty oversees a staff of 30, 18 trucks, a backhoe, an assortment of other equipment, and a diversified business doing everything from basic residential lawn maintenance to complicated commercial landscaping projects—and, this year, breaking \$1.5 million in annual sales. He's also investing in land, lecturing from time to time, and working with other landscapers as their "marketing coach."

### Million Dollar Marketing Secrets Revealed In A Free Report—If You Qualify!

Grunder DOES have "secrets" for building these types of businesses, too. Here are just a few examples:

1. How to **spark referrals**... how to turn "small accounts" into big business.
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3. The 5 biggest mistakes 95% of the people in this business make when advertising and how to avoid them.
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6. **Forget wasteful "name recognition" or "getting your name out there"**—learn to "target," create and deliver a "market-matched" message, and **attract exactly the type and size of clients you really want.**
7. Why your "service" should never be the #1 focus of your marketing.
8. Powerful but simple letters and things to say to existent customers to **cause demand for a variety of additional, highly profitable services.**
9. **The "secret" borrowed from the fad-diet business that sells high-priced, high-profit landscaping work like crazy.**
10. How to get people working for you and with you to really contribute like a championship team!
11. How to use "**automated, autopilot marketing**" to bring in new business without you or anyone else even talking with prospects on the phone!
12. Even "poor boy" **dirt cheap marketing** strategies, like what to write on a simple postcard to bring in a flood of new customers.

13. The "**4-Page**" marketing tool used 6 to 10x a year that is **guaranteed to increase your business by at least 30% year after year...automatically!**
14. How to position yourself as a "famous expert" in your area, get a ton of free advertising and "**fr**" the competition.

And there's a whole lot more. At the urging of a big-time, nationally respected direct marketing consultant and professional speaker who discovered and was "blown away" by everything Marty was doing, Marty prepared an easy-to-read but very complete, provocative Special Report—"How To Re-Invent Your Lawn-Garden/Landscaping Business With Million Dollar Marketing Secrets"—and you may be able to obtain a copy at absolutely no cost whatsoever.

### Who Should Get Marty Grunder's Special Report?

Marty asks that you call for his free Report ONLY if: (1) you own your own business or are the President, CEO, manager or marketing manager for the business; (2) you make the decisions about advertising, marketing, and customer service investments; (3) you are currently unhappy with some aspect(s) of your business; (4) you recognize that in today's competitive environment, just "doing a great job" isn't enough to sustain a business; and (5) you are willing to make progressive innovative changes in your business if convinced, even reasonably assured that doing so will dramatically improve sales, profits, customer satisfaction, referrals, growth, and community prominence. (Please do NOT waste your time or Marty's money getting this Special Report if you are close-minded, change resistance, fully satisfied with your income, or just a curiosity-seeker without sincere interest in changing your business for the better.)

### How To Get Your Free Report:

Simply write "Report" on your business card or a sheet of your letterhead and FAX it to 937-847-8067 or, for even more information and to get your Report, call 1-800-399-7135, listen to a brief free recorded message, then leave your name, company name, and address as instructed. You can FAX or call anytime, 24 hours a day, 7 days a week. If you prefer having your report sent confidentially to your home address, just let us know. Incidentally, requesting your free Report does not obligate you in any way; no salesperson will call to follow-up, nothing of the sort. However, this is a limited free offer, so please take care of it right now, while it's fresh in your mind.

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# Events

## MARCH

**6-7: Tampa Spring Expo,** Florida State Fairgrounds, Tampa, FL. 813/960-1457.

**7-15: FloralScape,** Cleveland Convention Center, Cleveland, Ohio. Kati Campbell, 216/721-1695.

**10: Tree & Landscape Care Workshop,** Ramada Plaza Hotel Carowinds, Fort Mill, SC (Charlotte), Jeanne Campbell, 864/656-2479.

**10: Community Tree Conference,** Bowker Auditorium, Stockbridge hall, UMass-Amherst, MA.

Kathleen Carroll, 413/545-0895; Dennis Ryan, 413/545-6626.

**12: Tree & Landscape Care Workshop,** North Metro Tech, Acworth, GA. (Atlanta), Jeanne Campbell, 864/656-2479.

**11-13: National Truck Equipment Association Annual Convention & Exhibition,** Las Vegas, NV. Joan Christophersen, 800/441-6832.

**12-15: ALCA Student Career Days,** North Carolina State University, Raleigh, NC. 703/736-9668.

**14-18: Chicago Flower &**

**Garden Show,** Navy Pier on Chicago's Lakefront. 312/321-0077.

**18-19: CLCA Landscape Industry Show,** Long Beach Convention Center, Long Beach, CA. 916/448-2522; 916/446-7692.

**21-22: State Garden Show of Texas,** Heart of Texas Fairgrounds, Waco. 800/727-9020; 817/772-8696.

**22-25: Crittenden Golf Expo X,** Palm Springs Convention Center, Palm Springs, CA. 800/208-6508.

**26-29: Capital District Garden & Flower Show,** Hudson Valley Community College, Troy, NY. 518/356-6410, ext. 418.

## APRIL

**4: Design, Plant Selection and Maintenance of the Perennial Garden,** Lakeland Community College, Mentor, Ohio. 614/292-7691.

**6: ASCA Arboricultural Consulting Academy,** Arbor Day Farm (Lied Conference Center), Nebraska City, NB. Call ASCA 301/947-0483.

**19-22: North American Snow Conference,** sponsored by the American Public Works Association, Kansas City, MO. 816/472-6100; 816/472-1610. **LM**

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**The National Arbor Day Foundation**

**The Bunton Division of Jacobsen Textron** has appointed seven new distributors: American Parts Distributors, Inc., Rockford, IL; Beaver Valley Supply, Denver, CO; Horizon Irrigation and Turf Solutions, Tempe AZ; Kimber Distributors, Syracuse, NY; Mid-America Golf and Turf Equipment, Shawnee, KS; Vans Supply and Equipment, Inc., Green Bay, WI; W.F. Miller Co., Novi, MI.

The 1998 Tournament of Roses Parade in Pasadena, CA, awarded its Sweepstakes Trophy to the float entered by the **Rain Bird Sprinkler Manufacturing Company**, Glendora, CA. The float, entitled *Adventures in the Rain Forest*, depicted the treasures of a lost civilization in the rain forest, complete with waterfalls, animated monkeys, butterflies

with wings flapping and a mist of water falling throughout the forest. It was decorated entirely by Rain Bird employees and their families.

**Mesa Sprinkler** purchased Phoenix-based Horizon Turf, Horizon Turf de Mexico, and Washington-based Evergreen Pacific and united them under the new name Horizon. Horizon, based in Tempe, AZ, is now the largest supplier of irrigation and turf-care solutions in the West with 165 employees and 15 locations.

**L.R. Nelson Corporation**, Peoria, IL, reorganized its turf division this past fall. **Dave Eglinton**, vice president of sales and marketing, says that three regional sales managers will coordinate all turf sales and marketing efforts under the direction of national sales

manager **Charles "Pepper" Putnam**. **Dale Hansen** is the Midwest regional sales manager; **Jeff Rzepecki** works in the West; and **Clark Graham** heads the Eastern sales effort.

**The Toro Company** topped the billion dollar market in sales in 1997. Net sales for the year were \$1.051 billion compared to \$930.9 million a year ago, an increase of 12.9 percent, including sales from its James Hardie Irrigation acquisition. Without Hardie, Toro net sales were flat compared to last year. "This year was a challenging one for Toro but also a pivotal one in that we made key investments that position us for growth into the 21st Century," said **Kendrick B. Melrose**, chairman and chief executive office of Toro.

**Century Rain Aid** acquired

Gulf Coast Pump, a wholesale distributor of irrigation and well drilling supplies with four locations in Alabama and Florida. Century Rain Aid, headquartered in Madison Heights, MI, now has 68 locations in 18 states and Canada. It's a subsidiary of Richton International Corporation.

**Dr. Richard Hurley**, executive vp of **Lofts Seed**, presented an annual royalty check totaling \$822,522 to Rutgers University. Hurley made the presentation to Dr. Reed Funk, Dr. Bill Meyer, Dr. Dan Rossi, and Bruce Clarke. In related news, Lofts, based in Winston-Salem, NC, awarded academic scholarships to 28 students this fall. Since 1983, the Peter Selmer Loft Fund has awarded over 150 scholarships to students studying turfgrass science at Cook College of Rutgers University.

**Edwin Hunter**, founder of **Hunter Industries**, died at the age of 81 in San Diego, January 23. Hunter held more than 150 US patents for turf and landscape irrigation products. His first company, Moist-O-Matic, used thermoplastics in the manufacture of irrigation equipment. After Toro bought Moist-O-Matic, Hunter directed Toro's irrigation division for 20 years. He founded Hunter Industries in San Marcos, Calif. in 1981. He is survived by sons Paul and Richard, and a daughter, Ann Welborn. Donations will be accepted at the Edwin and Frances Hunter Scholarship Endowment Fund, The Bishops School, 7607 La Jolla Blvd., La Jolla, CA 92037.

## Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

**POPULAR REFERENCE BOOK...** *Turfgrass Management Information Directory*, edited by Dr. Keith Karnok, features several new sections. There is now ordering information for several hundred videos, slide sets, books, magazines, seed and fertilizer samples and more. The director also includes complete listings of soil and plant analysis labs, diagnostic labs and computer services. There are climate maps, turfgrass chemical information, scientific names of turfgrass pests, conversion tables and calculations. Cost for single copy is \$34.95. Discounts are available for bulk orders. Contact Ann Arbor Press, 800/858-5299.

**GARDENING IN HOT SPOTS...** *Heat-Zone Gardening* (from Time-Life Books) by Dr. H. Marc Cathey, President Emeritus of the American Horticultural Society, (with Linda Bellamy) is reported to be the only available gardening guide that explains the first-ever AHS Plant Heat Zone map by Dr. Cathey. The book offers ideas to create ideal gardens that fit both climate and landscape, in any locale. Color photographs and illustrations, as well as step-by-step instructions on how to choose climate-adapted plants. Design and gardening techniques for drought and summer heat conditions are included. Cost is \$24.95. At bookstores now.

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## Hydrostatic riding trencher

The Burkeen B-36B Hydrostatic Riding Trencher extends the capabilities of riding trenchers with its added power and protection. The heavy-duty, 6-way backfill blade and boring unit allow for efficient backfill and close-quarter trenching in one system. The 69-inch backfill blade's unique suspension keeps the blade parallel to the ground, reducing scalping.

Equipped with a 44-hp, liquid-cooled diesel engine, the B-36B offers extended engine life and quiet operation. With the Quickcatch mounting system, the B-36B allows for quick switches from centerline to offset digging positions. The centerline, 15-inch and 30-inch offset



positions enable trenching in any type of terrain. The 4500-pound unit is equipped with hydrostatic drive.

Burkeen offers several options for the B-36B including trencher boom extensions which enable increased digging depths to 60 inches as well as a backhoe attachment. The Quickcatch system also provides the exclusive ability to easily detach the trencher and hook into a vibratory plow.

Contact Burkeen Manufacturing at 601/895-4150, or

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## Ty-Crop topdresser for the big jobs

The TD-460 topdresser is great for large area topdressing programs. It accurately spreads a variety of wet or dry materials including sand, topdressing mixes, soil, compost, peat, cart path materials, light gravels and Turface-type products, at 72" wide from 1/64" to 6" in depth.

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Tell Ty-Crop (360/354-7578 in U.S., and 604/794-7078 in Canada) that you read about the TD-460 in Landscape Management.

Circle No.262



## New "on-surface" irrigation system

Netafim Irrigation, Inc., introduces Techlite non-pressure compensating dripper-line for on-surface irrigation.

"On-surface installation is fast and easy, which makes it practical and more profitable to contractors who install a lot of irrigation in shrub bed or mulched planting areas. Techlite dripperline is an ideal solution for on-surface applications since its self-contained, one-piece construction makes it flexible, easy to install, and eliminates the labor involved with attaching drippers and micro-tubing," says Kurt Maloney, Netafim Landscape Division Manager. "In addition, Techlite's internal drippers feature large, efficient flow paths for added reliability."

Techlite is UV resistant and is available in 17mm and 12mm sizes with 12" and 18" dripper spacing options. Blank tubing is also available.

As a rule of thumb, Netafim recommends using 17mm Techlite for large irrigation zones with lateral lengths up to 200 feet; 12mm for medium-sized irrigation zones with lateral lengths up to 150 feet; and 8mm for small irrigation zones with lateral lengths up to 60 feet.

For more information, contact Netafim at 209/498-6880, or

CIRCLE NO. 263



## Arched ramp makes loading easier

Load tractors into the back of pickups without scraping bottom. The Ramp Master's two-piece loading ramp is arched near the top to allow easy loading and unloading. The new 78-inch-long A7812 Arched Ramp has a total capacity of 2,000 pounds. It's made of non-corrosive aluminum alloy. It weighs 39 pounds and features safety cables, raised side rails and grooved crossbars for added traction and security.

Call The Ramp Master at 800/231-8999 and mention LM, or

CIRCLE NO. 264

## Woods offers new finish mowers

Woods Equipment Company offers three new rear-discharge finish mowers—the RD8400, RD7200 and RD6000 which offer cutting widths of 84, 72 and 60 inches respectively.

"In direct response to market research, our new series features a rounded front and tapered rear deck which allows a closer cut next to buildings and other obstacles," says Pete Officer, marketing manager for turf and grounds at Woods.

Another feature is removable chain shielding. Woods' RD series offers a five-bolt chain shielding across the back to act as a guard against thrown objects. The quick detach system allows



for easy removal of the chain shielding to avoid grass clumping, yet still meets all applicable safety standards.

The drive system includes a cast iron sleeve with taper lock bushings for longer belt life, and also interchangeable caster wheels that can be adjusted to the specific tractor size and setup.

Learn more about the new RD mowers, by calling Woods Equipment at 815/732-2141, or

CIRCLE NO. 265

## Saw-Tech offers a Mini-Blade

Saw-Tech Industries offers a Beaver Mini-Blade with a radius of 4 3/8". It joins the Beaver Blade family of 7", 8", 9", 10" and 12" blades. The Mini-Blade is perfect for cutting down to size the variety of trimming tasks that landscapers face daily.

All Beaver Blades feature a patented clutch designed to eliminate kickback, making them among the safest, most durable blades on the market. Every single blade is tested at 133 percent of recommended operating speed; chains are subjected to the same rigorous testing. Each Beaver Blade is engineered from twin discs of 301 grade stainless steel.

Saw-Tech can be reached at 800/443-0187, or

CIRCLE NO. 266

## Dutch elm disease control

Rainbow Tree Company, Minneapolis, offers ElmSafe, a product with the same chemical makeup as the most widely used material for protecting against Dutch elm disease in the United States. ElmSafe is also reported to be effective at protecting Sycamores from anthracnose.

Rainbow Tree Company says it is a leading



elm injection company and is prepared to provide technical support and consulting services to companies on effective use of ElmSafe, as well as how to profitably market, sell and produce elm protection services.

For more information, call Tom Prosser at 612/922-3810; e-mail tprosser@rain-bowtreecare.com., or

CIRCLE NO. 267

### Silt fence reduces work load

The Tommy Silt Fence Machine is the only machine available for installing silt fence directly into the soil. It knifes through soil installing 500 feet of silt fence 8-12 inches deep in only 4 minutes. It eliminates trenching,



man-handling heavy rolls of fabric and back-filling the trench.

Its compact design facilitates installing most ditch checks. A system utilizing rope to lock silt fence into the soil is optional, but not necessary, for secure installation. And at a fraction of the cost of a self-propelled trencher.

For a free video, contact Thomas Carpenter at 515/964-1267.

CIRCLE NO. 268

### Diagnose course turf conditions with digital images from above

Links Diagnostics, Inc., of Bethesda, Md., provides golf course managers with aerial digital views of the course, to assess existing turf conditions. The images can assess

- the impact of micro-climates on turf health;
- address conditions that promote turf disease, such as soil compaction, poor drainage, imprecise fertility rates and extreme weather conditions;
- accurately direct the collection of soil and tissue samples;
- maximize the use of employees and capital assets and provide feedback of routine turf care practices.

LinksView turf analysis provides up to 14 days pre-visual assessment of impending turf conditions, which the company says is an exclusive feature. This enables you to get timely identification of problem areas for immediate and targeted maintenance programs.

Stress maps have a linear feature that shows the exact location of poor soils and how disease could spread. This precise scientific information allows superintendents to act quickly to keep fairways and greens in optimal health.

LinksManager software houses a digital image of your facility and the data critical to your maintenance strategies. LinksView turf assessments can be compared months or years later, as an archive of course turf conditions.

Clients for this service include Congressional Country Club; Winged Foot Golf Club; and Bethesda Country Club.

Three programs are available:

- Warm-season and desert courses;
- Transition zone courses;
- Cool-season courses.

For more information, call Links Diagnostics, Inc. at 888/336-6140 and mention LM, or

Circle No. 269



### Organic-based plant 'health food'

New Product Developers, Inc., offers several new products containing a series of selected natural organic compounds. These products are custom blended and are in the proper ionic form, optimal for plant utilization. The products are:

Iron Chelate +, an organic-based health food for plants, to prevent and correct iron and other micro-nutrient deficiencies.

Organic Green + 5-10-5+. This is an all-purpose plant fertilizer.

Wonda-Green+. An organic-based health food for plants chelated and complexed with natural organic and amino acids for foliar and soil applications.

For more information, contact New Product Developers at 435/587-2165, or

CIRCLE NO. 270



# 1998 EMERALD AWARDS

**ANNOUNCING:** the third annual LANDSCAPE MANAGEMENT "Emerald Awards". LANDSCAPE MANAGEMENT magazine is offering a \$500 first prize to the winner of a random drawing to be held on July 1, 1998. Second prize is \$300 and third prize is \$200 in cash. To be eligible for the drawing, simply fill out the questionnaire at right and return it to LM's editorial offices.

Answers to the questions will determine our "1998 Emerald Awards" winners, to be revealed—along with the contest winner—in our August issue.

# WIN \$500



**CONTEST REQUIREMENTS:** Contestants must be owners or employees of landscape maintenance companies or lawn care companies; or maintenance employees of a golf course or country club, including superintendents and assistant superintendents; or an athletic field manager or member of an athletic field maintenance crew; or manager or member of a facility landscape management crew.

Product selections must be currently used by entrant. Employees of Advanstar Communications or their families not eligible.

All questions on this entry form must be completed, and all blanks filled. One entry per person. No more than five entries from any one employer will be allowed. Entry forms will appear in the February-June, 1998 issues of LANDSCAPE MANAGEMENT.

Completed questionnaires should be mailed to: Emerald Awards, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. They must be received by noon, July 1, 1998.

A random drawing of all eligible entry forms will be held July 1, 1998. Winners will be notified within 24 hours.

## OFFICIAL ENTRY FORM

### QUESTION:

What is your favorite brand name of...

CHECK HERE IF YOU DO NOT USE

- riding mower?
- walk-behind mower?
- turf fertilizer?
- pre-emergence herbicide?
- post-emergence herbicide?
- turf insecticide?
- turf fungicide?
- plant growth regulator?
- compact tractor?
- turf aerator?
- pick-up truck?
- leaf blower?
- line trimmer?
- chain saw?
- Kentucky bluegrass?
- perennial ryegrass?
- turf-type tall fescue?
- turfgrass mix or blend?
- biological control product?

**NAME:** \_\_\_\_\_

**EMPLOYER:** \_\_\_\_\_

**CITY/STATE:** \_\_\_\_\_

**PHONE NUMBER:** \_\_\_\_\_  
(AC      )

### Give your tractor new 'feet'

Loeering Mfg. Inc., presents Trail Blazers over-the-tire steel tractor skid steers. They feature hammer-forged pad bottoms for excellent traction and longer life and Quick Pins threaded pins and nuts

for convenient field replacement; more floatation. These skid steers are easy to install with the new installation tool.

For information about Loeering's products for graders, trucks, tractors and more, call 800/373-5441, or



CIRCLE NO. 271

### Pull-behind deck for undulating terrain

Toro's Contour 122PB pull-behind rotary mower for use on golf course roughs features a deck design that allows the cutting chambers to flex plus or minus 20 degrees in two different planes. The Contour 122PB, with its highly-

productive 10-foot width of cut, provides superintendents with an excellent choice for mowing primary roughs, says Toro. Hydraulically driven chambers provide smooth, reliable performance, while a rear discharge deck design with semi-recycling action provides excellent after-cut appearance.

For more information, call Toro at 612/888-8801 and tell them you read about the Contour in Landscape Management, "The Voice of the Green Industry," or

Circle No. 273

### Transformers for lighting pros

A new series of current stainless steel transformers for landscape lighting professionals is UL listed for outdoor and pool and spa applications; they are backed by limited lifetime warranties.

HADCO's TSS363-13 and the TSS663-13 both feature weather-proof compartments housed in 300 Series stainless steel. The TSS633-13 has a molded, one-piece clear front for photocell operation, which makes it an ideal complement to HADCO's new Lyte Command exterior security lighting systems.

For more information, call Jim Lilley at 717/359-7131, and tell him you read about it in LM, or

Circle No. 274

### Need batteries? Here's a one-stop shop

Batteries Plus, a national business-to-business retail battery chain, offers the most complete selection of batteries available from a single outlet.

Outlets carry batteries for everything from lawn and garden equipment, trucks, off-road vehicles, to power tools, two-way radios and cellular phones.

The outlets feature a Technical Center where customers receive expert advice along with a variety of money-saving services. For example, battery testing, conditioning, and charging is done on-site at Batteries Plus.

Custom batteries can be designed and assembled for just about any specialty item.

Access to national name brands, commercial pricing, people who know what they sell and free local delivery are benefits.

For more information on a store near you, call 800/67-START, and tell them about LM, or

Circle 275

### Non-hydraulic skid loader attachment

Lackender Fabrications out of Iowa City, IA, has a quick-attach skid loader/backhoe for existing equipment. The backhoe can be operated without auxiliary hydraulics since 90 percent of the digging is done with the bucket in one position.

To straighten a back wall, trench or to dig deeper (up to 6-feet) you pull a pin and shorten the linkage. If the unit has auxiliary hydraulics, a regular 8-inch stroke cylinder can be used on the bucket.

The backhoe is designed so it can be mounted to almost any make or model of skid loader. Made of the finest materials, the loader/backhoe will last for years, says Lackender Fabrications.

For more information, call the company at 319/338-4114 and mention LANDSCAPE MANAGEMENT, OR

Circle No. 272



**LANDSCAPE**  
management

March 1998

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 PHONE (\_\_\_\_) \_\_\_\_\_ FAX (\_\_\_\_) \_\_\_\_\_  
 INTERNET/E-MAIL ADDRESS \_\_\_\_\_

I would like to receive (continue receiving) LANDSCAPE MANAGEMENT free each month:  Yes  No

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Fill in ovals as shown: ●

1. My primary business at this location is: (fill in ONE only)
- 01  250 GOLF COURSES (Also fill in questions #3 & #4)
  - 02  255 Landscape Contractors (installation and maintenance)
  - 03  260 Lawn Care Service Companies
  - 04  265 Custom Chemical Applicators (ground and air)
  - 05  270 Tree Service Companies/Arborists
  - 06  275 Landscape Architects
  - 07  280 Land Reclamation and Erosion Control
  - 08  285 Irrigation Contractors
  - Other (please specify) \_\_\_\_\_
  - 09  290 Sports Complexes
  - 10  295 Parks
  - 11  300 Right-of-Way Maintenance for Highways, Railroads or Utilities
  - 12  305 Schools, Colleges, Universities
  - 13  310 Industrial or Office Parks/Plants
  - 14  315 Shopping Centers, Plazas or Malls
  - 15  320 Private/Public Estates or Museums
  - 16  325 Condos/Apartments/Housing Developments/Hotels/Resorts
  - 17  330 Cemeteries/Memorial Gardens
  - 18  335 Hospitals/Health Care Institutions
  - 19  340 Military Installations or Prisons
  - 20  345 Airports
  - 21  350 Multiple Government Municipal Facilities
  - Other (please specify) \_\_\_\_\_
  - 22  355 Extension Agents/Consultants for Horticulture
  - 23  360 Sod Growers/Turf Seed Growers/Nurseries
  - 24  365 Dealers/Distributors/Formulators/Brokers
  - 25  370 Manufacturers
  - Other (please specify) \_\_\_\_\_
2. Which of the following best describes your title? (fill in ONE only)
- 26  10 Executive/Administrator- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
  - 27  20 Manager/Superintendent- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
  - 28  30 Government Official- Government Commissioner, Agent, Other Government Official
  - 29  40 Specialist- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
  - 30  50 Other Titled and Non-Titled Personnel (please specify) \_\_\_\_\_

3. Is your golf course: 31  A Public 32  B Semi Private 33  C Private 34  D Hotel/Resort 35  E Municipal

4. If you work for a golf course, how many holes are on your grounds?  
 36  1-9 37  10-18 38  19-27 39  28-36+

5. How many acres are maintained at your facility? \_\_\_\_\_

6. SERVICES PERFORMED (fill in ALL that apply)
- 40  A Mowing 45  F Turf Fertilization 50  K Paving, Deck & Patio Installation
  - 41  B Turf Insect Control 46  G Turf Disease Control 51  L Pond/Lake Care
  - 42  C Tree Care 47  H Ornamental Care 52  M Landscape Installation
  - 43  D Turf Aeration 48  I Landscape/Golf Design 53  N Snow Removal
  - 44  E Irrigation Services 49  J Turf Weed Control 54  O Other (please specify) \_\_\_\_\_

7a. Do you specify, purchase or influence the selection of landscape products?  
 Yes  No

- 7b. If yes, check which products you buy or specify: (fill in ALL that apply)
- 55  1 Aerators 62  8 Herbicides 69  15 Sweepers
  - 56  2 Blowers 63  9 Insecticides 70  16 Tractors
  - 57  3 Chain Saws 64  10 Line Trimmers 71  17 Truck Trailers/Attachments
  - 58  4 Chipper-Shredders 65  11 Mowers (reel/rotary) 72  18 Trucks
  - 59  5 De-icers 66  12 Snow Removal Equipment 73  19 Turfseed
  - 60  6 Fertilizers 67  13 Sprayers 74  20 Utility Vehicles
  - 61  7 Fungicides 68  14 Spreaders

8. Do you have a modem?  Yes  No

101	113	125	137	149	161	173	185	197	209	221	233	245	257	269	281	293	305
102	114	126	138	150	162	174	186	198	210	222	234	246	258	270	282	294	306
103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316



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**LANDSCAPE**  
*management*

**March 1998**

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104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316

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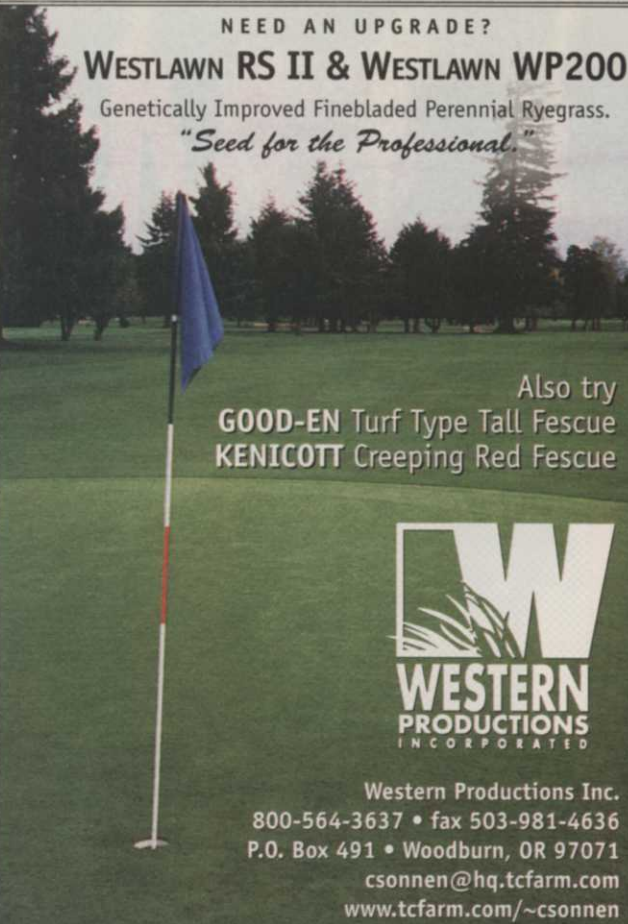
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Circle No. 148



**Our Transplant Patients Have Fewer Rejections**

*Mycor<sup>™</sup> Tree Saver<sup>™</sup> Mycorrhizal Fungi Inoculant Dramatically Reduces Transplant Losses, Three Ways:*

- 1. Mycorrhizal Fungi:** These endo- and ectomycorrhizal fungi enhance water and nutrient uptake, and improve resistance to disease and environmental stress.
- 2. Terra-Sorb<sup>™</sup>:** Water-absorbent hydrogel ensures water availability to prevent drought.
- 3. Biostimulants:** Organic seaweed, yucca extracts and humic acids stimulate root growth and aid in rapid establishment.

**Order Mycor<sup>™</sup> Tree Saver<sup>™</sup> Now, and Receive Healthy Start<sup>™</sup> Biofertilizer Tablets, FREE!**


When you place your first order for 150 – 3 oz. handy paks or a bulk 5-gallon pail of Tree Saver<sup>™</sup>, we'll include a 10 lb. box of Healthy Start<sup>™</sup> 12-8-8 Biofertilizer Planting Tablets to help get your plantings off to the best possible start. In addition to natural organic nutrients and humic acid, Healthy Start<sup>™</sup> Macro Tablets contain the slow-release nitroform fertilizer, along with nitrogen-fixing and phosphorus solubilizing bacteria, which new plantings need to take hold... and take off!



**Plant Health Care, Inc.**  
440 William Pitt Way, Pittsburgh, PA 15238  
**1(800)421-9051**  
www.planthealthcare.com

Mycor<sup>™</sup>, Tree Saver<sup>™</sup>, Terra-Sorb<sup>™</sup> and Healthy Start<sup>™</sup> are trademarks of Plant Health Care, Inc.  
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Circle No. 131



**Passive Deterrents to Nuisance Geese**

"Dead Goose" decoys keep live Canadian geese from settling onto properties. The geese believe these decoys to be real and immediately react as if a predator is in the area. These decoys achieve this illusion without harming geese or the environment. Can be used on land or in water.

Each <b>\$79.95</b> (Minimum 2)	Pond Kit <b>\$450.00</b> (6 Decoys)	Golf Course Kit <b>\$999.00</b> (14 Decoys)
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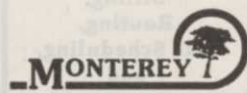
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Circle No. 151

# IT'S NOT EASY BEING Green

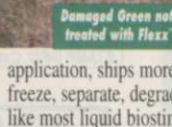
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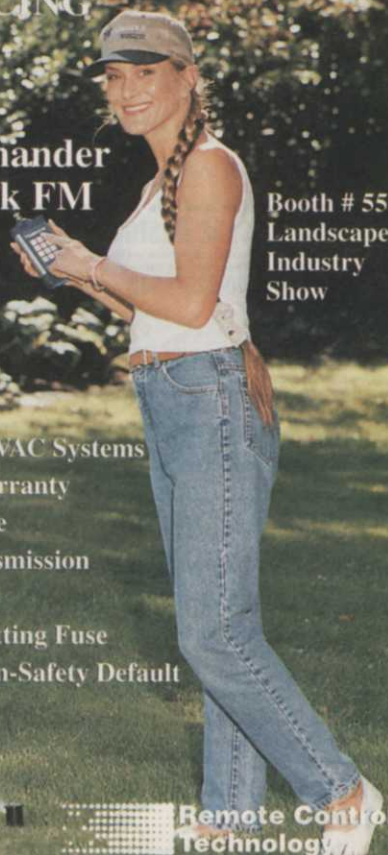
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# MARKET SHOWCASE

## LANDSCAPE management

Every month the Market Showcase offers readers of *Landscape Management* a complete and up-to-date section of the products and services you're looking for. Check it out every month, or you might miss out.

For all ads under \$250, payment must be received by the classified closing date. VISA, MASTERCARD, & AMERICAN EXPRESS accepted. Send to: Advanstar Marketing Services, 7500 Old Oak Blvd., Cleveland, OH 44130

**BOX NUMBER REPLIES:** *Landscape Management*, LM Box #, 131 W. First St., Duluth, MN 55802

**FOR ADVERTISING INFORMATION AND AD PLACEMENT, CONTACT:** BILL SMITH, 440-891-2670, 1-800-225-4569, (ext. 670), Fax 440-826-2865, Email bsmith@advanstar.com

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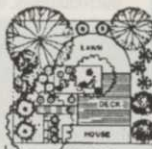


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#### FOR SALE

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**LANDSCAPE management**

Every month the Market Showcase offers readers of *Landscape Management* a complete and up-to-date section of the products and services you're looking for. Check it out every month, or you might miss out.

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## WHOLESALE DISTRIBUTOR

Needed to market environmentally friendly, liquid, slow-release fertilizer products direct from manufacturer. Ken Franke, P.O. Box 123, Plato, MN 55370; 800-832-9635. 12/98

## AD INDEX

101	American Cyanamid	Cv2
102	American Cyanamid	Cv2
103	American Cyanamid	.39
104	American Cyanamid	.47
105	Bayer Corp.	2-3G
106	Bayer Corp.	.22-23G
107	Bayer Corp.	.24-25L
108	Bayer Corp.	.10-11
109	Bush Hog	Cv3
110	Chevy Truck	.17L
111	Danuser Machine Co.	.13
112	Dead Goose	.80
	Dodge/Chrysler	.57
	Dow Agrosciences	.62-63
	Dow Agrosciences	.53
	Dow Agrosciences	.18-19
	Dow Agrosciences	.22-23
	Dow Agrosciences	.26-27
	Dow Agrosciences	.30-31
113	DTN	.23L
114	Echo Power Equip.	.4-5
151	Environmental Care	.81
115	Florists Mutual Ins.	.45
116	Green Industry Expo	.68
117	Honda Motor	.27L
150	Howard Price Turf Equip	.71
	ISK Bioscience	.68 a-d
118	Int'l Lawn Garden & Power Equip. Expo	.33
119	Jacklin Seed	.1
155	John Deere	.10-14L
120	John Deere	.6-7G
121	Kubota	.3
122	Melroe Bobcat	.66-67
152	Millcreek Mfg. Co.	.6
124	Monsanto	.54-55
125	Monterrey Chemical	.81
126	Nextel Communications	.9
	Novartis	.2-3L
128	Nutramax	.17G
129	pbi/Gordon Corp.	.41
145	Plant Health Care	.81
131	Plant Health Care	.80
123	Remote Control Tech.	.81
153	Rexius	.6
132	Rhone Poulenc	.14-15G
133	Rohm & Haas	.19G
134	Rohm & Haas	.18-19L
135	Rohmid Ltd.	.15
136	Roots	.21L
138	Scag Power Equipment	.29L
139	Scotts Co.	.11G
140	Scotts Co.	.36-37
137	Tee-2-Green	Cv4
141	Terra	.21G
142	Terra	.7L
143	Toro	.13G
144	Turf-Seed Inc.	.49-50
149	Turf-Seed Inc.	.80
130	Turfco	.28L
146	West Ag Irrigation	.69
147	West Ag Irrigation	.70
148	Western Productions	.80
	Winners Circle	.30L

# LANDSCAPE management

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### ISSUES

May 1998	4-9-98
June 1998	5-8-98
July 1998	6-10-98
August 1998	7-9-98
September 1998	8-10-98
October 1998	9-10-98
November 1998	10-8-98
December 1998	To Be Announced

### CLOSING DATES

(Please call Sales Rep to confirm dates.)

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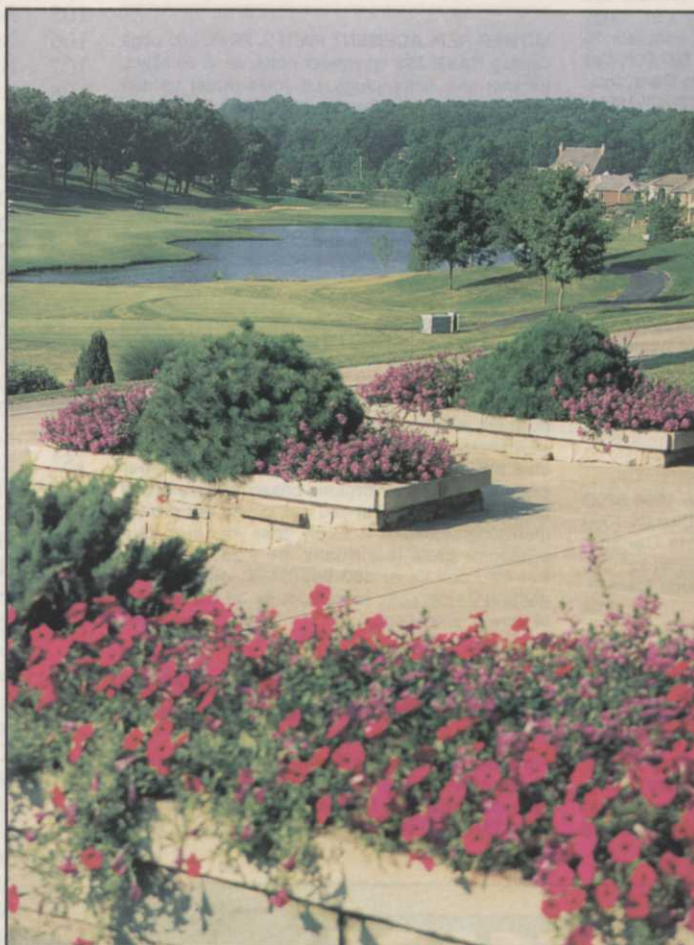
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# Grab Bag

## How to dominate your competition

Sandy Queen, CGCS, who heads up the Golf Division for the City of Overland Park, Kan., has a four-part program that he says has made their course the busiest one around:

1. Identify your management team. It takes a true team to determine your niche in the market.
  2. Study the competition. List their strengths and weaknesses, and know all the fees they charge.
  3. Develop a 10-year plan that will strengthen your position in that part of the market.
  4. Have a strong customer service program. People want to play where they are treated best, says Queen. Use surveys to set benchmarks for measuring customer service efforts.
- Sandy presented these tips at the last GCSAA show.



## Color, color, and more color.

Highland Springs Country Club, Springfield, MO, is one beautiful place thanks, in part, to Linda Lindsey, ornamental supervisor there. She's continually adding new beds at the Club. She's partial to plants like *Coreopsis Moonbeam*, *Veronica Sunny Border Blue* and *Russian Sage*, but, because they require little deadheading she also plants thousands of *vinca*, *zinnia angustifolia*, *verbena bonariensis*, *Lantana*, *scaveola*, *caladiums* and some varieties of sun-tolerant *coleus*. She grows her own annuals at her home greenhouses.

PHOTO BY LESLEE JAQUETTE

## Tree inventory up at West Coast nursery

Miramar Wholesale Nurseries, San Diego, Calif., a division of Landtrends, recently acquired Vista Hill Nursery, which has unique varieties of flowering trees.

Examples of those varieties are *Chionathus retusus*; *Alectryon excelsum*; and *Chionathus retusus*.

Landtrends/Miramar President Jon Ewing reports that Vista Hill's former co-owner, Bob Everett, will join the Miramar company in production and sales capacities.

## News on controlling summer decline

Dr. Joseph Vargas, turfgrass pathologist at Michigan State University, spoke at a press conference sponsored by Rhone-Poulenc and reported on the excellent results achieved by Chipco 26 GT and Aliette Signature in regards to summer decline management. Vargas said that an added, and somewhat unexpected result, of his tests was a noticeable improvement and faster recovery in the treated turf.



## Get employees to fit in

As you try to retain good employees, re-examine how you hire new ones.

"We shifted our focus several years ago," says Eric Cross, president of Duke's Landscape Management, Hackettstown, NJ.

"We work a lot harder on hiring the right people the first time. When we know they'll fit in and share our commitment to service, then we can look at keeping them productive and happy."

Grab Bag features brief observations and prognostications throughout the green industry. If you have an unusual photo or comment you'd like to share with us, please send it in...

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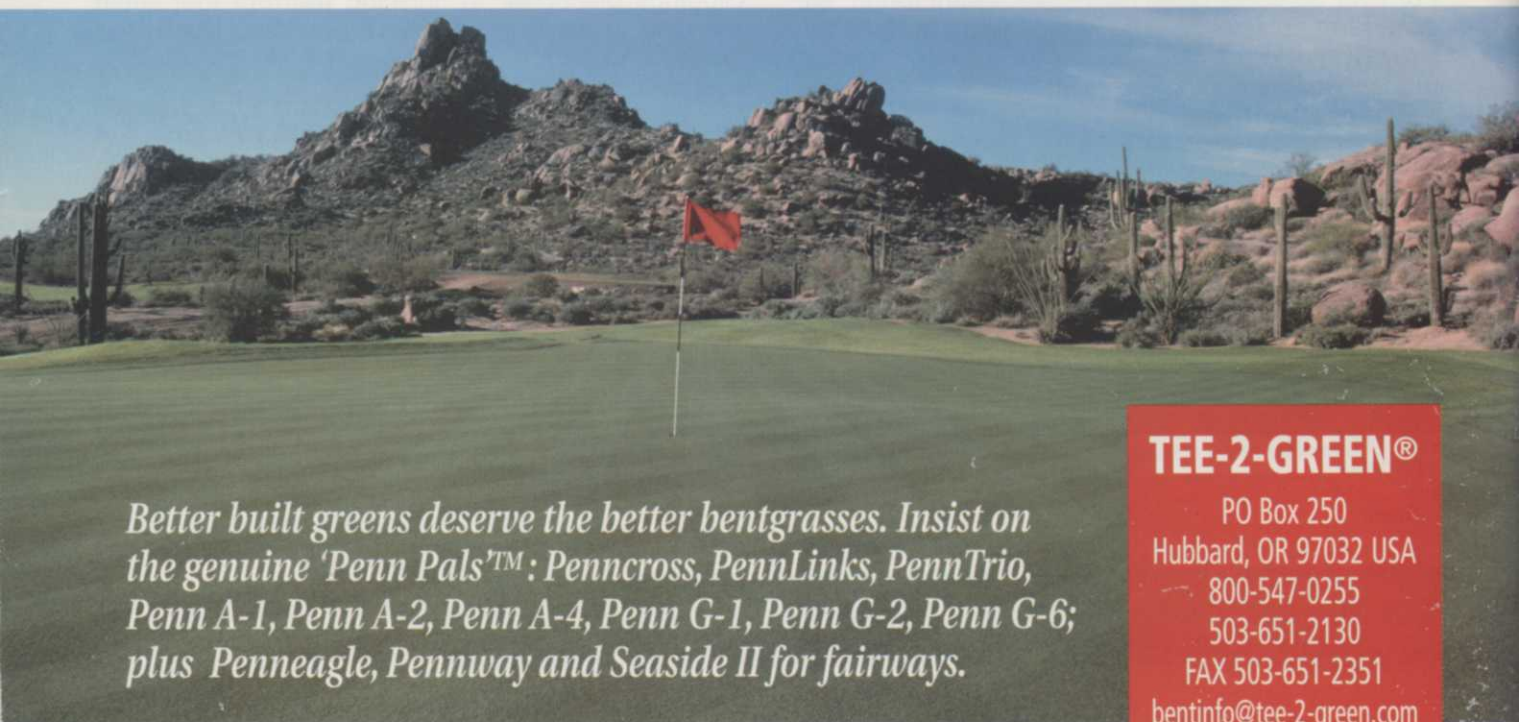
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