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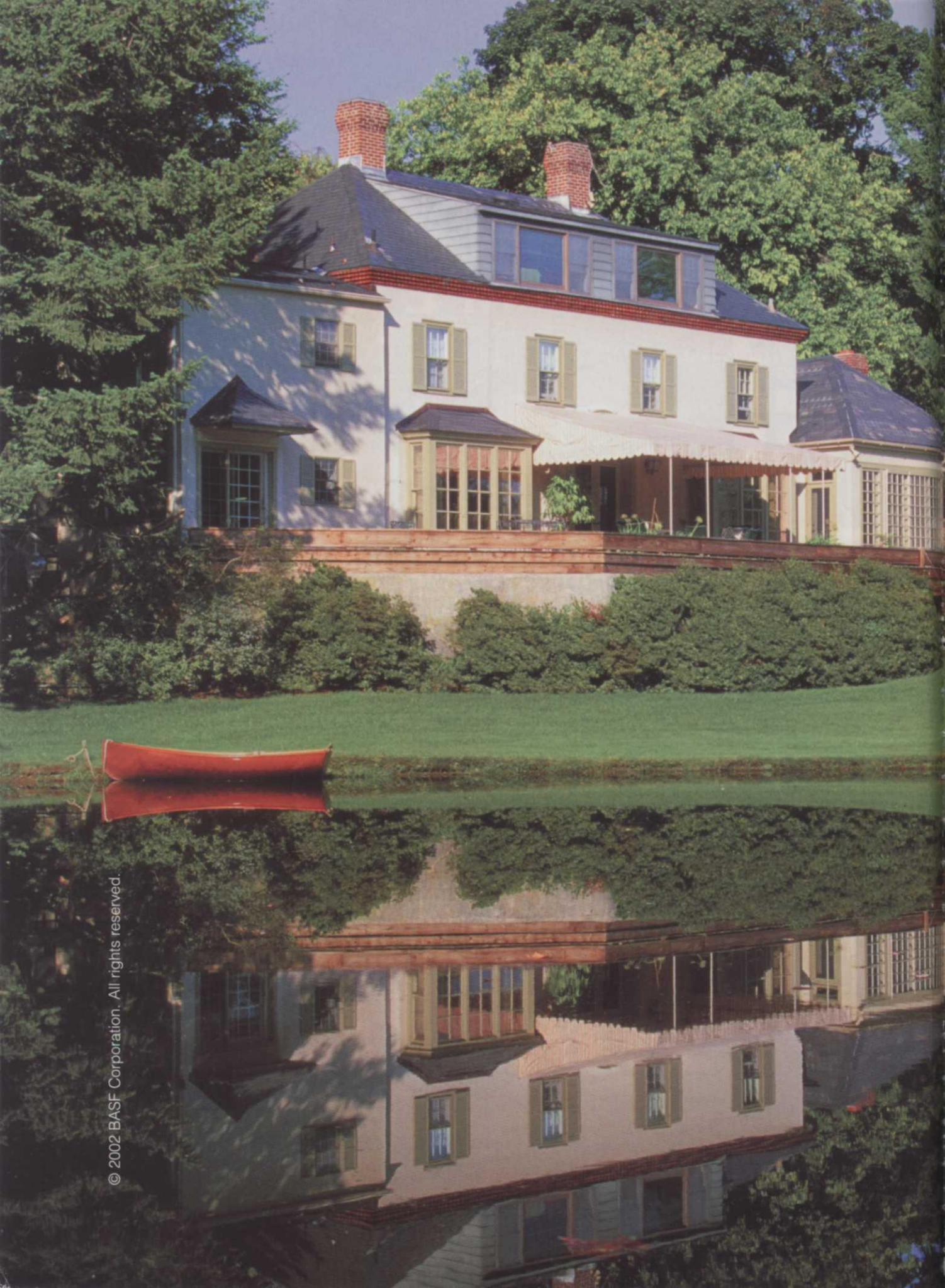
# Landscape MANAGEMENT

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MARCH 2002 / [www.landscapemanagement.net](http://www.landscapemanagement.net)

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## ■ Cover story: Beat low-ball competitors

How to beat low-ballers at their own game

## ■ Insecticides

A list of the latest new products for the most common turf pests

## ■ Marketing irrigation

Tom Del Conte, president of Del Conte's Landscaping, Fremont, CA, talks about the secrets to marketing his company's irrigation services

## ■ Ground prep & aerators

The perfect ground preparation equipment and aerators

## ■ Trucks & mobile accessories guide

The complete guide to trucks and mobile accessories specifically for landscape professionals

## ■ Homework overcomes objections

This grounds director made sure he knew what he was talking about before he made his pitch

■ **Plus:** Hand-held equipment, Best Practices, landscape pros speak out in "Inside the Owner's Head," the latest news in Industry Almanac, and much more.

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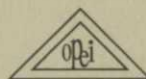
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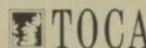
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The same is true for instant messaging and the vast amounts of information and data now available at our fingertips. Who among us envisioned the Internet even 15 years ago? Personal computers, communication satellites and the World Wide Web have greatly expanded our abilities to exchange ideas and gather data. It's happening so fast some of us are just now catching on to these technologies.

But we're not just talking advances in the materials we regularly use, products like equipment, turf, plants and chemicals. We anticipate these changes. We take their increasing sophistication for granted. They're part of the fabric of our still young and evolving industry.

It's the other changes, the unforeseen and unexpected ones that will challenge, perhaps dismay us and cause us to rethink the scope of services we offer our customers and how we price, market and deliver them.

### A shocking auction

The following is an example that surfaced at the ALCA Executive Forum just a couple of weeks ago, and it caused some consternation and discussion among the 200 or so landscape professionals who attended the event.

Kurt Kluznik, owner of Yardmasters, Inc., the

largest landscape company in Ohio, recounted how GE, one of his big maintenance clients, conducted an "auction" on the Internet to determine who would maintain two of its properties, properties that his company had serviced well. He wasn't thrilled with the idea of the auction but he participated just the same. What could he do?

GE put the specifications for the properties on its Web site, the landscape company owner said, and opened the auction at \$50,000. Bidders were identified on the Web site only by number, not by name. As the bids dropped lower and lower on the computer screen, so did the owner's spirits.

"We ended up with one of the two properties," he concluded. "We went as low as we could go."

Is GE's use of an Internet auction a blip or is it a trend that's just now coming into focus? Probably the latter. Many of our customers are as interested in efficiencies as we are, and they'll use available technologies to achieve them.

Changes are coming so fast and furious that not even the prospect of seeing palm trees growing in New Jersey seems so outlandish anymore.

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Change will challenge us to rethink  
our services and how we market,  
sell and deliver them.

# inside the owner's head

BY RON HALL / EDITOR-IN-CHIEF

## Communicate with your Hispanic employees

“Communication is key.” That’s the message, in big red letters, that Bruno Pillari sees every day on a message board at company headquarters. Bruno and brother Joe operate Pillari Brothers, Inc., Howell, NJ.

They face the same problem as thousands of other Green Industry professionals — communicating with their Spanish-speaking employees. Their 22-year-old firm is comprised of two divisions, design/build and landscape contracting, and employs about 100 workers in season.

Bruno and Joe take a proactive approach to communication. It’s not uncommon to see either brother in the field, talking to and encouraging workers. That’s getting tougher to do, though.



Joe, left, and Bruno Pillari work to break down the language barriers at their NJ firm.

“As we have grown (about \$7.5 million in 2001), it becomes more difficult to maintain that communication,” says Bruno. “It’s important that we establish procedures in communicating.”

Bruno said that several Hispanics serve as foremen in the company, including a recently promoted shop manager. This faci-

itates communication. It’s a trend that the brothers would like to see grow.

When the brothers gather all employees for their annual April “Spring Kickoff” meeting, they make sure everyone knows their goals and what’s expected of each employee, both English and Spanish speakers.

“As for myself, I want to learn Spanish well enough to write it,” says Bruno.

### Team spirit

Central Coast Landscape & Maintenance provides a range of award-winning landscape services in and around beautiful Santa Cruz County, CA. It’s operated by Jack Long and his son, Scott. Like the Pillari brothers, the Longs realize that effective communication increases the effectiveness of employee training and, ultimately, delivery of services.

The firm’s 30 employees, including its Hispanic workers, gather each Wednesday at 7:30 a.m. for 30 minutes of training.

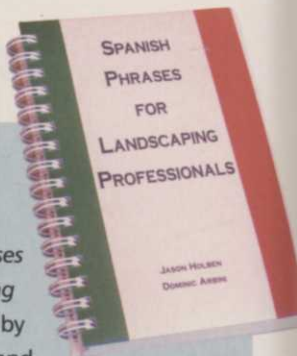
“We review our company mission statement each week in English and Spanish,” says Jack Long. “We encourage employees to give us feedback on what the different parts of the mission statement mean and how it relates to them and how they do their jobs.”

Because of the region’s mild climate, landscape care there is year-round, and the company keeps a stable work force, primarily, believes Long, because of its efforts to communicate with its frontline employees. “Not all of our training is about how to trim or mow. They know how to do this although we go over this,” says Long. “We discuss business-related issues, too.”

### ¿Habla Español?

“Spanish Phrases for Landscaping Professionals” by Jason Holben and

Dominic Arbini has just been published by Stock Pot Publishing. This 204 page book contains more than 1600 words and phrases complimented by simple, intuitive phonetics. Call 303/863-1685 or e-mail [StockPotSpanish@hotmail.com](mailto:StockPotSpanish@hotmail.com).



Jack Long: weekly meetings give workers a positive sign.

Most of CCL&M’s Hispanic employees understand some English. Even so, the company relies upon bilingual employee Martin Ballesteros to serve as a liaison between management and the workers.

The message Long and his management team communicates to all employees is that they aren’t considered “human wheelbarrows” but valuable team members.

Long says they’re starting to get the message, which indicates that the company is doing a better job of communicating.

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# industry almanac

NEWS YOU CAN USE

## Deere folds in Century Rain Aid

MOLINE, IL — Century Rain Aid is now part of John Deere Landscapes. Deere & Company acquired all 170 Century branches with the purchase of Century's parent company, Richton International Corporation. The Century locations were combined with 50 branches of McGinnis Farms, Alpharetta, GA, wholesale distributor that had previously been acquired by Deere.

## Scotts acquires Ehrlich's division

READING, PA — J.C. Ehrlich Co., the fifth largest company in the structural pest control market, sold its lawn and tree care services division to Marysville, Ohio-based Scotts LawnService. The sale did not include Ehrlich's tree surgery, grounds maintenance services and vegetation management services.

## Cebeco invests in Premier

HALSEY, OR — Cebeco International Seeds signed a letter of intent Jan. 24, 2002 to purchase 40% of the issued and outstanding shares of stock of Premier Pacific Seeds, Ltd., Vancouver, BC.

## Masterblend acquires Tyler

ELWOOD, IL — Masterblend International, the largest custom formulator of water soluble fertilizers for the commercial horticultural industry, has finalized its purchase of Tyler Enterprises.

## Pre-season selling strong despite worries, say lawn care pros

BY JASON STAHL/  
MANAGING EDITOR

Despite a sluggish economy and unpromising economic forecast for 2002, lawn care professionals across the country are saying that business drummed up from early pre-season selling is falling right in line with last year. Some are even saying that they may outdo last year's performance.

"We did some early advertising because we were worried [the economy] would be flat, but response has been better than we thought it would be," says 30-year-industry veteran Gary LaScalea, owner of GroGreen, Plano, TX. "Our pre-pays are actually up 15% from last year."

Jack Robertson, owner of Jack Robertson Lawn Care, Springfield, IL, was also worried coming into the selling season, which is why he chose to be more cautious than aggressive with his marketing plan. "I didn't want to be spending a lot of money for just a few sales," Robertson says. Nice weather, however, has enabled his team to conduct estimates and create sales already, and total numbers so far are in-line with last year's.

Thomas Hofer, president of Spring-Green Lawn Care Corp., Plainfield, IL, says sales are even so far with last year, but he anticipates that his company will be more price sensitive this year. Jim

Campanella, owner of The Lawn Dawg, Hudson, NH, is offering an "economy" program this year, sensing that people may want to save a few dollars.

Still, lawn care company owners aren't nearly as worried about the economy as they are about other things. Last year, weather did more damage to Campanella's business than the recession. "We had snow on the ground until April," he says. "Normal

weather patterns just don't seem to be the case anymore."

Also, rising chemical/fertilizer costs, health insurance and workers' compensation remain continual challenges. "Workers' comp has almost doubled for us this year, and I had almost zero incidents," LaScalea says. "But you're pooled in with other companies in the state, and big lawsuits pull up the cost too."



Jack Robertson has had a fine start in 2002.



Ken Budd, president of Budd Seed, and Dick Olson, president of Pro Seeds Marketing, recently presented Rutgers University a check for \$409,186.78 for royalty payments on the 2000 production of Rutgers-developed turfgrass varieties. Budd (far left) presents the royalty check to Dr. William Meyer, professor of turfgrass breeding, and Dr. Stacy Bonas, assistant professor of turfgrass breeding.

CLIPPINGS



# Industry braces for drought

## NYC mayor to issue first drought warning since 1995

BY LYNNE BRAKEMAN &  
JASON STAHL

Government authorities in New York, Maryland and Pennsylvania are stepping up moves to cope with an impending drought emergency.

Pennsylvania's Department of Environmental Protection (DEP) held a live Webcast Jan. 28 to discuss current drought conditions, and what would be required under Pennsylvania's new drought regulations if the state moves into a drought emergency. DEP Secretary David E. Hess, says drought watches or warnings exist in 62 of Pennsylvania's 67 counties.

"It's early in the year for a drought to be declared so the impact might not be felt immediately. But as we go into the spring planting season it will have a drastic impact on Green Industry professionals and consumers," says Michele Corbin, public and government relations director for the Pennsylvania Landscape and Nursery Association.

Mandatory water limitations have been set, but unlike 1999, Pennsylvania professionals aren't having to follow the same requirements as consumers. With newly seeded and sodded lawns, pros can water during regular business hours. Irrigation equipment can be tested 15 minutes per

each zone. But Corbin says worries are far from over.

"Our concern still is that any municipality or water supplier could adopt stricter rules in the future if they want," she says.

New York City Mayor Michael Bloomberg also called for a series of voluntary measures to cut water consumption, and warned he was close to issuing the city's first drought warning since 1995.

The *New York Times* reported in February that 20 of neighboring New Jersey's 21 counties are under drought warnings.

Drought warnings are also in effect in 21 counties in New York State, including Westchester, Putnam, Rockland, Sullivan and Dutchess.

"I'm worried," says Larry Wilson of Lawrence Landscape Design, Yonkers, NY. "It will either get better or worse in late March, early April, and whatever happens then will bear heavily on what restrictions come out."

Maryland authorities issued a drought warning for 15 counties in Central Maryland and the Eastern Shore. The state has seen a deficit of 4 to 9 in. of rainfall over the past six months, and state lawmakers are drafting proposals to require municipalities to draw up and implement water conservation plans.

## IN THE MONEY

A survey conducted by the Professional Grounds Management Society uncovered these salary facts about grounds superintendents/managers in 2001:

■ Avg. salary	\$21.34 per hr
■ Avg. low	\$17.51 per hr
■ Avg. high	\$24.96 per hr
■ Hire rate	\$17.21 per hr
■ Salary range	\$10.55-\$35 per hr
■ Low range	\$9.80-\$26.28 per hr
■ High range	\$12.90-\$35.00 per hr
■ Avg. base salary	\$54,523

## Correction

In the January 2002 issue of *Landscape Management*, a "Clippings" item stated that FMC Corporation had changed its name to FMC2. This is incorrect. The company has not changed its name. We apologize for the error.



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Circle 111

## Try this to sell add-on services

**CANCUN, MEXICO** — Having difficulty selling add-on services to your basic maintenance or lawn application package? Try this idea that surfaced at the recent ALCA Executive Forum here.

Take a digital camera to some of your accounts, the ones where you see that there's a need for additional remedial services. Maybe there are areas on these properties where the turf is weak or thin. Or, perhaps there's a section where decorative pavers would solve a traffic problem, or a corner or entrance where seasonal color would make a huge difference.

Photograph these areas and, using landscape imaging software, enhance these images to show your clients the difference that your suggested improvements will make on their properties. Several landscape pros at the conference said they're increasing their revenues per property by using this upselling technique.

This and many other ideas surfaced during three days of brainstorming by 160 of the best minds in the business. While moderator John E. Johnson, longtime marketing guru for Levi Straus, spent several mornings walking the owners through streamlined strategic planning, the real action erupted when they huddled and began swapping experiences.

After hours of huddling, the owners seemed to agree on the following points and discussed strategies to implement them:

- ▶ We'll respond quicker to our customers
- ▶ We'll expand our relationship with customers and suppliers
- ▶ We'll make use of the 30 to 50 annual opportunities to interact with clients
- ▶ We're in the beautification business
- ▶ We seek 100% customer satisfaction
- ▶ We sell the emotional experience of



ALCA Forum leaders (l. to r.) Rick Doesburg, CCLP, Gary Kinman, and Kurt Kluznik

a beautiful landscape

- ▶ We use the Internet and software to communicate and to inform our clients
- ▶ We're in the continuing education business
- ▶ We regularly survey our customers and prospects
- ▶ We'll discourage a "we and they" attitude in regards to our hourly workers, many of whom are Hispanic.

— Ron Hall

## People & companies

LESCO, Inc. named **Jeffrey L. Rutherford** chief financial officer.

Textron Golf, Turf & Specialty Products named **Dennis Schweiger** executive vice president of sales and marketing-Turf and PLC, **Joe Thompson** vice president of sales-Turf, and **Joe**



Dennis Schweiger



Joe Thompson



Ralph Nicotera

product management-Turf and PLC.

Exmark appointed **Bruce Cooper** national sales manager and **Jim Lysle** territory manager for the northeast U.S.

Growth Products has added

**LaFollette** vice president of customer care-Turf and PLC.

**Ralph Nicotera** was promoted to vice president of marketing and

**Gary Ackerson** to its staff of technical sales representatives.

The J.R. Simplot Co. named **Lawrence S. Hlobik** CEO-elect and **Dr. David Rickard** as product development specialist.

Aquatrols hired **Mica Franklin** as research agronomist. He will be engaged in product research and development.

The Toro Company appointed **Thomas J. Tootle** southeast area business

manager for its Irrigation Division.

Landscape Services, Las Vegas, NV, named **Laura Stubbert** business development manager.

Briggs & Stratton appointed **Richard Kolbe** vice president of information technology.

**Rex Dixon**, president of the Irrigation Association, formed **The Rex Dixon Consulting Group** offering consulting services at 972/250-0861.

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## Feuding neighbors spark blower fuss

**FAR HILLS, NJ** — A neighborhood flap over noise is causing this posh community of about 800 residents to consider legislation to ban leaf blower use outside of normal work hours.

Mayor Carol Torsileri, who

owns a lawn maintenance company, said the law would be a "nightmare" to enforce, reported Gregory Zuckerman in the Feb. 15 issue of *The Wall Street Journal*.

A recent hearing on the leaf

blower ban, calling for fines as much as \$1,000 or 30 days in jail for violators, resulted from complaints directed at multi-millionaire Dean O'Hare, chairman and CEO of Chubb Group, one of the biggest insurance companies in the world. Several neighbors living near his 20-acre estate have repeatedly

complained that he uses loud yard equipment at all hours of the day and night. *Worth* magazine lists Far Hills as one of "America's Richest Towns."

O'Hare called the complaints grossly exaggerated claimed he had his gardening equipment tested for noise levels, according to the WSJ article.

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WHAT'S NEW ON-LINE

- "Ask the Expert" section coming April 1 — review previously submitted questions and answers, and submit new ones!
- Features from the February issue of *LM*
- LM Week in Review
- The latest Green Industry news



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Circle 113

## Surfin' Turf

### The lost link?

LandscapLink's Web site isn't very fancy, but maybe that's why the dot com is still in business. The company, which calls itself the "on-line informational landscape network," prefers to put its money into the features on its site, which include vendor listings, a plant material search, contractor listings, and member Web site development. You can become a member for less than \$25 a month, says LandscapLink, and join buyers and sellers in the Green Industry in both the wholesale and retail markets. Once you become a member, you can advertise specials in the "Specials" section. Even if you're not a member, check out LandscapLink's newsletter, tips of the month, or job search.

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JOHN DEERE



# Focus on your

**Successful owners reveal how they satisfy their customers without straying from their competencies**

BY GEORGE WITTERSCHEIN/  
CONTRIBUTING EDITOR



**D**oes “all things to all people” inevitably mean “jack of all trades and master of none?” Asking around among experienced Green Industry owners and managers, we got the impression that the answer might be yes.

It appears that many people in the industry understandably confuse “commitment to customer service” with an “absolute commitment

to do any and everything the customer wants.” This particular confusion is easy to fall into, according to Burton Sperber, founder and CEO of Environmental Industries, Inc., Calabasas, CA, one of the largest Green Industry companies in the United States.

“The ‘no’ decisions are much more difficult to get out of our mouths than the ‘yes’ decisions,” Sperber observes from his vantage point of five decades’ experience in the industry. “It’s a lesson I learned early in my career — the hard way.”

# strengths

## Mistakes of focus

For years, Sperber focused on his strength: horticultural services. He started working for a locally owned landscape nursery while in high school, a business built around horticulture. When the owner eventually passed on, he bought the business for \$250. More than 50 years later, Environmental Industries is still in the same line of business, bringing in \$2.5 million in revenue a day.

"But that doesn't mean I didn't make mistakes of focus," Sperber says.

And how. Sperber remembers a person some decades ago telling him about a booming new sport in New Zealand and Australia called grass skiing.

"It seemed like a natural line of business for me to branch into, given my gardening focus and the availability of grassy hillsides in California," Sperber says.

Little did he know that grass skiing was not at all connected to the landscape/horticulture industry but rather was part of the entertainment or leisure activities industry.

Sperber says he learned the same lesson a second time when his company undertook the ownership and management of golf courses. "Having built, remodeled, and maintained 500 to 600 golf courses, we figured it was a natural extension of our core business, but it was not. Once again, we had strayed into the leisure activities industry. Having gotten our noses a little bloodied, we decided to get out of the ownership and management of golf courses, although we still build and maintain them."

## Hunkering down

It's not always easy to determine whether a new business opportunity represents a dangerous threat to your company's focus or a good thing. The analysis can be subtle, and often requires "out of the box" thinking.

That was the experience of Mike Rorie, president of Groundmasters, Inc., a 20+ year old Cincinnati company providing mostly commercial landscape service, with revenues in the \$9 million range and about 140 employees at peak season.

In the past, Rorie's company had achieved success by providing higher priced landscape management services to Class A customers, whether industrial or commercial. But it wasn't enough, says Rorie. "We were looking for another line of work to expand into, and one very promising market we found was the homeowners' associations."

Rorie figured it was a no-brainer to tap this market, given that there were a lot of homeowners'

*continued on page 24*

## Get employees into your focus too

Staying focused as a company also means making sure your employees grasp and participate in your company's focus on its core business and customers.

We found that several of the Green Industry people we interviewed are doing just that.

At Environmental Industries, Burton Sperber is proud of his company's efforts to educate and involve its 6,500 people in the supreme core competency of customer satisfaction. "We believe strongly in training our people, which is another major point of attraction in the workforce. People want to be trained. We believe our willingness to train our people is one of the major reasons why we have had no difficulty attracting applicants. During the recent boom times, we would read the reports of labor shortages in the landscape industry and smile, because we were not experiencing any shortage of applicants at all. Our company is where very good people end up because of the opportunities we have for learning and the scope and scale of the important projects we work on; and our reward system seems to excite the best in the industry.

"And our customers understand that it's our job to try and outperform their expectations. Ninety percent of the education in our corporate training courses is about delighting the customer. Our corporate university does not even have a lawnmower for use in training. That's how we have grown to be such a large and

*continued on page 24*

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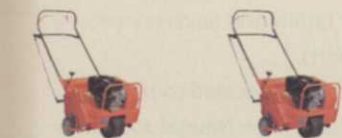
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continued from page 21  
 ers' associations in the Cincinnati area. All of them also had the same high standards and concern for aesthetics his company's

other clients had, so he knew they could deliver.

But after the decision was made, Rorie was the one left wondering if he had a



Mike Rorie battled, and stayed, with HOAs.

brain. "We found out the hard way just how difficult it can be to do business with a democratically governed community of private homeowners," he says. "Suddenly, you have not one boss but 200. And then there was the constant turnover (of board members) after board elections, which meant that we had to re-establish our connections and reeducate the customer at least once a year."

It was a hard lesson to learn, but, mastering the subtleties of the analysis, Rorie decided to stay and redouble the company's efforts to succeed in the HOA niche. "We could have said to ourselves, 'This isn't our core business, and we're tak-

continued from page 21  
 successful company. We attract good people and train them to do what we do: satisfy the customer."

You don't have to be a large corporation like EII to take a similar attitude toward training your employees. At Ultimate Services Lawn Care, John Chiarella takes an attitude parallel to Sperber's.

"Every winter, I invite some of my old professors from the University of Connecticut School of Horticulture to come to our facility and teach our people," he reports.

"We also have decided to partner with a local college — Naugatuck Valley Community College — for accredited and non-accredited horticulture courses held at our facility. Their faculty people will be coming into our building where we have teaching facilities in place," Chiarella observes.

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## How to find your core business/customers

"Focus is one of the keys to becoming profitable in the landscape business" says Green Industry consultant Jim Paluch of Painesville, OH, who has worked with several of the landscape professionals interviewed for this story. "Take that one niche and become the best in it," he advises.

Paluch admits it's easier said than done. "A lot of factors work against a company's doing that. Most owner/operators hate to lose the revenue that the other, non-core business areas are bringing in. Often, these non-core businesses are not really making profits, but they are bringing in revenue, and the owner/operator is deceived into thinking that this line of activity is making money for him."

How do you decide what's core and what's not?

"Step back, list your clients, and take a hard look at where the profitable income is. And zero your attention in on that like a laser beam," Paluch says.

ing some hits here, so let's get out.' But we didn't. I listed out the reasons why we should stay in the HOA line of business, and they seemed compelling."

The reasons Rorie decided to stick it out were:

- 1** This was high-end maintenance work — his company's true core competency.
- 2** The dollar value of the contract was high — four to five times higher than the company's typical industrial or commercial maintenance contract per year.
- 3** The company had already achieved substantial market saturation in their geographic area with the existing commercial/industrial customers. There were not that many other places to go where they

could find customers willing to pay for high-end landscape maintenance services.

So Groundmasters decided to hunker down and crack the HOA nut. To accomplish this, Rorie required his account managers to attend the associations' board meetings and participate as appropriate.

This made possible a two-way information and education flow that helped overcome the difficulties inherent in working for a multi-person customer.

This strategy has paid off, Rorie reports. "We now have about 20 HOAs under contract and we expect to break \$1 million in

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John Chiarella likes to stay focused, too, but he'll provide other non-core services in the name of customer satisfaction.



this segment soon. And the niche is still growing — HOAs are a vast market. Plus, as the people who live in HOAs are professionals and executives, winning them over is good for us — they can help us land contracts in the commercial marketplace.”

**Can you compete?**

Another take on deciding what your core business is comes from John Chiarella, president/owner/founder of Ultimate Services Lawn Care in Wolcott, CT. Chiarella started out with the proverbial single push mower while still in high school in the upscale suburbs of central Connecticut. His business steadily grew to the point where today his revenues average between \$4 and \$5 million a year, and at peak his staff numbers 50 to 60.

His core business? “We specialize in landscape maintenance for high-end residential properties, some of which boast million dollar landscapes,” he says.

A graduate of the University of Connecticut School of Horticulture, Chiarella likes to stick to plants, gardening, landscaping, and things green in general. But when his customers ask him, he’s prepared to provide services he never studied in college. “We’ve done exotic gardens, grass tennis courts, putting greens and all kinds of other things for our customers on request,” he says. “Once I even chased a bee out of a customer’s porch on a Saturday night.”

Is that lack of focus? Chiarella says no. “While we are sometimes willing to do unorthodox things for our customers,” he ex-

plains, “we do not try to undertake new lines of business, even landscape-related business, in which we cannot compete.” For example, he won’t branch out into the sprinkler business or design/build because there are already a number of excellent contractors in that niche, “and I could never catch up to them in a reasonable time.” In addition, those people often work with Chiarella as subcontractors, and he doesn’t want to step on their toes.

“It’s good focus to know who your friends are and to keep them,” he says. **LM**

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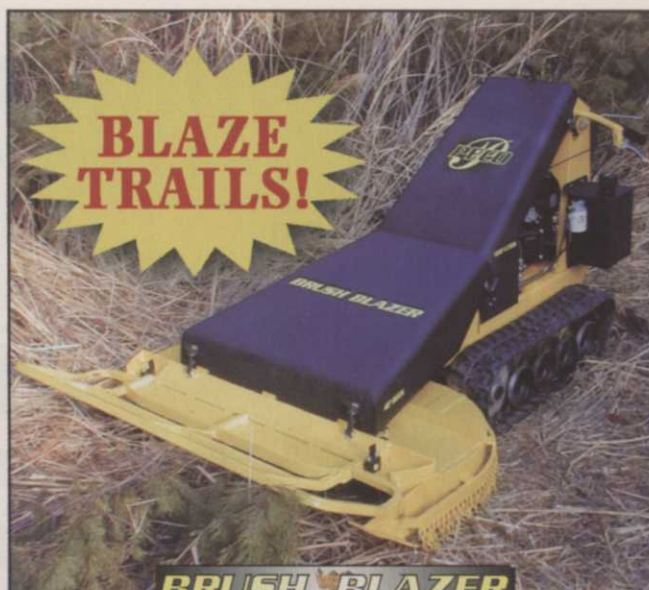


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BY WAYNE VOLZ

**T**he three most important words in real estate are location, location, location.

In commercial mowing, they're production, production, production.

There's no secret to running a successful landscape mowing/maintenance operation — you mow and trim as much property as you can in the least amount of time that meets or exceeds your clients' expectations. You do it over and over again. Day after day. Week after week.

What was considered a good day's production from an operator and his commercial unit 20 years ago is child's play to the same operator on a ZT rider today. In fact,

Today's landscape business owner wants mowers that are bigger, faster, more maneuverable and more comfortable.

few facets of landscape maintenance have changed as much as commercial mowing, in particular mowing equipment. Remember what was considered a state-of-the-art commercial mower just 10 years ago? Five years ago?

### **Bigger and faster**

Today's efficiency-conscious landscape business owner wants mowers that are bigger, faster, more maneuverable and, to some extent, more comfortable.

One New England operator is now mowing his large commercial properties with a Deere fairway unit with a 11-ft.-wide cut. The batwing design allows the operator

*continued on page 32*



# Minimize Mowing & Clippings with Controlled-Release Nitrogen

Richard Guzman realized there was something missing in home lawn care services that golf courses had always provided: topdressing. So he started his own business in 1998 offering deep core aeration and topdressing to homeowners and sport fields in the Atlanta area.

"Traditionally, lawn care companies just mow, fertilize and water," says Guzman, owner of Sandman Topdressing and Aerating, Inc. of Hoschton, Georgia. "When you add deep core aeration plus topdressing, all of a sudden the lawn looks phenomenally better. Our topdressing is mostly sand with about 10% organic compost."

While Sandman's customers enjoy their thicker, plusher lawns, they often complained that the grass color faded a month or so after topdressing. "Our Southern turfgrasses require more nitrogen than bluegrass and other northern turf," explains Guzman. "We knew we could put down straight nitrogen and get green grass, but didn't want to bring on a surge of growth and get excessive clippings and added thatch."

A year ago, Sandman was searching for the best fertilization solution for its patented Sandman Application System® when the company discovered Nitroform® Controlled Release Nitrogen from Nu-Gro Technologies, Inc. Nitroform contains more than two-thirds water insoluble nitrogen, providing extended nitrogen release for 8-12 months. Unlike other nitrogen sources, Nitroform has a 1:1 ratio of nitrogen to carbon. When microorganisms break down the nitrogen in Nitroform, carbon is used as an energy source for microbes. An increased microorganism population results in healthier turfgrass.

**Cut More Leaf, Less Stem...** "Nitroform constantly releases small amounts of nitrogen so the turf stays green and never goes hungry," Guzman notes. "Once we started applying Nitroform, our customers' lawns and sport fields were near perfect all summer long. We found people were mowing less often - cutting more leaf and less stem when mowing. Nitroform is transforming our business dramatically for our customers and franchise operations."

Sandman continually educates its customers about the benefits of controlled-release nitrogen. They tell them that excess clippings and surges of growth are real negatives.

"We promote returning the clippings to the soil," says Guzman. "By removing the clippings, you're losing 30% of your fertilization. Just mowing and leaving clippings where they lay is the best thing for the turf. By promoting controlled growth, you mow less often, compared to every other day with fast-growing lawns."

Sandman crews topdress throughout the growing season, from mid-March through the end of October. They first deep core aerate, then apply Nitroform at the rate of 200 to 300 pounds per acre, then topdress and drag the material into the soil with Sandman's patented drag-mat screeds.

"Topdressing eliminates thatch, helps percolation, increases the efficiency of fertilizer intake, reduces moisture requirements and develops a healthier root zone," explains Guzman. "Nitroform encourages organic matter and promotes controlled leaf growth. Our customers notice the difference two months and beyond because there's no drop off in feeding, no surge of growth and fewer clippings."



*Cut More Leaf, Less Stem*

**Other Nu-Gro Nitrogen Products...** Other controlled-release nitrogen sources available from Nu-Gro Technologies include Organiform® and Nutralene®.

Organiform provides intermediate nitrogen release lasting 16 to 24 weeks. It contains 55% water-insoluble nitrogen, allowing sustained release when plants need it most. Organiform builds up beneficial soil bacteria, even in soils naturally low in microorganisms.

Nutralene provides nitrogen nutrition lasting from 12-16 weeks. It contains 14.5% water insoluble nitrogen, and releases nitrogen both by hydrolysis and through microbial activity. This dual-release of Nutralene provides a two-fold advantage: hydrolysis releases nitrogen quickly, giving plants a boost at the beginning of the growing season, then microbial activity releases nitrogen more slowly through the rest of the season.

"Many homeowners spend time and money mowing much more often than necessary," says Guzman. "They can fill up 20 bags of clippings from a 5,000 square-foot lawn. They spend time filling up the bags and then have to dispose of them, too. By mowing less, they save time, use less fuel and put less wear and tear on their equipment. The best part is they also have a more beautiful, deep green lawn."



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Circle No. 122

*continued from page 30*

to swing up either of the side cutting units (or both) with a push of a button. He hardly slows even when approaching a tree or other obstacle.

Maybe you don't mow properties that large, but you get the point. Production is one of the biggest keys to profitable mowing.

### Is the price right?

An equally big piece of the mowing profit puzzle is pricing. If a company overprices a property, it risks losing the job to a competitor. But if that same company underprices the job, it can find itself doing a lot of work for little return.

A landscape company that doesn't know why it charges what it charges is in for trouble. A "guess" bidding process may



You'll boost efficiency when equipment is properly stored, fueled and ready to go.

seem to work for awhile, but as your company grows, the chances that process will fail greatly increase.

To succeed in commercial mowing, you have to accurately calculate your cost of op-

eration. McDonald's knows exactly what it costs to get an order from them to you.

Why should your business be any different?

Don't charge "x" number of dollars per manhour because your competition is charging "x" number of dollars per man-hour — know why you charge what you charge. The success of your business is more important to you than the success of your competitor's business, isn't it?

### Don't second-guess

I found myself second-guessing my bids a lot. I knew other companies were bidding on the same jobs we were, and knew they were bidding less than we were. I caught myself thinking they were right and I needed to adjust my bid. Unfortunately, we were trying to bid against other companies that had no idea why they charged what they charged.

I finally realized I was on the same path of destruction as them. When we established our current bidding strategies, we began bidding with confidence. We calculated our cost per hour of operation and knew what we needed to charge. By knowing our cost, it made the service easier to sell.

How did we develop our bidding system? We put together a system that accurately

*continued on page 35*

## Boost production, hike your profits

When your crews are maintaining a property — mowing, trimming, etc. — they're serving customers and contributing to your company's financial well-being. Your task as a company owner or field supervisor is to maximize this time and minimize the time when their not actually servicing properties.

To compete in today's landscape maintenance/mowing market, you must establish systems to make your crews as efficient as possible, says longtime industry consultant Jack Mattingly. He says that even small increases in employee productivity, measured over the course of a season, can significantly improve a company's bottom line. He offers these suggestions for boosting crew efficiency:

- Have crew members fuel and load their service vehicles the night before.
- Park service vehicles at your shop so you don't need to be moved around the next morning. They should be ready to roll when the crews are.
- Equip walk-behind mowers with a stand-on sulky like a Velkey or Jungle Wheels. It will dramatically increase production.
- Consider having a mobile snack service (what Mattingly refers to as a "roach coach") show up at your shop early each work day for coffee, donuts, etc. Make sure the vendor packs up before your crews are scheduled to leave the yard.
- Dismiss marginal employees and non-performing employees. The sooner you do this, the better.

— Ron Hall

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- Develop a more fibrous, extensive root system
- Enhance early plant growth and vigor
- Build greater shoot mass
- Increase uptake of soil nutrients and moisture
- Increase photosynthesis

UHS Signature Brand Fertilizers with Prospect® Plus have been impregnated with a proprietary nutrient solution that has shown a remarkable ability to improve vigor, quality and stress tolerance in turf, trees and ornamentals. The patented additive in Prospect® Plus has been tested extensively on many crops, including turf, in laboratory, greenhouse and field studies in the U.S. and several other countries.

Those studies have consistently shown a positive effect on early plant growth and development and with mature plants under stress. Sod farms results show that turf can be harvested earlier due to increased root mass and quicker establishment from seed or sprigs. Mature turf has greater root mass with a noted "tighter" visual appearance and less susceptibility to stress.

The same benefits can be found in Prospect®, a liquid micronutrient for foliar application or for use in fertigation systems.

## Effect of Fertilizer with Prospect Plus on Creeping Bentgrass Density

Ohio Turfgrass Foundation Research and Educational Center – 2000

Treatment	Rate	% Turf Density
Check		60.00
Fertilizer (46-0-0)	0.014 lb. N/1000 sq. ft.	72.00
Fertilizer (46-0-0) + Prospect Plus	0.014 lb. N/1000 sq. ft. + 48 oz./acre	77.00

Seeded on August 4, 2000 with G-2 creeping bentgrass at a rate of 2 lbs. per 1000 sq. ft. Density measurements were based on % cover taken visually on 10/4 (8 weeks after treatment)

**Study Results:** "... a significant increase in creeping bentgrass establishment two months after seeding with the application of fertilizer and Prospect Plus compared to the untreated control." A 22% improvement over check and more than a 12% increase over fertilizer alone!

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**SIGNATURE CLOSE CUT BLUEGRASS BLEND** contains three of the best Kentucky bluegrass varieties including Princeton 105, Apollo and Rambo to provide top performance under close mowing conditions.

**SIGNATURE TRINITY PERENNIAL RYEGRASS BLEND** is a three-way blend of the finest perennial ryegrasses available, including the highly-rated Palmer III, making this blend an excellent choice for tees, fairways and sports turf.

**SIGNATURE DIVISION I SPORTS TURF MIX** is a quick-establishing turf mixture containing three top perennial ryegrasses plus one top-notch Kentucky bluegrass variety for improved wear tolerance.

**SIGNATURE STADIUM MIX** contains three excellent tall fescue varieties including Scorpion, Shenandoah II and Gazelle as well as Dragon Kentucky bluegrass to produce good sod forming qualities with outstanding drought and heat tolerance.



Only United Horticultural Supply offers the **Signature Pure Seed Tag™** assurance of quality. This tag means every seed lot has undergone testing and found completely free of noxious weeds and unwanted grasses

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continued from page 32

measured the cost of each job. This included:

- the equipment needed,
- the hourly production of the equipment,
- the mowing time required,
- the trimming time required,
- the blowing time required,
- the level of difficulty of the job,
- travel time
- any contingencies and
- overhead.

The biggest factor in determining a bid is the total number of man-hours to complete the job.

Also, knowing the production possibilities of each piece of equipment your company uses is critical to the success of estimating the man-hours necessary to mow a given area. The formula I use is simple and easy to remember: ground speed (mph of the unit) times width of cut (inches) divided by 120 (assuming 80% productivity from the operator) equals production capability per hour of operation. As an example, let's consider a mower with a ground speed of 4 mph and a 48-in cutting width. Multiply the two factors and divide by 120 (assuming 80% productivity allowing for overlap, turns and terrain differences)

for a production rate of 1.6 acres per hour. (For more info, See "Best Practices" page 92.)

Calculate the trimming and blowing time by taking a given percentage for each. We've found you can add between 25% to 35% of the mowing time to your bid to cover the time necessary for weed-eating. Increase or decrease these amounts depending on conditions.

## The sharpest cut of all

It's not every day at our editorial office that we get a package with a mower blade in it. In fact, we'd never gotten one until a long, thin package arrived from Janik Technologies Corp. last month.

This blade was unusual because it had razor-sharp metal inserts on its two cutting edges. I held up a sheet of paper and managing editor Jason Stahl sliced it easily.

Our interest piqued, we contacted the blade's co-inventor, Jim Blarek. He says he and Dave Nemke came up with the idea of the metal inserts ("They can be tapped onto the blade in seconds," he says) because he was sick of sharpening the blade on his mower. Also, he wasn't satisfied with the cut his mower gave his one-acre property in Hatley, WI.

Working off the concept of a utility knife, Blarek and Nemke designed the inserts to be tough, sharp and replaceable. The two and Randy Janikowski of Janik Technologies, took prototypes to the 2001 Mid-Am Horticultural Trade Show in Chicago and were mobbed by landscape companies demanding to know where they could get the blades, says Blarek. A month later, in February 2001, Blarek and Nemke got a patent for his unique blade design.

"New mowers have cup holders, zero-turn radiuses, cruise control and just about every other option, but nobody has ever really changed the object that does the work — the blade," says Blarek. "Not until now anyway."

Blarek says several mower manufacturers have expressed interest in equipping mowers with the blades, and discussions with a blade manufacturer are ongoing.

Field testing has shown that the blades, even when dull, are sharper than a recently sharpened traditional blade, says Blarek. He claims they give a cleaner and faster cut than OEM blades. They also save fuel and wear on mowers. Best of all, you don't need to remove the blades from the mower to replace the sharp edges.

When will these blades become available to landscapers? That's up to the industry and its suppliers, says Blarek. "Every industry has its own way of doing things and it's always hard to accept change."

For more information about the blade, contact Janikowski at [rjanik1@msn.com](mailto:rjanik1@msn.com) or 715-446-2316.

— Ron Hall



Mower blade with replaceable super-sharp cutting edges

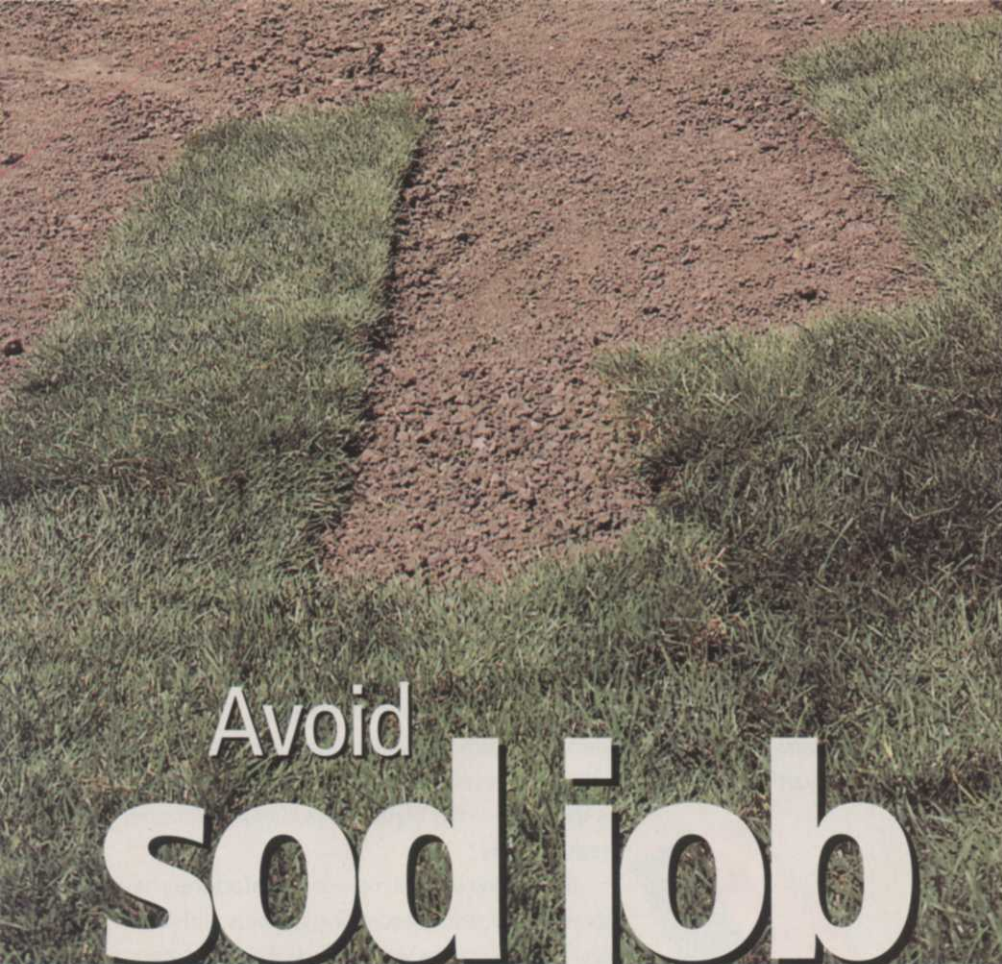
Take between 4% and 8% of your mowing time and use it as the blowing time for most residential jobs. This has been reliable for our service through the years.

It still amazes me to see how many failures there are due to improper bidding. We often think nothing of spending thousands of dollars on trucks, trailers and equipment, but don't want to spend

money for business education.

All of us must consistently look for ways to become more efficient and better managers. I have yet to meet anyone across the country who has told me, "I can't wait until the day I go out of business." **LMI**

— The author is owner of Wayne's Lawn Service, Inc., Louisville, and offers consulting services through Profits Unlimited. He can be reached at 800/845-0499.



**... or, 10 ways  
to not get paid  
for your next  
turf installation  
project**

# Avoid sod job

BY HANK WILKINSON

# screwups

**S**od is a perishable product. It can die, but long before it dies it can be stressed, stunted or forced into dormancy. It contains more than just grass plants and soil. In fact, the soil contains millions of microorganisms, small animals and plants, all of which must be nurtured to maintain a beautiful and healthy lawn.

A number of important issues are worth keeping in mind to ensure the new sod will perform. Failure to recognize these practices could result in failure of the sod and the resulting loss of your income. Here are my top 10 ways to botch a lawn installation job, not to mention harming your reputation.

**1 Underestimate the time and planning it takes to install sod.** Preparation is required to ensure that you and the landscape

are ready to receive sod. Overestimating how many yards of sod you or your crew can install in a day can cost you big money. Sod is perishable and can die even before you unroll it. Never make the sod wait to be installed.

**2 Buy poor quality sod.** If you start with poor quality sod (weeds, weed seeds, disease or insect damage, old, thatchy, poor variety, etc.), you'll wind up with poor quality lawns and unhappy customers. Poor quality sod will cost you money in terms of handling, causing you a lot of extra trimming and leaving you with unwanted scraps. Inspect and buy only top quality sod.

**3 Don't be ready to receive the sod delivery.** When sod is ordered, it's usually cut late in the afternoon the day before or very early the morning of the delivery. This guarantees that you and your customer get the

*continued on page 38*

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Prior to installing sod, remove any rocks and debris from the soil.

## Before you buy sod...

- Seek out a reputable sod producer
- Ask what varieties of seed make up the sod
- Ask how old it is (<24 months is best)
- Visit the sod farm and inspect the fields with the producer
- Check the thatch layer: it should be less than <math>5/8</math> in. thick
- Inspect the sod when it arrives: it should be moist, cool and neatly cut

— HW

*continued from page 36*

freshest, coolest sod. Remember, the microorganisms that live in the sod respire, so they're always generating heat — like you when you carry rolls of sod. In addition, sod cools itself by evaporation (like sweating). However, once sod is harvested and rolled up for delivery, it cannot cool itself nor dissipate the heat from the microbes. It can reach a temperature of over 130° F in 24 to 48 hours if left rolled up. Also, if you're not ready to receive the sod, you'll infuriate truck drivers who have to wait, and the delivery person won't be able to place the sod where you can use it efficiently. In short, you'll have to handle the sod more, which will cost you money. Don't order the sod until you're sure you can install it.

**4** Don't prepare the soil properly. Sod starts to form new roots as soon as it's harvested. These roots need to find porous, moist, cool soil. Till the soil, remove any debris and rocks, and make sure the soil doesn't contain too much (<30%) clay. Have the soil tested if you suspect it has too much clay. When you lay good sod on poor soil, the sod won't root, the density of the turf declines, and the grass desiccates in the summer. Further, poor soil preparation will require more water, more fertilizer and more explanation, all of which will

cost you more money. Make sure your soil has a good texture. If needed, add organic matter and good topsoil and till it into the top 3 to 6 inches of the soil.

**5** Don't add water to cool the soil. Water cools the ground and helps the sod to root. The sod you're installing just had about 80% of its roots cut off and therefore can't absorb water efficiently. Keep the sod and the soil below it moist and cool to prevent desiccation and root "stinging," or death caused by dry, hot soil. The soil surface in the mid-west can reach 130° F on a bright, sunny day. If the sod gets hot while on the pallet and then is installed onto hot soil, it will be heat stressed and may go dormant (off-color green or brown, and no new root growth). Thoroughly wet the soil to about three inches deep between 24 to 48 hours before you install the sod. By the time you install the sod, the soil surface will be dry enough to work on. Once the sod is unrolled, the moisture in the soil will migrate up to meet the sod. You won't have to add as much water after installation, and the sod won't go dormant.

**6** Do a sloppy installation. If you've left big seams or had to patch a lot of little holes because you didn't trim correctly, your customer will be unhappy. Pay attention to details. Stay off the soil as much as possible before you install the sod. Once the sod is rolled out, work on it only when necessary to fit and trim it, then stay off it. Remove any air pockets beneath the sod: they'll cause it to dry and turn brown. Use a riding roller to ensure contact between the sod and the soil. Don't use a hand roller: your feet will damage the sod as you struggle with the roller. Finally, as you roll out the sod, give it a good soak. This will prevent shrinking and heat stress.

**7** Don't tell the customer how to manage the sod. Homeowners, although well-intentioned, don't have a clue as to how to properly establish turf. If you, the installer, leave the sod care entirely in the homeowner's hands, expect callbacks and complaints. In general, people water lawns too frequently and don't apply enough

*continued on page 40*





Equipment Knowledge: Check

Local Ownership: Check

Professional Advice: Check

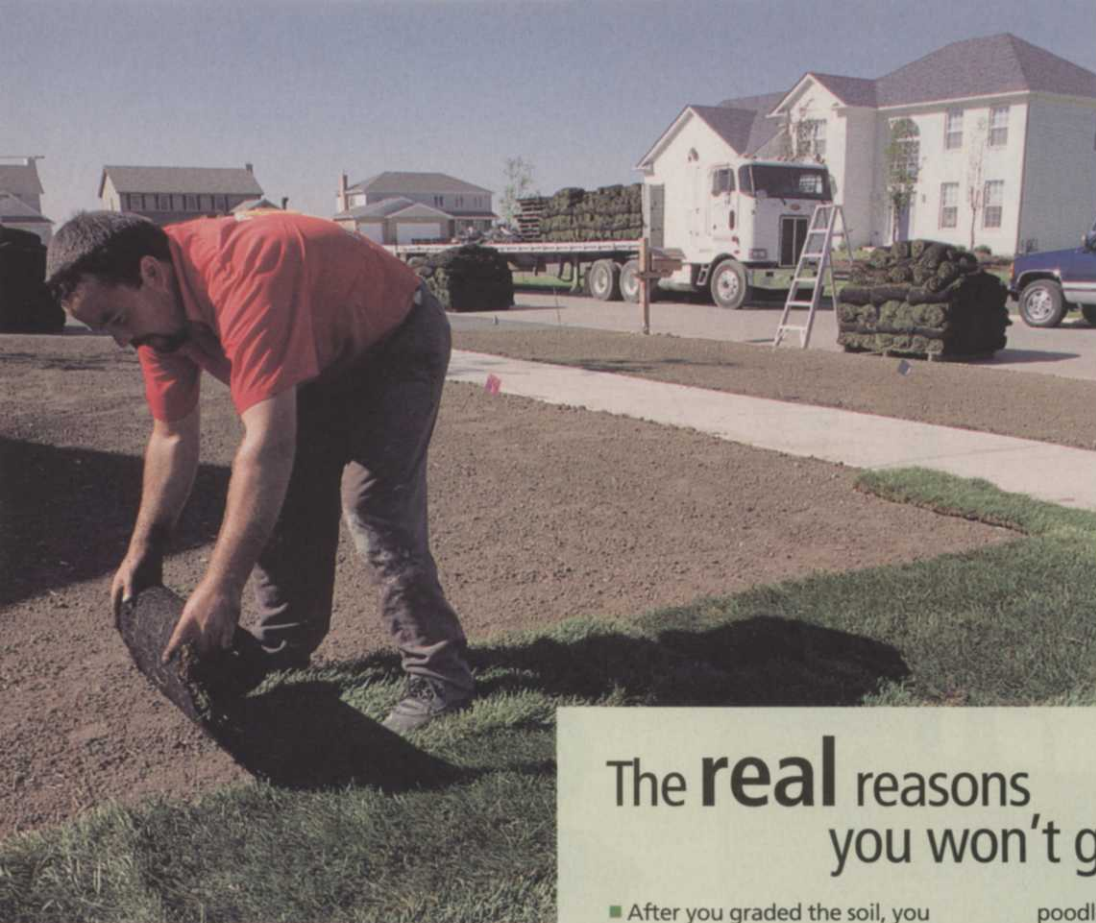
Mechanical Expertise: Check



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Properly trimmed sod fits neatly together and doesn't leave big seams or lots of little holes. Patching takes time and the job doesn't look as neat.

*continued from page 38*

water. Another problem is improper mowing. After installing the sod, leave a written description of how to care for it. Review this with the customer. If you need a plan like this, visit the Midwest Sod Council's Web page ([www.midwestsodcouncil.com](http://www.midwestsodcouncil.com)) for details.

**8** Leave the on-going mowing, fertilizing and watering up to the customer.

Your customers want a beautiful lawn; otherwise, you wouldn't be installing one. They also want to help care for the sod. However, most customers are busy and not knowledgeable about taking care of a new lawn. The least you should do is instruct the customer on proper management for the turf: when to mow, fertilize, and water their lawn. They must realize that the first few weeks after installing sod are critical to proper establishment.

**9** Don't tell the customer when they can get on the grass. Customers should know that grass is not that fragile after it's installed, but they need to use some caution. Sod can be walked on by humans and animals immediately after it's installed. However, caution your customer to avoid

## The **real** reasons you won't get paid

- After you graded the soil, you forgot to come back and put the sod down.
- You gave the sod company a delivery address in another town.
- You bought sod from the same guy that sells velvet Elvis pictures along Rt. 66.
- You put most of the sod greenside up, but not all of it.
- It was too hot to water the sod, so you did it the next day.
- You gave the customer's little poodle a whack for "watering" on the new sod.
- The last thing you did on the job was paint the grass green.
- You tried to explain why summer patch developed in the sod and got caught BS-ing!
- You let the customer's kids help, and then blamed the sloppy job and overtime on them.
- You just read this article and have no idea what the author was talking about.



— HW

any activities that cause lateral movement and shearing for about 4 to 6 weeks. Tell the customer what they can and can't do on the grass, and explain why.

**10** Don't check up on the sod's progress. This may take both diplomacy and salesmanship, but try to get the customer to allow you to perform post-installation services. In most cases, you don't

want to leave the success of your efforts and professional reputation in the customer's hands. Prepare a schedule and list of how you'll inspect the lawn during the critical establishment period (3 to 6 weeks).

— The author is associate professor of turfgrass science at the University of Illinois and a popular speaker at regional and national turfgrass conferences.

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Circle No. 128

## Property at a glance

**Location:** Tampa, FL

**Staff:** One Source Landscape & Golf Services

**Category:** Amusement or Theme Park

**Total budget:** N/A

**Year site built:** 1959

**Acres of turf:** 125

**Acres of woody ornamentals:** 104

**Acres of display beds:** 3

**Total paved area:** N/A

**Total man-hours/week:** 3,000

## Maintenance challenges

- ▶ High profile/high attendance park
- ▶ Strict ride/animal safety restrictions
- ▶ Time/visibility/noise restrictions

## Project checklist

Completed in last two years:

- ▶ Elephant display renovation
- ▶ North veldt renovation
- ▶ Ewasi roller coaster landscape

## On the job

- ▶ 75 full-time staff, 5 licensed pesticide applicators

# Busch Gardens

## 2001 PGMS Grand Award Winner for Amusement or Theme Park

Busch Gardens attracts millions of paying customers a year. The pressure is always on the staff of One Source Landscape & Golf Services to keep the popular theme park looking perfect.

Aside from a constant parade of foot traffic of visitors, the grounds crew maintains several different types of landscaped themed areas, including jungles, deserts, savannahs, topiary gardens and big beds of color. If the Edge of Africa landscapes appear a little wild and overgrown, don't worry — it's intentional.

It's one thing to have to deal with an ornery possum or armadillo once in awhile, but can you imagine fighting off crocodiles in your daily landscape maintenance chores? Workers have to be suspended in safety harnesses to access the jagged walls of the Nile crocodile pool and maintain the crinum lilies, fountain grasses, firecracker plants and purslane.

Workers meticulously time applications of fertilizers and other chemicals for peak effectiveness and also to build in an extra measure of safety for employees and park guests.



Workers time applications of fertilizer and chemicals for peak effectiveness and safety.

Irrigation specialists have their own challenges in this account. They regularly perform zone checks to make sure the irrigation performs as expected.

It's a big job with seven irrigation wells, 120 clocks and over 1,000 zones on the property.

**PGMS**  
**Landscape**  
MANAGEMENT

Editors' note: *Landscape Management* is the exclusive sponsor of the Green Star Professional Grounds Management Awards for outstanding management of residential, commercial and institutional landscapes. The 2002 winners will be named at the annual meeting of the Professional Grounds Management Society in November. For more information on the 2001 Awards, contact PGMS at:

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The grounds crew at Busch Gardens, Tampa, has to care for several different types of landscapes, including jungles, desert-like landscapes, savannahs, topiary gardens and big beds of color.



## Infields to build reputations

### Secrets to great infield soils from a former Major Leaguer and a master of the art

BY PAUL ZWASKA

*Editor's note: This article is the second in a series of three that will discuss the basics of infield care.*

**T**he soil type you use on your infields is vital to its playability and, ultimately, to your reputation as a grounds professional. It's your responsibility to know and select the best soils for your baseball or softball infields.

That's where you prove your worth.

Don't rely upon a supplier to make the decision for you. Most suppliers don't understand the special characteristics needed for a superior infield surface. The soils they often recommend are too sandy and unstable. They won't be able to meet the six basic criteria you should always strive for in building, repairing or maintaining a skin infield: traction, playability, resiliency, surface drainage, appearance and consistency.

Select a soil you can compact for stability but fractionate with moderate agitation when using an Aero-vator or greens aerator. This will crack the soil open so it will accept water more easily but won't introduce too much pore space, which can deteriorate the base mix's firmness.

Don't overdo it. Rototilling introduces large



Former Baltimore O's grounds pro Paul Zwaska says that 75% of baseball or softball action happens on dirt.

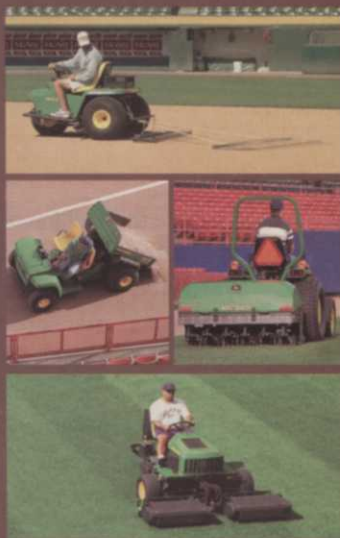
amounts of pore space into a soil. (However, rototilling is acceptable to thoroughly mix amendments or large amounts of soil to the existing skin when it needs it.)

*continued on page 48*



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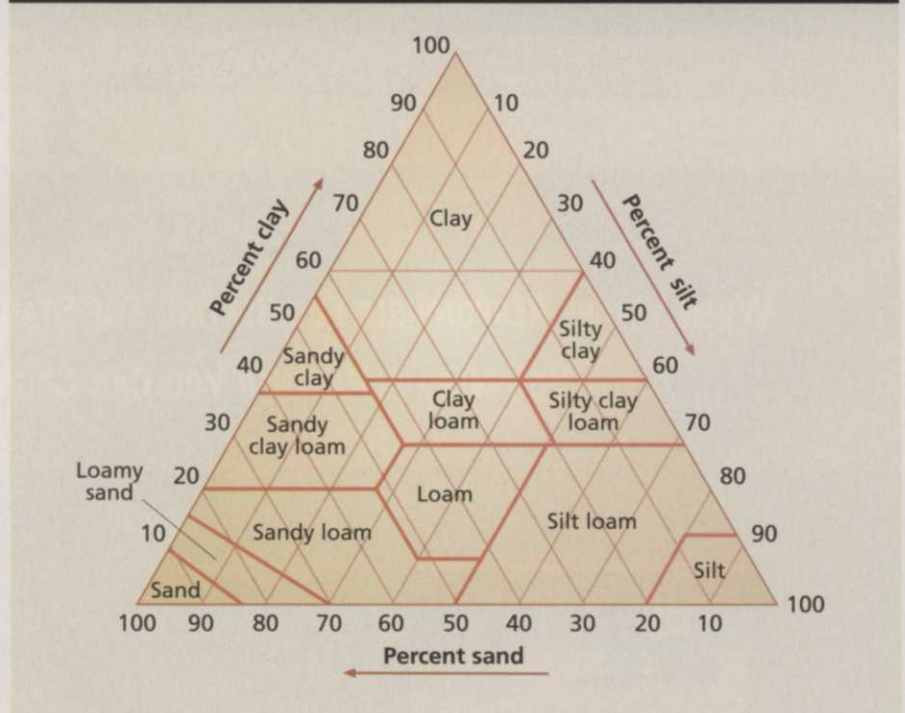
Soils are typically classified by the percentages of soil sand, silt and clay in them. You have to choose a soil with the right binding qualities because there's no turf-grass root mass to help stabilize the infield surface. The soil needs to bind enough to permit adequate traction, yet it can't compact so much that water won't infiltrate it.

The two basic characteristics that influence how well a soil will compact and bind up are:

**1. The percentage of clay in the mix.** The combination of clay and water is the glue that holds soil particles together. Too much clay in the soil mix may make it too hard and difficult to manage.

**2. The shape of the sand in the mix.** Sand grains in a good infield mix should have an angular to sub-rounded surface texture and a relatively non-spherical shape. Sands that are somewhat angular or rough on the surface will lock up better mechanically and thereby help to firm up and stabilize the soil. Sands that have a rounded or smooth surface will tend to resist firming up due to their lack of surface

**FIG. 1 SOIL TEXTURE TRIANGLE**



texture. Imagine trying to compact a bowl of ball bearings with your fist. Sand particles that are too round show the same characteristics and aren't suitable for an excellent infield.

Soils vary widely throughout the country, but there are general recommendations that can be used as guidelines when choosing an infield skin base soil. Use them as the starting point to formulate the specifications for your mix according to available soil supplies, climate and field conditions.

The area shaded in the soil texture triangle shown in Fig. 1 indicates an infield skin's optimum range of soils. Other soils outside of this shaded area (mainly just to the right) can provide the qualities needed for an infield skin. They will, how-

ever, require the addition of soil amendments in order to acquire the desired traits.

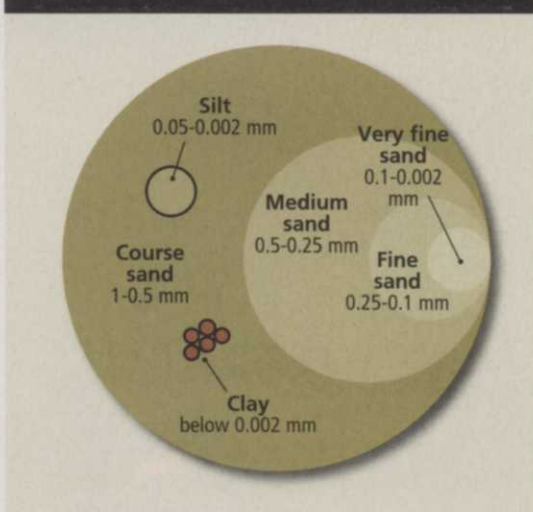
When ordering infield soil material from a supplier, make sure the soil is shredded and thoroughly screened to remove any trash such as rocks, clumps and twigs. Double screening is always a good idea, if possible. It might even be worth purchasing your own small soil screening machine.

When your infield mix has been delivered, check the quality of the material before it's unloaded. Make sure it's clean. Never hesitate to refuse a load of soil if the quality appears questionable. Once you get a bad load of soil on your infield, you'll be stuck living with it until the day you remove it. Or management removes you.

If you're unhappy with your existing infield base soil, take a sample and send it to a private soil testing lab or local county extension office for a soil particle size analysis.

*continued on page 50*

**FIG. 2 COMPARING THE RELATIVE SIZES OF SOIL SEPARATES**



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Soil separate	Recommended % range of soil separate	Comments
Sand	50-70%	Higher amounts=>soil mobility=>maintenance. Avoid sands with surfaces that are severely angular or rounded as well as highly spherical.
Silt	15%-35%	Stay with lower end of recommended values to avoid dusty infields. High levels of silt will increase the slickness of an infield skin when it is wet.
Clay	15%-35%	Infield soils with clay contents higher than 25% may require the addition of soil amendments for proper soil consistency.

*continued from page 48*

This test will give you the percentages of sand, silt and clay as well as the sand shape and sand particle size distribution. You can't improve on an infield soil unless you know what's already out there. Once you have your results, you can plan a course of action for improving or replacing that soil.

**Infield skin topdressings**

Four basic types of infield skin topdressings exist on the market today — calcined clays, vitrified clays, crushed aggregates and diatomaceous earth. Each has its place in the industry due to its physical characteristics and/or availability in certain regions of the country.

**Calcined clays.** Calcined clays have been the standard in the industry for several decades. They're created from naturally occurring clays mined from the earth and processed in a rotary kiln at temperatures anywhere between 1,200°F to 1,600°F.

The intense heat creates a solid, stable particle that absorbs large quantities of moisture but doesn't change the clay's physical characteristics. Calcined clays have an enormous number of micropores, which create strong capillary action that can wick up water at tremendous speed.

Dark-colored calcined clays (grayish black) are typically fired under the lowest temperatures to help maintain the dark color. The hotter the clay is calcined, the redder the material gets. Other colors are available via a dying process, but this process can adversely affect these clays' capillary action and water-holding capacity.

Calcined clays come in several grade sizes for use as soil amendments, infield topdressings or drying agents. They can be purchased in bag or bulk form, but the material should be kept under cover to protect it from rain until it's used. They're susceptible (compared to the other topdressings) to being distributed across infield skins by strong winds or heavy rain.

**Vitrified clays.** Vitrified clays, also known as porous ceramics, have only been around for a little more than a decade, but they've rapidly become popular with groundskeepers at all levels of play. They're created using naturally-occurring expansive clays that are processed through a rotary kiln and heated to 2,000°F.

The extremely high heat causes the micropores in the raw material to rapidly expand, thus creating larger macropores. This transformation destroys the natural capil-

*continued on page 55*

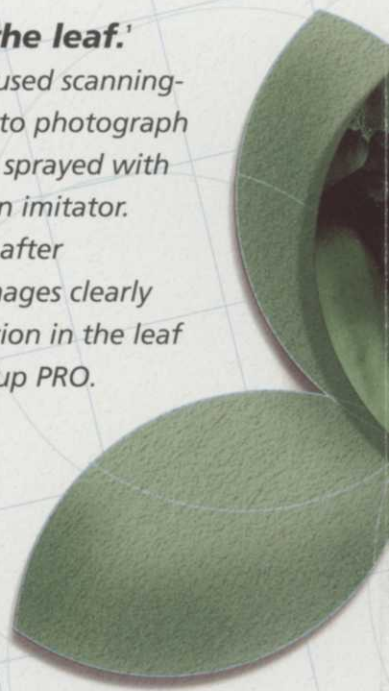
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*Monsanto scientists used scanning-electron microscopy to photograph the effects of weeds sprayed with Roundup PRO and an imitator. Taken just one hour after application, these images clearly show more formulation in the leaf sprayed with Roundup PRO.*



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***The proof is in the roots.<sup>2</sup>***

*Scientists also used autoradiography to photograph and measure the amount of herbicide in the roots two hours after application. Time after time, at least three times more herbicide showed up in the weeds sprayed with Roundup PRO. With the imitator, barely any herbicide has moved to the roots.*





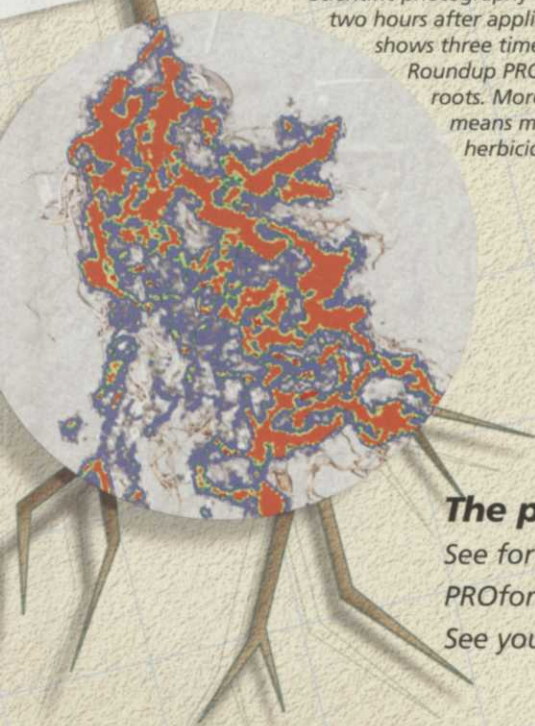
*This is a cross-section of a weed leaf magnified 1000x. The yellow droplets mean Roundup PRO is already at work inside.*



*This weed, sprayed with the imitator, has almost no droplets in the leaf.*

*Syngenta's latest imitator product*

*In the first two hours, almost no imitator herbicide has moved to the roots.*



*Scientific photography taken two hours after application shows three times more Roundup PRO in the roots. More color means more herbicide.*



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continued from page 50

lary action and moisture-holding capacity of the clay, which is why vitrified clays absorb much less moisture at a slower rate than calcined clays. They're typically reddish-orange in color but can be customized to a specific color if desired.

Vitrified clay is usually sold in one or two grade sizes, and can be purchased in bag or bulk form. It doesn't have to be stored under cover since it doesn't absorb a tremendous amount of moisture. In addition, due to the material's heavy nature, it has a low susceptibility to being transported by strong winds and heavy rains.

#### Crushed aggregates.

Crushed aggregates have been used over the decades on ballfields because they're cheap and readily available in most locations. They're stone products that have been crushed to fine grades. This category also includes the use of crushed fired brick as an infield top-dressing alternative. The problem with crushed aggregates is that all stone products crush into very sharp, jagged or angular pieces. Therefore, care must be taken to make sure that any of these materials used on fields are ground down fine enough so that the particles are not too abrasive to players' bodies.

Generally, crushed aggregates absorb the least amount of moisture of all infield top-dressings. They're sold in bulk

Topdressing material	Transportability by wind & rain
Diatomaceous earth	<i>high</i> ↑ ↓ <i>low</i>
Calcined clay	
Vitrified clays	
Crushed aggregates	

and come in a variety of colors. Like the vitrified clays, crushed aggregates have a heavy bulk density and thus a low susceptibility to being transported off of an infield skin by strong winds or heavy rains. Crushed aggregate material can be found at most local or regional quarries. Not all quarries, however, have the ability to crush these materials down fine enough to make it safe for use on ballfields.

**Diatomaceous earth.** Diatomaceous earth is the newest material to be used as a topdressing. It's made of sedimentary rock composed of fossilized skeletal remains of diatoms. It's crushed and calcined to remove organic contaminants but retains a large quantity of micropores that make it very absorbent. The natural color of this material is white due to the fact that 86% to 94% of the product is made up of silica. Usually it's dyed a pinkish-red color, but quite frequently the coloring wears off and eventually creates a glare problem for infielders. It's available in two grade sizes and is sold in bags but may be

Topdressing material	Water absorbing capacity
Diatomaceous earth	<i>high</i> ↑ ↓ <i>low</i>
Calcined clay	
Vitrified clays	
Crushed aggregates	

available in bulk in the north-west United States.

Diatomaceous earth has the lowest bulk density of all top-dressings and is highly susceptible to being transported off an infield skin by wind or rain. The particle structure is some-

what more fragile than the other topdressings and will tend to be the first to break-down from the physical abrasion that occurs from dragging an infield skin.

The next, and final, installment of "The 'Dirt' on Infield Skins" will discuss how to amend or change infield skin base soils, and how to determine what types of topdressings to use on an infield skin. **LM**

— *The author is manager of Beacon Ballfields and conducts seminars on baseball grounds maintenance. He can be reached at [beacon@ballfields.com](mailto:beacon@ballfields.com).*

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Circle 132

# Strategies to combat traffic

**It's up to you, the turfgrass manager, to say "enough is enough" in saving your athletic fields from long-lasting harm**

BY A.J. POWELL, JR., PH.D.

**H**ow much play should be allowed on a game field, or even a practice field? No definitive answer to that question exists because field wear is determined by the size and intensity of the athletes, turf density and regrowth rate, and soil moisture at the time traffic is imposed. Schools are increasingly facing legal questions and are being held liable for injuries resulting from poorly designed or maintained facilities.

## Traffic trouble

To have safer fields, you need to restrict play on those fields to one sport only. You also need a turf maintenance program that promotes regrowth and turf repair.

There is no rule-of-thumb concerning the number of games that can be played on a field. Some years, when the fall playing season is dry, 30 to 50 may not cause much turf damage. But it takes only one extremely wet game to destroy a great field. Also, in most years, once the field gets wet during fall, and especially after the

grass quits growing, the soil stays wet and turf under traffic declines rapidly.

The more traffic you put on a field, the faster the turf declines. Football causes extreme wear between the 20s, and soccer between the 20s and goal mouths. The marching band is also hard on the field because musicians tend to march along the same lines all the time. Also, band members often execute spinning turns in exactly the same spot repeatedly.

In most situations, properly maintained native soil fields will withstand traffic as well or better than fields with sand modification and internal drainage systems. The main advantage of sand-based fields is they'll withstand much more use in heavy rain situations. If a native soil field can be rain-tarped for a few days prior to games or practices, or if the game or practice can be postponed until the field is drier, then



**The goal mouths are the most vulnerable part of youth soccer fields. Portable goals give a turf pro the freedom to spread the wear.**

native soil fields can be protected from heavy damage.

## Bermudagrass

Bermudagrass forms a tight-knit, resilient

*continued on page 58*

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## 10 ways to reduce sports field traffic

1. Restrict use when soil is extremely wet.
2. Restrict use when soil is dry and turf is wilting.
3. Always rotate heavy play areas during practices.
4. On game fields, restrict all practices to a minimum.
5. Restrict use when grass is dormant.
6. Restrict use until new grass is mature. This generally requires four to eight months post-establishment.
7. Prohibit use when surface is thawing.
8. Prohibit all unofficial play, allowing no pick-up games.
9. During heavy-use season, mow grass as tall as possible.
10. Use tarps on bench areas to reduce severe wear by coaches and team members.

— AJP

*continued from page 56*  
 playing surface with lots of lateral stems (rhizomes and stolons) growing on or near the surface. Bermudagrass wear tolerance is great during the summer and early fall, but it can be easily overused in late fall or early spring when the grass is dormant (brown). If the above-ground foliage is worn off during heavy fall play, it's not likely to recuperate in spring.

Increase spring recovery of bermuda by covering the field with straw or a synthetic cover during winter, especially be-

tween the hash marks. This is most important for the first year after establishment, but it's also important every year in which our winter is very cold (with little snow cover). Since we cannot predict winter weather, it's preferable to always cover the field.

With moderate field use and a minor amount of damage between the hash marks, you can repair the field in May or early June by hand-transplanting sprigs or bermuda sod from adjacent areas. If most of the field is destroyed, you'll need to hire a company to row-plant the field.



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Circle 107

Some new bermudas can be seeded in May or June at a much reduced cost, but these seeded varieties aren't as winter hardy and don't have the playing quality of the vegetative varieties. They can, however, provide a decent quality turf before late summer play. They can be seeded into established vegetative varieties.

### Tall fescue/perennial ryegrass

Tall fescue and perennial ryegrass don't have good summer wear tolerance, but if they're fertilized with nitrogen during the fall playing season and mowed relatively high, they'll continue to resist wear during the entire playing season. They also don't form a tight-knit, resilient sod. When tall fescue and perennial ryegrass fields become worn, then used when soil is wet, the sur-

face is disrupted, roots are dislodged, and mud oozes toward the surface.

Spring use of tall fescue and perennial ryegrass fields is superior to bermuda since the cool-season grasses begin to grow in March. But if these fields are used in both the fall and spring, reseeding/renovation cannot be accomplished at the same time because the traffic will kill germinating grass seedlings. It's difficult to reseed cool-season grasses in late May/early June and get establishment needed for fall play. This is one reason bermudagrass is often chosen over tall fescue/perennial ryegrass — it needs hot weather and can be renovated during late May/early June when fields are less likely to be used. **LJM**

— *The author is an extension turfgrass specialist with the University of Kentucky.*

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# Yankees'



## field gets a facelift

### Cleveland firm lowers, levels historic playing surface

**T**he New York Yankees baseball team plays in historic Yankee Stadium, one of the oldest remaining Major League facilities. But they'll be competing on one of the newest turfgrass fields.

Cleveland-based contractor S.W. Franks Construction reconstructed the baseball field during the off-season. The company faced a tight deadline because it had to have the field in championship condition for New York's April home opener.

"We used the complete resources of our company to provide the Yankees and

the City of New York with the best playing field that can be built," said Paul Franks, executive vice president of S.W. Franks.

"We have been working the past several winters with some tough schedules and weather conditions," added Al Ewing, vice president of operations. "While we always get a little nervous about what could take place, we wouldn't have missed this chance for the world." Other recent jobs include completion of field construction projects for the NFL Cleveland Browns, Cincinnati Bengals, Pittsburgh Steelers and, most recently, the Major League Pittsburgh Pirates.

#### Lowering the field

One of the most important objectives designers face may surprise many spectators — the need to dramatically lower the existing surface. "Most people may not be aware of the steep drop in grade that occurs in the infield from first and third base to the playing field wall," explained Dar-

ren Varner, S.W. Franks vice president. "Currently, two feet of elevation change occurs in about a 20-foot-long run between the skin and the wall. It used to be three feet prior to a minor renovation a few years ago."

After all, the team would like to be able to see the ball rolling in the outfield from the dugout. Before reconstruction, the right field corner was about 10 inches higher than the left field corner, while the center field was the highest point on the field. In addition, the left outfield wall is a chain link fence, while the right outfield wall is concrete.

"We modified the outfield wall and pads to accommodate a full-scale lowering of the outfield and warning track," added Varner.

Field modification required a surface grading to allow for an approximate 16-in. lowering of the infield and maintaining of the existing elevations of monument park and outfield bullpens.

#### Movin' earth

In some areas, workers removed as much as three feet of existing soils from the field. This cut accommodated the profile required for the sand-based growing medium. The infield mix was removed first and stored adjacent to the site for reuse later. Once sub-grade elevations were complete, the company constructed the sub-drainage system. The irrigation system was installed, followed by a gravel blanket layer, which was spread evenly over the subgrade area. Irrigation laterals were also installed into this layer.

Following these stages, a laboratory-tested and approved rootzone mix blend was manufactured off-site and brought to the site and spread over the gravel blanket. After the mix was compacted and laser grade-verified, big roll bluegrass sod was installed. **L.M.**



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# Skid-steers and their attachments

BY CURT HARLER /  
CONTRIBUTING EDITOR

**I**n a perfect world, tractor attachments would work on skid-steers and vice versa. Salespeople live in that perfect world. They'll always tell you it'll fit. Engineers, however, live in a less cooperative universe.

Look at the bucket on a Bobcat or New Holland skid-steer. It's not high, but has a long floor that gives it good capacity and a good sight-line along the long edge for grading. A tractor bucket is comparatively short and high, explains Tom Siefert, product manager for tractors and implements at Kubota, Torrance, CA.

Take a pencil, balance it on one finger. Now move it a quarter-inch to one side. What happens? The geometry is the same with a loader, Siefert says. "The breakout force on a tractor is optimized for that short bucket. Put a skid-steer on it and you reduce the breakout force."

## Time to change?

While he says it's always better to use a matched attachment for either a tractor or loader, Siefert has no problem changing around, as long as someone reads the manual. Landscapers can save money by not buying a second tool, but they have to know it might not be as efficient. You may lose 15% power and some time, but you will save money.

"Every manufacturer is beating the idea of versatility, but everything has limitations," Siefert says. "Yes, it may fit. But is it appropriate?"

Hydraulics can be a bugaboo. Be sure you're not driving an eight-gallon hydraulic post-hole digger with a five-gallon system. "Pallet forks are a no-brainer," he says. But he's cautious about buckets, especially those operated near the limits. Put the bucket from an 1845 skid-steer on an L-series tractor and you'll likely overload the tractor, especially if the dirt is wet or you're moving aggregate.

Companies like Woods and Land Pride now specify minimum pto for their brush cutter attachments. Sure, most equipment will fit a 3-pt. hitch and 540 rpm pto, but "just because it mounts doesn't mean it will work right," Siefert says. "Check the manual."



Bobcat's skid-steer loader can accommodate 50 attachments.

## Buying considerations

Selecting the right skid-steer loader for your landscaping business can be a bit baffling since there are dozens of choices. For starters, Doug A. Johnston, sales manager for skid-steer loaders at Caterpillar ([www.cat.com](http://www.cat.com)), says there are a few things you need to consider:

**1** Analyze the type of work you do. What are the typical projects you work on, and what tasks are required to complete those projects? Is your business changing? What are the time-consuming, manual labor-intensive tasks that could be completed with a skid-steer loader's help?

Do your projects regularly require

*continued on page 64*





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*continued from page 62*

loading material into a truck or over an obstacle that requires lifting heights that exceed those of conventional skid-steer loaders? If so, then you may need the extra reach of a vertical lift-style machine. In cases where storage is at a premium, a vertical lift skid-steer loader may be ideal for enabling higher load placement or storage.

How often will you use the loader for digging? What's the general consistency and weight of the material being excavated? If digging with a bucket or using complex hydro-mechanical work tools are among the machine's main tasks, a radial lift machine provides more durability and control due to fewer wear points in the lift linkage.

**2** Assess your use of and need for skid-steer loader work tools.

What work tools do you use (either own or rent frequently), and what additional work tools would make your business more productive and profitable? Typical work tools for landscapers include trenchers, augers, rakes, tillers and buckets.

Do the majority of your tasks require high-flow hydraulic work tools? Some tools, such as stump grinders or large augers, require extra hydraulic capacity to operate. Standard flow versions of these tools are also available, but may take longer to complete the task.

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*continued on page 66*



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continued from page 64

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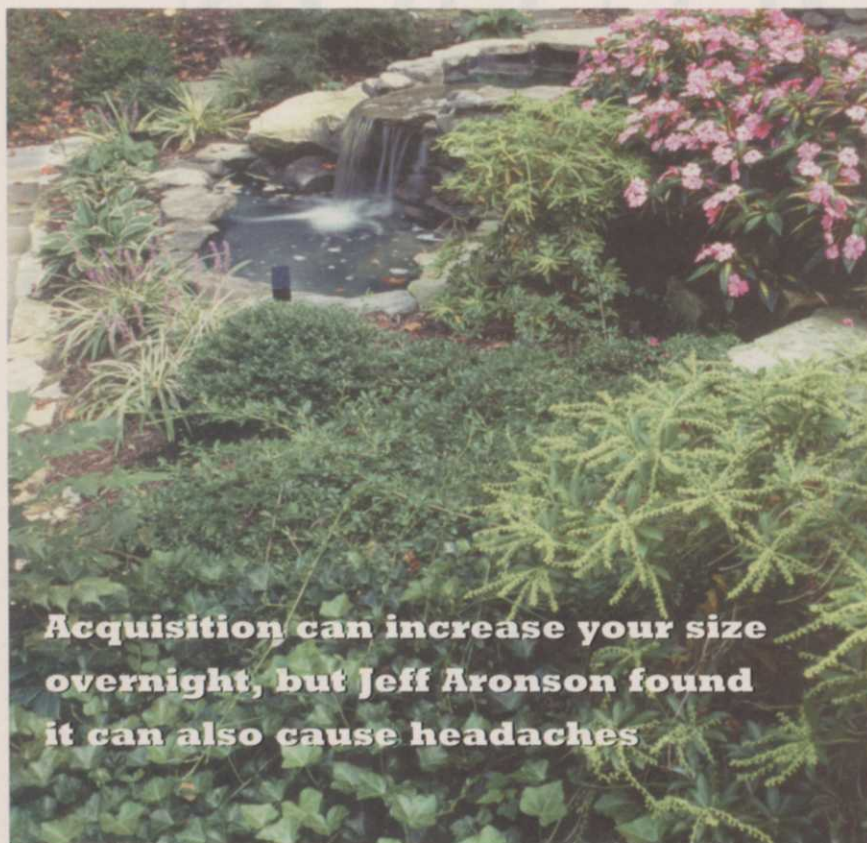
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## How to grow *fast*



**Acquisition can increase your size overnight, but Jeff Aronson found it can also cause headaches**

BY JASON STAHL /  
MANAGING EDITOR

**I**n 1998, Jeff Aronson found himself at a crossroads. He and a partner owned As You Like It, a \$625,000 landscape company located in Rockville, MD. The partner decided he wanted to sell his stake in the business and try corporate life. If it didn't work out, he told Aronson he wanted to be able to come back.

"I told him fine but let me run the company for one year," Aronson says.

### **The problem: slow growth**

Even though Aronson led the company to 15-20% growth that year, he still was unsatisfied. "It was obvious that it was going to take longer than I expected for the company to become what I wanted it to become, and I wasn't sure I wanted to spend that kind of time to get it there," he says. "The question was, 'Should I make a push to get it to the next level now?'"

### **The solution: acquire company**

The answer he came out with was "yes." So he bought Potomac Valley Landscaping, a \$700,000 residential landscaping company

located in the heart of the most exclusive suburb of Washington D.C. On top of that, the company operated on the grounds of one of the most reputable retail nurseries in Montgomery County. This alliance added tremendous potential to the deal.

"Instead of just a warehouse now, we had an outdoor storage area," Aronson says. "We also had gas tanks on site, and we were centrally located to where we did our work, reducing our travel time."

Those benefits, Aronson says, turned out to be, at least in the short-term, more valuable than the book of accounts he'd bought. "Since Potomac's volume was \$700,000 and ours was \$600,000, we assumed we'd do \$1.3 million right away. But realistically there was too much



**By purchasing Potomac Valley Landscaping, Jeff Aronson (above) got the resources needed to build high quality landscapes (upper left).**

transitioning going on to project that kind of money."

But a shortfall in revenue wasn't the only problem. The workers he'd acquired with Potomac were a tight knit group who'd had a lot of flexibility and didn't like

## Vitals

**Company:** As You Like It & Potomac Valley Landscaping

**President:** Jeff Aronson

**2001 gross revenue:** \$1,300,000

**Employees:** 22

**Services:** Maintenance, fertilization, design/build, lawn care

**Customer mix:** 98% residential

the idea of working for a 29-year-old.

"Most of the foremen left and took their righthand guys with them, so we had an immediate labor problem," Aronson says.

Plus, Aronson felt the Potomac employees' pay scale was too high, and their bonus program, while based on job profitability, was "created by someone who didn't understand the landscaping business." The two remaining designers from Potomac had been used to what Aronson called a "wait for the phone to ring" customer management philosophy, but he wanted it to be an "in your face" philosophy aimed at bringing in new business.

"We set policies that were good for the company and if you didn't like them you moved on," Aronson says. "But we were

able to keep key people on throughout the last 2 1/2 years in solid positions."

To retain customers, Aronson says he played off the acquisition as more of a merger. "We didn't want to give anyone a reason to look anywhere else," he says. "We told clients it was good for both companies because As You Like It provides



Buying Potomac Valley Landscaping gave Aronson a solid design/build reputation.

great maintenance and Potomac Valley provides great design/build."

Although the merging of two businesses has been anything but easy, Aronson doesn't regret it because, as he says, the acquisition was "an entry into legitimacy."

"Before, we were just a bunch of guys mowing grass and working out of a warehouse," he says. "It was a one-in-a-million opportunity to put myself in a position to succeed at the highest level, and I felt I owed it to myself." **LJM**



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# Ferris mowers help one-person firm think big



Jack Carter counts on his fleet of four Ferris mowers to get the job done. L to R: IS 4000Z, ProCut Z, CTR rider, HydroWalk Dual Drive.

**W**hen you're a one-person operation in the landscaping business, your mowers have to deliver top performance. So when Jack Carter, owner of Lawn & Land Scapes, Inc., in Hiawassee, GA, started his own business seven years ago, he looked to Ferris Industries for his mowing equipment.

Initially, Carter used a HydroWalk DD (dual drive hydro) with 52-in. cutting width from Ferris Industries to handle residential lawns. He later added a Ferris riding mower with 52-in. deck for larger properties.

"These two products gave me the versatility and dependability I needed to feel confident bidding on any job," says Carter.

Carter added a Ferris ProCut Z with 61-in. deck for its rigid construction and zero-turn capability. "Because northern Georgia is a mountainous area, I needed a product that would allow me to bid on yards with extreme slopes. I found that the ProCut Z provided the superior traction and stability necessary to handle this type of terrain.

"Mowing rugged terrain is probably my biggest challenge," Carter explains. "A lot of lawns in my area are little more than reclaimed pasture and some are very

rough. After mowing for four or five hours under these conditions, operator fatigue is a real issue affecting productivity."

Carter's solution was a Ferris IS 4000Z with four-wheel independent suspension. "IS independent suspension allows me to mow all day and get off the machine as if I'm stepping out of a luxury car," he says. "Once I got the 'feel' of four-wheel IS, those rough properties were no longer a pain in the back to do anymore.

"From small yards to 10 acre properties, Ferris equipment provides the reliability, traction and cut I need to get the job done. It's the best equipment I've used in my 20 years in the landscape management business."

Jack Carter, owner of Lawn & Land Scapes, Hiawassee, GA, with wife, Dotti, and dog, Cody.



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# Get tough on weeds

## Knock out dastardly ornamental weeds with an integrated approach

BY HANNAH MATHERS, PH.D.



Organic mulch pretreated with preemergent herbicide may have lessened this crew's hand-weeding chores. Ongoing research indicates that this approach may lessen weed pressure.

**T**ough weeds often require "tough" chemicals. Controlling weeds by only using herbicides, however, will fail to eliminate weed seeds from the soil seedbank.

This practice will select for biotypes that are resistant to the herbicides used, particularly where herbicides of the same mode of action are used continuously. An

example is common groundsel (*Senecio vulgaris*), a prevalent weed and serious competitor in many nurseries and landscapes. Strains of atrazine-resistant and glyphosate-resistant groundsel have emerged and are becoming an increasing concern.

Consider herbicides as just one component of an overall integrated system together with cultural or physical control and other combination management strategies. Listed with this article are research findings

and management strategies that are useful in an integrated approach to controlling "tough" weeds.

### Plant material selection

Some common and troublesome landscape weeds include quackgrass (*Agropyron repens*), yellow nutsedge (*Cyperus esculentus*), Canada thistle (*Cirsium arvense*), common (*Stellaria media*) and mouse-eared chickweed (*Cerastium fontanum*), common mallow (*Malvia neglecta*), oxalis (*Oxalis corniculata*), bittercress (*Cardamine sp.*), field bindweed (*Convolvulus arvensis*), purslane (*Portulaca oleracea*) and ground ivy (*Glechoma hederacea*).

These weeds possess characteristics that make them more competitive or efficient than the ornamental plants they're growing around in the landscape or nursery.

To grow, all plants require light, mineral nutrients, air and water; the species most efficient at obtaining and using these elements will grow the fastest. The most troublesome weeds are the most efficient plants. However, the relative competitive advantage of one plant over another varies in different environments. A plant growing in an unsuitable environment is rarely competitive.

A ground cover of pachysandra (*Pachysandra terminalis*) is unlikely to have a serious weed problem growing in deep shade. Plant the pachysandra in bright sun and the bed will present a continuous

*continued on page 74*

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continued from page 72

maintenance problem until removed and replaced with a groundcover suited to a hot, sunny environment.

The management strategy here is place the "right plant" on the "right site." Planting shrubs and trees in an area with compacted soil will create a competitive advantage for weeds such as pineapple weed (*Matricaria matricarioides*). On poorly drained soils, landscape professionals may have more problems with weeds in general but especially with ones such as wild garlic or wild onion (*Allium vineale*), yellow nutsedge and creeping buttercup (*Ranunculus repens*), particularly if the plants chosen for the site prefer well-drained soils such as Scotch pine (*Pinus sylvestris*) or *Potentilla* spp.

**Enhance herbicides' efficacy**

As a result of increasing financial and environmental concerns, reducing the use of herbicides while maintaining profitable crop production and attractive landscapes



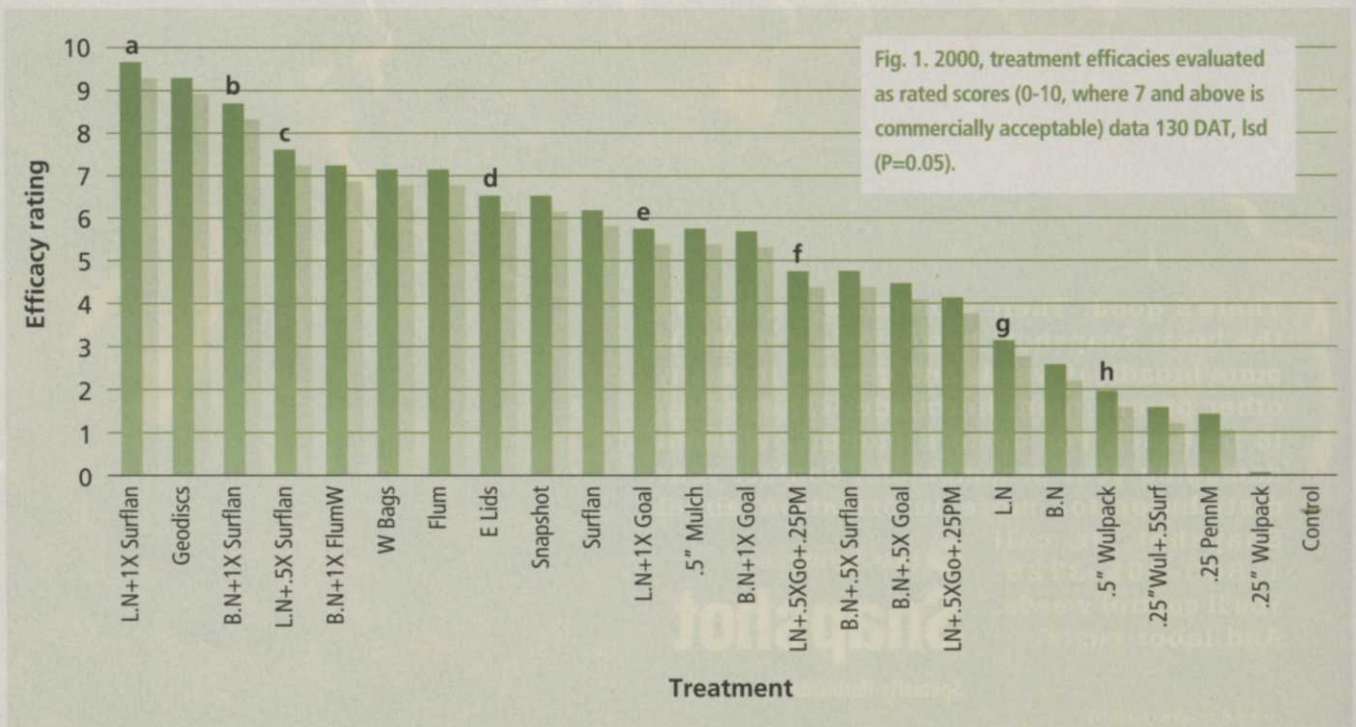
A wide variety of mulches has been advocated for weed suppression in ornamentals.

has been the recent focus of considerable research. Various approaches have been examined, including using below-label rates, choosing the proper time and method of application, or adding surfactant or other additives. Studies have been conducted to enhance the efficacy of

glyphosate in controlling quackgrass by adding ammonium sulphate.

Quackgrass is a prevalent weed problem in landscapes, particularly in Ohio and other areas of the Midwest, in part because it has great reproductive ability through

continued on page 76





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continued from page 74

both sexual and vegetative means. The rhizomes produced by a single shoot may spread in diameter to about three meters or 10 feet, with a large number of above ground shoots forming a dense population (Werner and Rioux 1977). Controlling quackgrass requires suppressing both the top growth and rhizomes in the soil.

## To control quackgrass, suppress both the top growth and rhizomes in the soil.

Glyphosate is a non-selective herbicide capable of controlling quackgrass (Ivany 1988). Ivany found that top growth control of quackgrass at 0.56 kg/ha (0.5 lbs/ac) of glyphosate was comparable with that of the label rate of 0.9 kg/ha (0.8 lbs/ac), with the addition of ammonium sulphate. Periodic applications at the high rate of 0.9 kg/ha (0.8 lbs/ac), in combination with the 0.56 kg/ha (0.5 lbs/ac) rate and ammonium sul-



Field bindweed (left) is one of the most aggressive weeds in the world. Chickweed (right) also possesses characteristics that make it more competitive than the ornamentals it grows around.

phate, gave effective rhizome control (Hamill and Zhang 1995).

There is no consensus on the effectiveness of ammonium sulphate to improve the efficacy of glyphosate. However, one proven method for increasing glyphosate efficacy in seasonal quackgrass control or in situations where cultivation has occurred is to use lower water volumes. By lowering the water volume to five gallons per acre, glyphosate can be applied at 2.4 L/ha (0.26 gal/ac) versus the label rate of 7L/ha (0.7 gal/ac).

### Biocontrol

Field bindweed (*Convolvulus arvensis*) is one

of the most widespread, aggressive, and persistent weeds in the world (Holm et al. 1977). The herbaceous vines spread horizontally on the ground and vertically over other plants, interfering with landscape plant growth and management operations.

An extensive root system allows field bindweed to compete effectively for nutrients and water, resulting in severe reductions in landscape plant growth (Heiny 1995).

In recent years, fungi with potential for controlling field bindweed have been studied. *Phoma proboscis* infects leaves and stems of field bindweed. The pathogenicity of *P. proboscis* is primarily specific to members of the family Convolvulaceae. In 1995, Heiny found that applications of *P. proboscis* in combination with a sub-lethal dose of non-selective herbicides killed mature field bindweed tissue. The applications were performed in the later part of the growing season (July 31 and September 4) when dew periods were adequate (8 to 10 hours).

Four species of beetles, *Hylobius transversovittatus*, *Galerucella pusilla*, *G. californiensis* and *Nanophyes marmoratus* have been tested and released for biological control of purple loosestrife (*Lythrum salicaria*) in the United States (Ontario Federation of Anglers & Hunters 2001).

*Galerucella pusilla* and *G. californiensis* are leaf-eating beetles which seriously affect growth and seed production by feeding on the leaves and new shoot growth of

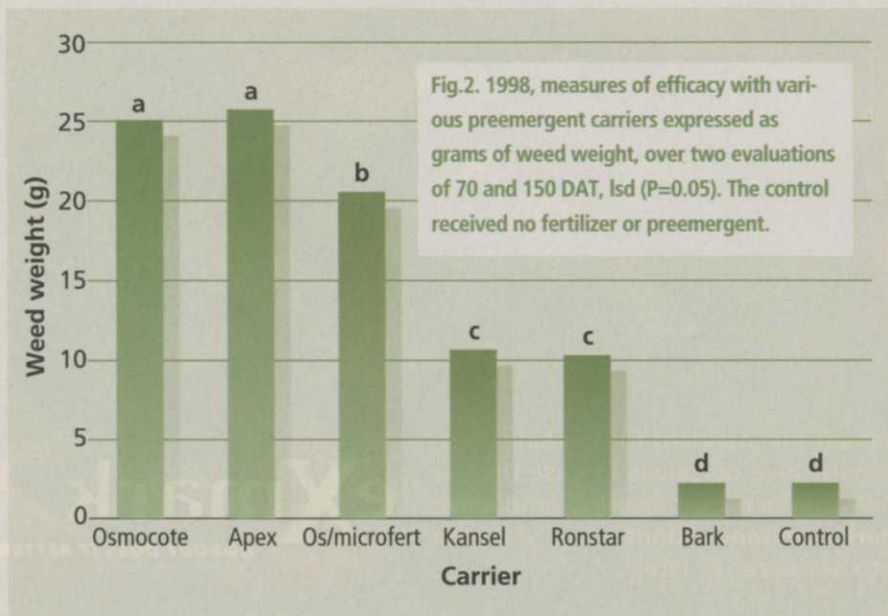


Fig.2. 1998, measures of efficacy with various preemergent carriers expressed as grams of weed weight, over two evaluations of 70 and 150 DAT, lsd (P=0.05). The control received no fertilizer or preemergent.

purple loosestrife.

*Hylobius transversovittatus* is a root-boring weevil that deposits its eggs in the lower stem of purple loosestrife plants. Once hatched, the larvae feed on the root tissue, destroying the plant's nutrient source for leaf development.

*Nanophyes marmoratus* is a flower-eating beetle that severely reduces seed production in purple loosestrife. In North America, it's hoped the impact of biological control agents will reduce purple loosestrife abundance by 80%. However, researchers believe it will take 10 to 20 years to achieve this goal (Ontario Federation of Anglers & Hunters, 2001).

#### Mulch to the rescue

A wide variety of inorganic and organic mulches have been advocated for weed suppression in ornamentals. Organic mulches control weeds by inhibiting germination and suppressing weed growth (Skroch et al. 1992, Borland 1990 and Duryea et al. 1999). The effects of

## The effects of mulch on weed control are greatest when the mulch is fresh.

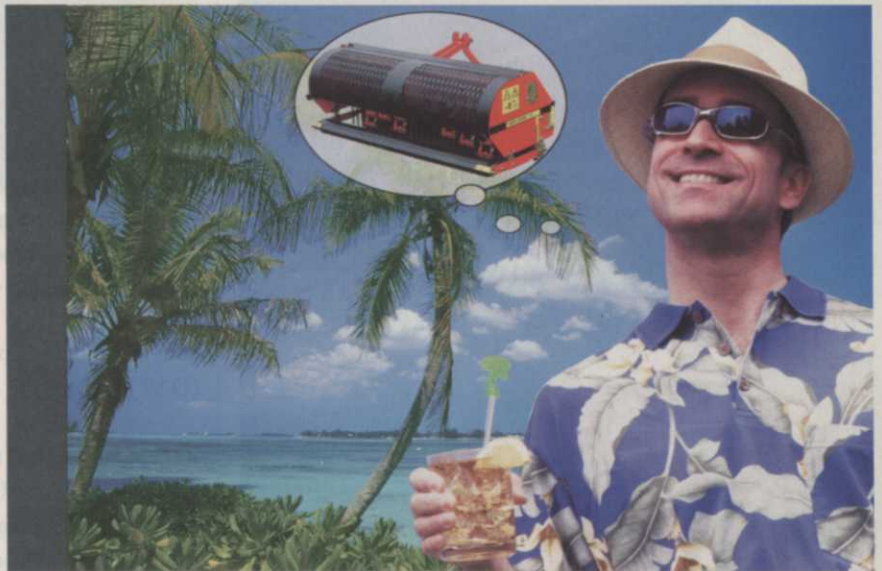
mulches on weed control are greatest when the mulch is fresh (Duryea et al. 1999). Pelletized (PennMulch) and crumpled recycled paper products have also been researched as mulches for weed control efficacy (Smith et al. 1999). Smith et al. 1999 found that the recycled paper was effective for weed control; however, they indicate using recycled waste paper may be cost effective only in specific situations. In 2000, they found PennMulch, a recycled, pelletized newspaper product with 1% nitrogen added, didn't provide effective

weed control applied at 0.25 in. or 0.5 in. at 130 DAT (Figure 1).

The most commonly used mulches in Midwest landscapes are barks. In other

areas of the country pine needles are popular. In a study of three bark mulches and two pine needle mulches, Skroch et al.

*continued on page 78*



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## WEED CONTROL



Plants going into an unsuitable environment like this will have a competitive disadvantage against weeds.

continued from page 77  
1992 found that even when applied at a depth 3.5 in. (8.89 cm), the mulches only reduced weed counts by 50% over the untreated controls. This was well below what's considered commercially acceptable. In 2000, they found that Douglas fir bark mulch applied as a single layer provided little weed control and was well below

commercially acceptable efficacy at 130 days after treatment (DAT) (Figure 1).

### Herbicide-treated mulches

At The Ohio State University, we've found that organic mulches pretreated with preemergent herbicides offer several additional advantages to weed control over untreated mulches.

This is an integrated weed control approach in that both physical (mulch) plus chemical (preemergent) control is advocated, a combination that could be beneficial with "tough" weeds. The only calibration required with pre-emergent pretreated mulches is monitoring the depth to ensure the optimum application rate. Application is simple and safe and eliminates sprayer calibration problems (Mathers 1999).

The application of preemergent-treated bark in 1998 (Figure 2) and 2000 (Figure 1) resulted in increased and extended herbicide efficacy. In 1998, the control, which contained no fertilizer or herbicide, was the most efficacious treatment (Figure 2), indicating there's a direct relationship between amount of fertilizer applied and weed growth.

Of course, without fertilizer, the control was also the most phytotoxic treatment (data not shown). The management strategy here is that if you're applying excess fertilizer, you may be wasting money and increasing your weeding costs.

### A leading issue

Weed control has become a leading issue in ornamental culture for three reasons:

With increased irrigation water restrictions and the necessity of recirculation ponds in container nursery culture, fewer herbicides are being registered for ornamentals due to chemical companies' fears of reapplication onto stock.



With the new Food Quality Protection Act, herbicide registrations will be lost. This will have a greater impact on the ornamental industry than fungicide or insecticide losses. Why? Because organic growers conducted a survey of grower research needs, and the number one issue for organic growers in pest management was weed control.

The combined cost of weed control, chemical applications and hand weeding is already landscape professionals' largest pest management cost.

The cost of weed control, chemical applications and hand weeding is already landscape pros' largest pest management cost.

The effectiveness of herbicide-treated mulches in controlling weeds is being explored further at The Ohio State University. Even though greater efficacy is achieved with the herbicide-treated bark, phytotoxicity is reduced, probably because the herbicide is never directly applied on or near the plant material.

The extent of damage caused by weeds is often underestimated. Effective control of weeds is essential, but the environmental impact of an overreliance on chemical herbicide applications warrants taking a look at other weed control methods. **LJM**

— The author is an assistant professor in the Department of Horticulture and Crop Science at The Ohio State University.

Read More [www.landscapemanagement.net](http://www.landscapemanagement.net)

For a complete list of the sources that Dr. Mathers used in preparing this article, revisit the article on our Web site at [www.landscapemanagement.net](http://www.landscapemanagement.net).

# PLAN AHEAD...



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- Economically priced!
- Mowing frequency reduced 50% or more!
- Less need to double mow.
- Unparalleled seedhead suppression.
- 4 to 6 weeks duration.
- Use to reduce edging and string trimming labor.
- Also retards growth of 25 labeled ornamentals.

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Circle 146

## ask the expert

BY BALAKRISHNA RAO

### Mystery containers

We have some old, leftover pesticide we inherited from a previous owner. The brand name on one container is "Pagent." It smells like an insecticide. We also have another container with the name "Asset." It doesn't smell like a pesticide. We want to get rid of them. Can you tell us what their active ingredients are?

— CO

Pagent is an insecticide, so your nose was right. Its active ingredient is called chlorpyrifos, the active ingredient in Dursban. Pagent insecticide was a product of the former DowElanco Sciences.

Asset is a proprietary fertilizer additive from Helena Chemical Company. It contains 2% water-soluble magnesium, a plant nutrient derived from magnesium ammonium carboxylate.

Get a copies of their labels and the Material Safety Data Sheet (MSDS) of each, and handle these products as directed. Your effort to properly dispose of unusable products is commendable.

### New herbicides

Our employees mentioned that attendees at the PLCAA meeting in Florida last November were talking about some new herbicides called Speed-Zone and Power-Zone. What are these?

— NC

Speed-Zone and Power-Zone are post-emergent herbicides manufactured by PBI/Gordon Corporation and designed to manage broadleaf weeds in turfgrass. They're federally registered in North Carolina and several other states. It's expected to be registered

soon in California, New York and Alabama.

There are two formulations of Speed-Zone: Speed-Zone broadleaf herbicide for cool-season turfs (red-colored title on label), and a St. Augustine formula (green heading at top of label.)

The cool- and warm-season formulations contain a new chemistry consisting of carfentrazone-ethyl, 2, 4-D, 2-ethylhexyl ester, mecoprop-p, acid, and dicamba, acid that inhibits a key enzyme in chlorophyll production and disrupts the cell membrane.

Speed-Zone herbicides have a caution label and are available in the EC formulation for ornamental turf, lawn and golf courses. A PBI representative said that even though these herbicides are esters, they won't affect nearby non-target ornamentals.

Speed-Zone and Power-Zone are reportedly fast-acting herbicides, with activity occurring within 8 to 16 hours after application and adequate weed control 7 to 14 days after treatment. These herbicides have good activity on clover and hard-to-control weeds such as oxalis (primarily *O. striata*, difficult on *O. corniculata*), veronica (speedwell), ground ivy, and spurge. Treated areas can be reseeded within two weeks.

Power-Zone is another formulation containing carfentrazone-ethyl. Unlike Speed-Zone, it's a 2, 4-D-free product. Instead of 2, 4-D, it contains 2-ethylhexyl ester. This ester product with low volatility would be an alternative formulation where 2, 4-D is not desired. This is rain-fast in three hours, can be reseeded in two weeks, and has a caution signal word.

### Safety first

I'm looking for weed control products that are safe for a technician as well as a

consumer, one without cancer-causing risks. Can you suggest alternatives?

— OH

Kathy Zahirsky, Environmental Programs, Davey Tree Expert Company, made the following comments regarding your question:

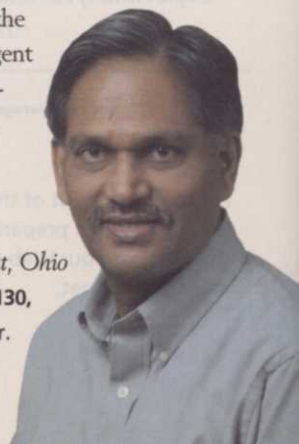
"Nothing is 100% safe. There's always some risk involved with every action or activity in our daily lives. We can, however, minimize those risks involved with herbicide application by following label requirements during application, wearing appropriate and clean personal protective equipment during application, limiting re-entry into treated areas after applications, and following outlined engineering controls during mixing and loading.

"Without doing an in-depth literature review, I know that herbicides currently labeled for lawn care and weed management aren't on the list of 'known carcinogens.' Manufacturers of material safety data sheets are mandated to report their product carcinogen classification. Please review the MSDS or contact the primary manufacturer to get specific details about the product(s) of your choice.

### Correction

In the Ask the Expert column in the January 2002 issue of *Landscape Management*, "Sulfate" was listed as a pre-emergent herbicide. There is no such herbicide. Surflan is the correct pre-emergent herbicide. I apologize for the error.

Manager of Research and Technical Development for the Davey Tree Expert Co., Kent, Ohio  
SEND YOUR QUESTIONS TO: "Ask the Expert" *Landscape Management*; 7500 Old Oak Blvd.; Cleveland, OH 44130,  
or email: [sporter@advanstar.com](mailto:sporter@advanstar.com). Please allow two to three months for an answer to appear.





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"Growing Dreams"



\*Proceeds go towards Industry Educational Funds

■ February 12, Dallas, TX  
The Knowledge  
Development Center

■ February 19, Columbus, OH  
The Knowledge  
Development Center

■ March 7, Baltimore, MD  
Renaissance  
Harborplace Hotel

### Schedule of Events

7:30 A.M. - 8:00 A.M.:

Continental Breakfast

8:00 A.M. - 12 NOON:

Inside the Owner's Head

12:00 NOON - 1:00 P.M.: Lunch

1:00 P.M. - 2:00 P.M.:

Insight into Weed Man and  
Networking Opportunities



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(574-5267)

or e-mail at

[beth@jphorizons.com](mailto:beth@jphorizons.com).

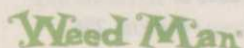
Or visit our web site at

[www.owners1.com](http://www.owners1.com).

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TECH CENTER

## Much at stake

Olson's Spike Stake has a streamline design and provides installation for micro-spray jets on risers. A collar support protects the riser from breaking off at the barb. Less than 1 in. of stake remains above ground. The stake's side barb allows connection directly to delivery tubing or connection remote from the supply line using a barbed adapter and flexible .160 I.D. tubing.

For more information contact Olson Irrigation Systems at 619/562-3100 or [www.olsonirrigation.com](http://www.olsonirrigation.com) / circle no. 250

## Dig a hole

Yanmar's ViO50 11,000 class operating weight mini excavator has a left and right boom swinging that allows the unit to operate close in and track adjacent to walls and foundations. A 3-pump hydraulic system, control pattern selector and dual auxiliary PTO for attach-



ments is also standard. It's powered by a Yanmar Clean & Silent 4TNE88 directed injected diesel engine rated at 37.4 hp at 2300 rpm that is fully CARB compliant.

For more information contact Yanmar at 847/541-1900 or [www.yanmar.com](http://www.yanmar.com) / circle no. 251

## Total control

Pursell Technologies' insecticide, Precise Acephate, controls fire ants, mole crickets, sod webworms, cutworms, armyworms, chinch bugs and more. While most insecticides have to be applied at a specific time in the growth stage of the insect, Precise Acephate works in



## Get the load out

NMC-Wollard's Swinger Model 2000 articulated compact loader/carryer now features a 65-hp Cummins 3.3-diesel engine standard. Other features include high fuel economy, good cold start characteristics, reduced engine noise levels and 2-year/2,000-hour warranty.

For more information contact NMC-Wollard at 800/656-6867 or [www.nmc-wollard.com](http://www.nmc-wollard.com) / circle no. 252

every stage, says the company, either as a preventive application or as a curative control for adult insects.

For more information contact Pursell Technologies Inc. at 480/775-8880 or [www.polyon.com](http://www.polyon.com) / circle no. 253

## See the spread

FMC Corporation's Talstar EZ Granular Insecticide's larger particle size makes it easier to see where it's being spread. It's available in 10- and 25-lb. resealable plastic packages.

For more information contact FMC Corporation at 800/321-1362 or [www.fmc-apgspec.com](http://www.fmc-apgspec.com) / circle no. 254

## Sense the rain

Rain Bird's new MS-100 moisture sensor measures soil moisture levels and automatically supersedes scheduled watering cycles when a sufficient moisture level is detected. Moisture levels are detected by two sensitive carbon rod probes resistant to decay or corrosion.

For more information contact Rain Bird at 626/812-3676 or [www.rainbird.com](http://www.rainbird.com) / circle no. 255

## Take a seat

Earthly Creations' stone garden bench is designed to look like exotic quarried stone. Available in three styles of stone, these benches add rustic elegance to patio settings and other outdoor areas.

For more information contact Earthly Creations at 800/766-2998 or [www.earthlycreations.com](http://www.earthlycreations.com) / circle no. 256

## Utilize this

Polaris' new line of utility vehicles include the All-Surface Loader (ASL 300), Utility Task Vehicle (UTV), the ATV Pro and Light Utility hauler, and the Professional Series pumps and generators. The ASL 300 is compact and runs on rubber tracks designed to spread the machine's weight over a large surface area. The UTV has low/super-low transmission gearing for outstanding torque and a high towing capacity.

For more information contact Polaris at 763/542-0500 or [www.polarisindustries.com](http://www.polarisindustries.com) / circle no. 257

## Release me

Aqua Aid's Proportioner System ensures effective application of Aqua-Aid products during routine watering by gradually releasing the ingredients from the concentrated pellets into the water stream at just the right rate.

For more information contact Aqua Aid at 800/394-1551 / circle no. 258



# Landscape MANAGEMENT

March 2002

This card is void after May 15, 2002

I would like to receive (continue receiving)  
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Yes  No

1. My primary business at this location is: (fill in ONE only)

**CONTRACTORS/SERVICE COMPANIES**

- 02  255 Landscape Contractors (Installation & Maintenance)
- 03  260 Lawn Care Service Companies & Custom Chemical Applicators (ground & air)
- 04  285 Irrigation Contractors & Consultants
  - Other Contractors/Service Companies (please specify) \_\_\_\_\_

**LANDSCAPING/GROUNDS CARE FACILITIES**

- 05  290 Sports Complexes
- 06  295 Parks
- 07  305 Schools, Colleges & Universities
  - Other Grounds Care Facilities (specify) \_\_\_\_\_

**SUPPLIERS AND CONSULTANTS**

- 08  355 Extension Agents/Consultants for Horticulture
- 09  360 Sod Growers, Turf Seed Growers & Nurseries
- 10  365 Dealers, Distributors, Formulators & Brokers
- 11  370 Manufacturers
  - Other (please specify) \_\_\_\_\_

2. Which of the following best describes your title? (fill in ONE only)

- 12  10 **Executive/Administrator** - President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 13  20 **Manager/Superintendent** - Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 14  30 **Government Official** - Government Commissioner, Agent, Other Government Official
- 15  40 **Specialist** - Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 16  50 **Other Titled and Non-Titled Personnel** (please specify) \_\_\_\_\_

NAME (please print) \_\_\_\_\_  
 TITLE \_\_\_\_\_  
 FIRM \_\_\_\_\_  
 ADDRESS\* \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
 \*Is this your home address?  Yes  No  
 PHONE (\_\_\_\_\_) \_\_\_\_\_ FAX (\_\_\_\_\_) \_\_\_\_\_  
 E-MAIL ADDRESS \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date: \_\_\_\_\_

3. SERVICES PERFORMED (fill in ALL that apply)

- |  |   |  |
|--|---|--|
| 17 <input type="radio"/> A Mowing              | 22 <input type="radio"/> F Turf Fertilization   | 27 <input type="radio"/> K Paving, Deck & Patio Installation |
| 18 <input type="radio"/> B Turf Insect Control | 23 <input type="radio"/> G Turf Disease Control | 28 <input type="radio"/> L Pond/Lake Care                    |
| 19 <input type="radio"/> C Tree Care           | 24 <input type="radio"/> H Ornamental Care      | 29 <input type="radio"/> M Landscape Installation            |
| 20 <input type="radio"/> D Turf Aeration       | 25 <input type="radio"/> I Landscape Design     | 30 <input type="radio"/> N Snow Removal                      |
| 21 <input type="radio"/> E Irrigation Services | 26 <input type="radio"/> J Turf Weed Control    | 31 <input type="radio"/> O Other (please specify) _____      |

4a. Do you specify, purchase or influence the selection of landscape products?  
 58  Yes 59  No

4b. If yes, indicate which products you buy or specify: (fill in ALL that apply)

- |  |  |  |
|--|--|--|
| 32 <input type="radio"/> 1 Aerators          | 39 <input type="radio"/> 8 Herbicides              | 46 <input type="radio"/> 15 Sweepers                   |
| 33 <input type="radio"/> 2 Blowers           | 40 <input type="radio"/> 9 Insecticides            | 47 <input type="radio"/> 16 Tractors                   |
| 34 <input type="radio"/> 3 Chain Saws        | 41 <input type="radio"/> 10 Line Trimmers          | 48 <input type="radio"/> 17 Truck Trailers/Attachments |
| 35 <input type="radio"/> 4 Chipper-Shredders | 42 <input type="radio"/> 11 Mowers                 | 49 <input type="radio"/> 18 Trucks                     |
| 36 <input type="radio"/> 5 De-icers          | 43 <input type="radio"/> 12 Snow Removal Equipment | 50 <input type="radio"/> 19 Turfseed                   |
| 37 <input type="radio"/> 6 Fertilizers       | 44 <input type="radio"/> 13 Sprayers               | 51 <input type="radio"/> 20 Utility Vehicles           |
| 38 <input type="radio"/> 7 Fungicides        | 45 <input type="radio"/> 14 Spreaders              |  |

5. Do you have internet access? 52  A Yes 53  B No

5A. If so, how often do you use it?

- 54  A Daily 55  B Weekly 56  C Monthly 57  D Occasionally

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 2002**

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NAME (please print) \_\_\_\_\_  
 TITLE \_\_\_\_\_  
 FIRM \_\_\_\_\_  
 ADDRESS\* \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
 \*Is this your home address?  Yes  No  
 PHONE (\_\_\_\_) \_\_\_\_\_ FAX (\_\_\_\_) \_\_\_\_\_  
 E-MAIL ADDRESS \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**3. SERVICES PERFORMED (fill in ALL that apply)**

- 17  A Mowing
- 18  B Turf Insect Control
- 19  C Tree Care
- 20  D Turf Aeration
- 21  E Irrigation Services
- 22  F Turf Fertilization
- 23  G Turf Disease Control
- 24  H Ornamental Care
- 25  I Landscape Design
- 26  J Turf Weed Control
- 27  K Paving, Deck & Patio Installation
- 28  L Pond/Lake Care
- 29  M Landscape Installation
- 30  N Snow Removal
- 31  O Other (please specify) \_\_\_\_\_

4a. Do you specify, purchase or influence the selection of landscape products?  
 58  Yes 59  No

**4b. If yes, indicate which products you buy or specify: (fill in ALL that apply)**

- 32  1 Aerators
- 33  2 Blowers
- 34  3 Chain Saws
- 35  4 Chipper-Shredders
- 36  5 De-icers
- 37  6 Fertilizers
- 38  7 Fungicides
- 39  8 Herbicides
- 40  9 Insecticides
- 41  10 Line Trimmers
- 42  11 Mowers
- 43  12 Snow Removal Equipment
- 44  13 Sprayers
- 45  14 Spreaders
- 46  15 Sweepers
- 47  16 Tractors
- 48  17 Truck Trailers/Attachments
- 49  18 Trucks
- 50  19 Turfseed
- 51  20 Utility Vehicles

5. Do you have internet access? 52  A Yes 53  B No

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- 55  B Weekly
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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
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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
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112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316

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# events

WHAT, WHEN & WHERE

## March

**11 NYSTA Western Regional Conference** / Buffalo, NY; 800/873-8873; [www.nysta.org](http://www.nysta.org)

**16 ILCA Equipment Auction** / Crystal Lake, IL; 630/472-2851

**21-24 ALCA Student Career Days** / Peoria, IL; 800/395-2522

**22-24 Capital District Garden & Flower Show** / Troy, NY; 518/356-6410

## April

**4 Adirondack Regional Conference** / Lake Placid, NY; 800/873-8873

**5-6 Laying the Groundwork Symposium** / Raleigh, NC; 919/515-8340

**7-9 EETC Annual Conference** / Bloomington, MN; [www.eetc.org](http://www.eetc.org)

**14-17 North American Snow Conference** / Columbus, OH; 816/472-6100

## May

**1 Turfgrass IPM** / Davis, CA; 800/752-0881; [www.extension.ucdavis.edu/agriculture](http://www.extension.ucdavis.edu/agriculture)

**3-7 ASIC National Conference** / Tucson, AZ; 312/372-7090

**4-6 TOCA Annual Meeting** / San Antonio, TX; 952/758-6340

**5-7 Green Space Design Conference** / Denver, CO; 877/473-7526

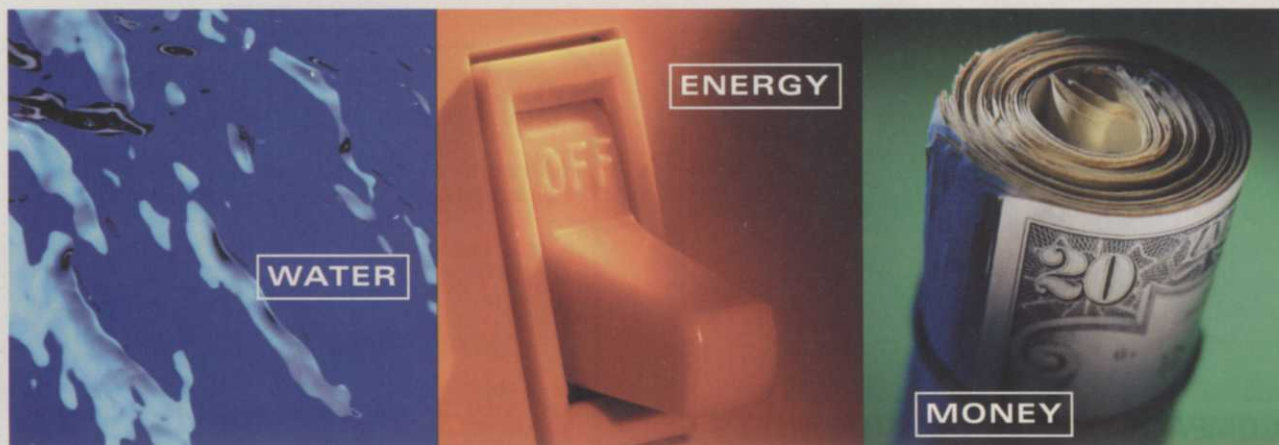
## June

**19-23 GCA Retail Tour** / Boston, MA; 202/789-2900

## July

**11-14 ANLA Convention & Executive Learning Retreat** / San Diego, CA; 202/789-2900

**13-17 Soil and Water Conservation Society Annual Conference** / Indianapolis, IN; [www.swcs.org](http://www.swcs.org)



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Irrigation Consultants**

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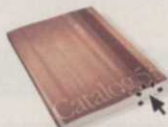
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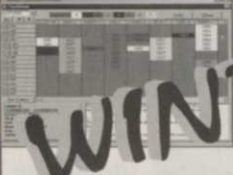
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# best practices

GUIDELINES TO HELP AN INDUSTRY GROW

## Establish your rates

BY RON HALL /  
EDITOR-IN-CHIEF

**Y**ou might think Mike Russo overdid it. He doesn't think so, though.

When Russo, president of Russo Lawn & Landscape, Windsor Locks, CT, set about to determine how much grass his operators could cut in an hour, he did it the old-fashioned way — with a measuring wheel and stop watch.

Russo timed mowers in action with different operators under different conditions over several seasons. Finally, he was satisfied he knew how much production to expect out of each mower type and size.

"What we have now is a pretty accurate and realistic production rate for each type of equipment," he says. "It is basically an average of varying conditions."

He measured his firm's 48-in. walk behinds, 60-in. ZTs, Walker mowers, 52-in. Wright standers and push mowers.

He also established production rates for string trimming and stick edging.

"Estimating a property is re-



Russo figured out his mowing rates the old-fashioned way.

ally all about having a complete scope of work to be done and a simple map or notes on measuring the square/lineal footage," Russo says. "I have even counted shrubs to help get a handle on pruning times and costs."

Without production rates, your estimates can be out of line.

Landscape companies need to establish production rates for their equipment and operators so they can accurately and consistently estimate the man hours needed to maintain a property. You can then provide potential clients with proposals that guarantee the service they

demand at a price that returns your company a fair profit.

The information also allows you to budget and track man hours for each account. Labor represents a maintenance firm's greatest expense (over 30%). It's crucial that crews perform their tasks efficiently considering the tight margins that characterize your business.

Even small inefficiencies (15 minutes wasted here or there) drain a company's bottom line, particularly when the inefficiencies are multiplied over the 30 times or more a season a crew might service a property.

How exact should you be in establishing production rates? As precise as possible, realizing it isn't an exact science.

Some properties, for instance, contain beds, trees, telephone poles or hills. Or, the grass takes longer to cut depending on the season or weather.

Establish production rates for better profits in each maintenance task.

## Sound off

What do you think about our take on production rates? Did we miss a crucial point?

Every month we provide space for feedback on this page. If we select your comments, we'll mail you a copy of the book, "Picture Perfect: Mowing Techniques for Lawns, Landscapes and Sports," by David Mellor, grounds supervisor for the Boston Red Sox. Send comments to Best Practices, Landscape Management, 7500 Old Oak Blvd., Cleveland, OH 44130. Or e-mail your response to [jstahl@advanstar.com](mailto:jstahl@advanstar.com).

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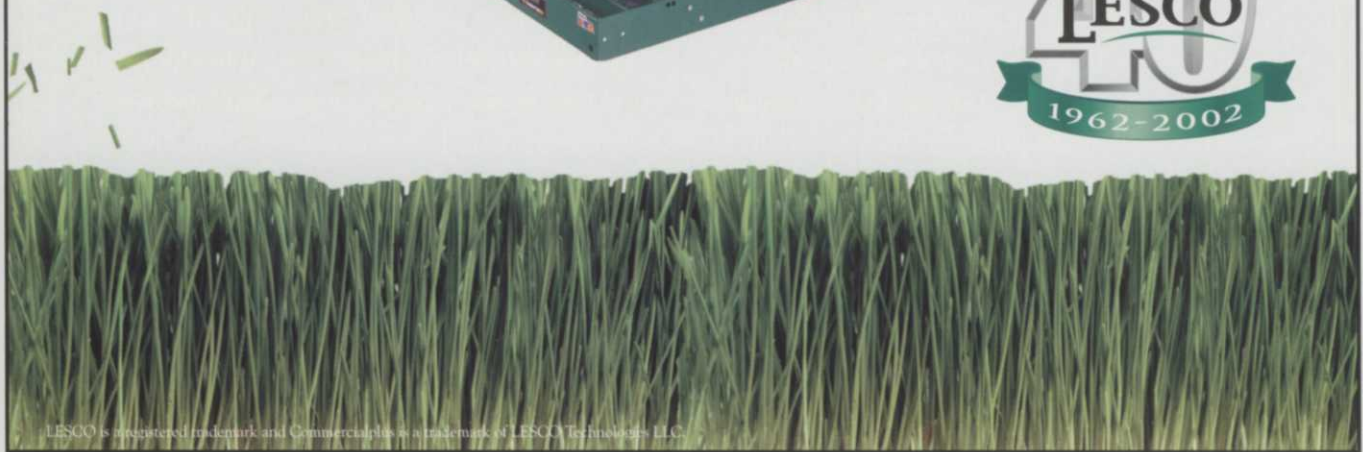
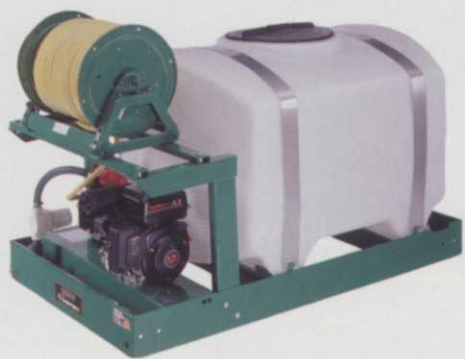
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