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• Construction

• Disease
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• Effective Mowing

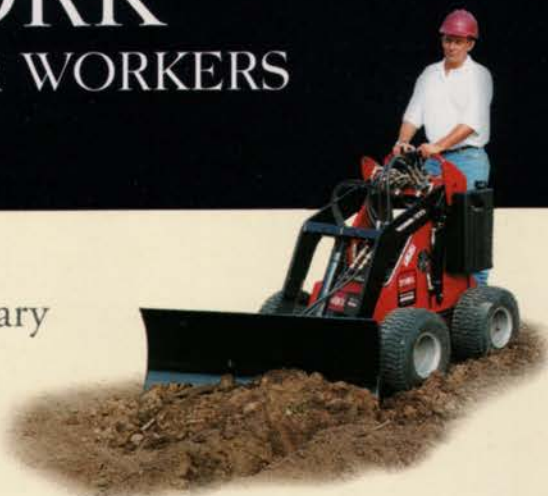
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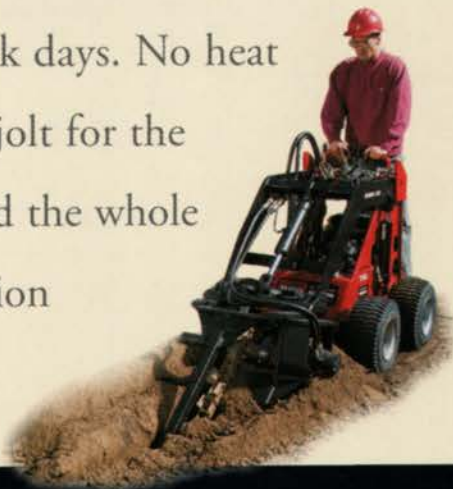
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Pictured at right and on cover: Cathy Dryden, crew leader, The Groundskeeper



Cover photo

Scott Mitchell
Phoenix, Ariz.

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Cindy Code
Group Publisher

A

s was reported first in the March issue of *Lawn & Landscape*, the contracting market has gone Wall Street — and its significance is staggering.

An industry that has long struggled with its identity, that has strived for a positive national image and that has continually been under marketed has now arrived.

For years, the landscape industry has ridden a roller coaster of growth as well as endured criticism for pricing in both wages and job costing. This cyclical, segmented industry has flourished, struggled and survived despite its image or lack thereof.

Its size, consistently growing at a 20 percent rate and last year producing \$45 billion in revenues, wasn't given much regard by marketers and the legitimate work force.

Now, in unrelated, yet telling moves, two new national landscape maintenance companies have emerged to take on the vast commercial landscape maintenance opportunities.

Outsourcing has clearly been a topic of debate in recent years and folks on Wall Street looking for new growth opportunities have had their eye on the fragmented, yet thriving landscape industry for some time. Now, the necessary critical mass has been achieved to address national accounts marketing through consolidation.

The two players, LandCare USA and TruGreen-ChemLawn, have emerged, bringing together some of the industry's best business minds to create new models of efficiencies and productivity.

As those directly involved in the mergers and acquisitions refine their strategies, so too will national associations and suppliers serving the lawn and landscape industry. Needless to say, the atmosphere will change for both. National associations should look for the opportunities for attracting new members. As the big landscapers get bigger, the small to mid-size firms must take steps themselves to become more professional.

National suppliers to our industry will undoubtedly evaluate the pricing implications stemming from industry consolidation. Will more product be bought directly from the manufacturer? If so, what impact will this have on the distributor/dealer network?

Both LandCare USA and TruGreen-ChemLawn will establish true national accounts service. That's inevitable. But it's incumbent upon these new business entities to set a standard for professional business practices. Professional certification and licensing should be established as a criteria for those engaging in the practice of landscaping. It's simply a natural.

Watch for significant changes in landscape business practices as these two, and possibly others, reach new business heights. **LL**

Cindy Code

Lawn & Landscape

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- The Professional Grounds Management Society
- The Professional Lawn Care Association of America
- Responsible Industry for a Sound Environment
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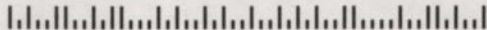
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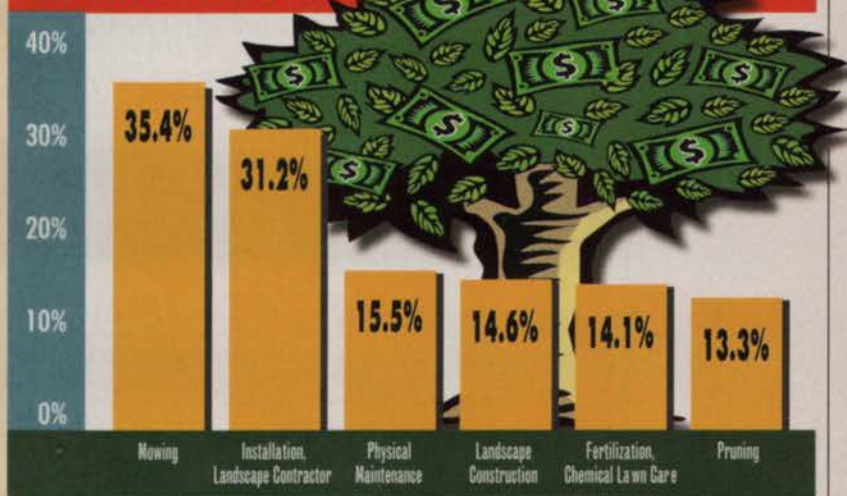
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MORE MONEY IN MOWING

Lawn maintenance contractors regularly lament the fact that anyone can put a mower in a truck and call themselves a contractor. Well, it's easy to see why someone would be interested in doing so after 35.4 percent of the respondents to a recent *Lawn & Landscape* survey listed mowing services among the three most profitable services their company offers.

Mowing was followed by landscape construction (31.2 percent), physical maintenance (15.5 percent), landscape construction (14.6 percent), fertilization/chemical lawn care (14.1 percent) and pruning (13.3 percent).

MAKING A PROFIT



(Credit: L&L Reader Poll)

EPA, CARB EMISSIONS RULES FOCUS ON BIGGER ENGINES

ALEXANDRIA, Va. — The next 12 months will be critical to the future of engines larger than 25 horsepower. The U.S. Environmental Protection Agency and the California Air Resources Board are beginning the process of formulating rules for the design of these engines to reduce emissions.

The Outdoor Power Equipment Institute, Alexandria,

working through OPEI will engage in discussions and work closely with the two agencies to develop achievable and fiscally and environmentally responsible solutions to the emissions questions, according to Bob Tracinski, business communications manager, John Deere Commercial & Consumer Equipment, Raleigh, N.C.

"The industry has specific

'The industry has specific concerns about catalytic converter technology as it applies to grounds and turf equipment.' — Bob Tracinski

Va., indicated that EPA and CARB plan to propose "extremely stringent emissions standards based on the application of catalysts and other improved systems such as

electronic fuel injection," according to an OPEI release.

Member manufacturers

concerns about catalytic converter technology as it applies to grounds and turf equip-

ment," Tracinski stressed. "From a safety standpoint, we're concerned about exhaust heat near clippings and dry leaves that could create a fire hazard. Members, through the participation of the association, will be looking at this carefully."

Dean Podevels, senior design engineer, commercial division, The Toro Co., Minneapolis, noted that Toro will also work with OPEI in discussions with CARB and EPA about new emissions rules.

Manufacturers are also concerned about the cost vs. benefit of some of the potential emissions reduction solutions, and these factors will be closely monitored.

"Questions about the viability of high-pressure fuel injection and catalytic converter technologies under field conditions remain unanswered," stressed Podevels.

TREE SALES SHOW SUBSTANTIAL GROWTH

WASHINGTON, D.C. — Americans are becoming more environmentally conscious, which has spurred the purchase a record number of trees in the country.

A recent national survey found that from Oct. 1, 1995, to Sept. 30, 1996, nursery growers shipped more than 122 million trees to retail centers, said the American Nursery & Landscape Association, which cosponsored the survey. That total is nearly six million more trees than was shipped the previous year, and it is the fourth consecutive year that tree shipments have increased, the survey said.

"As more people become familiar with the multiple benefits of trees, homeowners, municipal planners and residential and commercial devel-

(continued on page 10)

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Joe Harris
Head Groundskeeper
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MARKET TRENDS

(continued from page 8)

opers are making the planting of trees a higher priority," stated ANLA president Carl Meyer.

Not only homeowners but municipal planners and developers are also making tree planting a higher priority, according to the survey.

▶ OPEI GUIDELINES SET COMPUTER SYSTEM STANDARDS

ALEXANDRIA, Va. – A growing worry among industry dealers and distributors is computer communication standards

PEOPLE



Jim Forrester



John Hendricksen

David Mougeot was promoted to director of sales for Massey Services, and **Larry Spruill** was named divisional manager for the commercial division.

John Chambless was promoted to training and technical director of the commercial division, and **Mark Perazzo** was promoted to general manager of the GreenUp Service Center.

Encore Mfg. named **Jim Forrester** to the new position of distribution manager.

Briggs & Stratton named **Bob Heath** as general counsel.

Scott Jamison was appointed president of Hendricksen – the Care of Trees. **John Hendricksen** was named chairman/chief executive officer of the company.

Agricultural Products appointed **Chris Davey** director of sales and marketing.

American Cyanamid appointed **Mike Toce** senior sales manager for the turf, ornamental and pest control groups.

Harmony Products hired **John Moriarty** as national sales manager.

Christina Briggs joined Valley Crest as director of national business development.

Valent Professional Products appointed **Wayne Winner** business manager.

Douglas Fisher was appointed vice president, general counsel director of business services for AgriBioTech, and **Anthony Blum** was appointed director, planning and development.

Linda Carr was promoted to senior field supervisor at Gardeners' Guild.

Dean MacMorris joined Night Light, as vice president.

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USE READER SERVICE #12

between them and manufacturers.

There is concern that each manufacturer will decide to use a different system, thereby forcing dealers and distributors to purchase multiple computer systems. In response, the Board of Directors of the Outdoor Power Equipment Institute announced that manufacturers have signed a

commitment to comply with OPEI guidelines.

The standards will make it possible for dealers and distributors to communicate electronically with the manufacturers they represent and allow them to begin automation of their administrative process.

TEACHER'S TURFSEED RESEARCH IS OUT OF THIS WORLD

UNIVERSITY PARK, Pa. – Penn State University Assistant Professor Dr. James Pawelszyk took three ounces of grass seed

LETTER TO THE EDITOR

To the Editor,

I thoroughly enjoyed the article in the October 1997 issue titled "The Power to Prune." The information about proper pruning was right on target, and very important to the landscape community.

However, as a consulting arborist and landscape architect, I feel compelled to suggest that the list of "How to Kill a Tree" is missing one of the most common causes of tree fatalities – the landscape contractor.

Let me explain. Whereas proper mulching is very important to the success of trees and shrubs, improper mulching is killing hundreds, maybe thousands, of landscape plants across the country. Mulch should never be piled against the shrub stem or tree trunk. Not only does this act as an insect or disease entry into the plant, but it also suffocates the trunk and root system that needs oxygen. This explains why approximately 90 percent of the tree roots are in the top 12 to 18 inches of soil.

Landscape contractors can be good mulch salesmen. Some make a big profit on this process and keep piling the mulch higher and higher, creating serious problems. As I stated, many of these problems result in the plants actually dying.

Contractors should be able to see a root flare – the portion of the tree that goes from horizontal to vertical – on every tree. This is so basic, but so important to save the lives of many trees.

Keep up the good work,

Lew Bloch

*Consulting Arborist, Landscape Architect
Patomac, Md.*

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USE READER SERVICE #16

MARKET TRENDS

ASSOCIATION NEWS

American Society of Irrigation Consultants elected its new officers: Stephen Smith, president; Dave Pagano, vice president; Brian Vinchesi, secretary and Dan Benner, treasurer.

The Sports Turf Managers Association elected its 1998 officers and board of directors. The new officers are: Stephen Guise, president; Rich Moffitt, president-elect; Bob Curry, vice president; Murray Cook, secretary and Bob Patt, treasurer.

The American Society of Landscape Architects announced the formation of ASLA Press, an in-house publishing operation of information-based products and services to assist landscape architects. The first publication by ASLA Press is the *Business Indicator Survey – The Map of the Territory*.

Illinois Nurserymen's Association now offers members the opportunity to purchase insurance through Florists' Mutual Insurance Company at discounted rates.

The Professional Lawn Care Association of America offers a new member service through ProActive Corporation of America, an employment practices risk management firm. ProActive offers a comprehensive and cost effective program to help with employment practices, rising insurance, legal protection costs and the escalating demands of federal regulations.

Landscape Contractors Association MD/DC/VA named its 1998 board of directors: Scott Brinitzer, president; Jeff Topley, vice president; Jack Hickman, secretary/treasurer.

The Pennsylvania Foundation for Ornamental Horticulture presented six students with scholastic awards and one student with the Danik Scholarship. Student recipients included: Linda Rae Anderson, Kevin Ray Detwiler, Judd Friedman, Heather Eileen Gorski, Carol McFall, Darren Narber and Jason Sprenkel.

(continued from page 11)

with him April 2 when he blasted off into space on the shuttle Columbia.

Turfgrass has never before flown in space, and Pawelszyk, assistant professor of physiology and kinesiology, took experimental lines of Kentucky bluegrass and perennial ryegrass with him. David Huff, assistant professor of turfgrass and genetics at Penn State, made

the seed selections. Genetically identical seeds were kept on Earth to provide a basis of comparison so that students and researchers can search for any mutations resulting from the space flight.

After Pawelszyk returns, one square foot of "space grass" will be installed in each of the 24 campuses in the Penn State system.

(continued on page 17)

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IN BUSINESS...

Century Rain Aid, acquired Gulf Coast Pump, and TurfAid Irrigation... **Reading Body Works** is adding 60,000 square feet to its Pennsylvania facility... Valley Crest Landscaping changed its name to **Valley Crest**...

Miramar Wholesale Nurseries acquired Vista Hill Nursery... **Woods Equipment** acquired Wain-Roy... **BlueBird International** released a new line of products under the BlueBird EasyScape brand name with maintenance products from EasyRake that was acquired last year... **Mesa Sprinkler** purchased Horizon Turf, as well as Horizon Turf de Mexico and Evergreen Pacific.

CALENDAR

To ensure that your meeting date is published, send an announcement at least 10 to 12 weeks in advance to *Lawn & Landscape*, 4012 Bridge Ave., Cleveland, OH 44113.

APR. 23-24 Florida Nurserymen & Growers Association's Elements of Color & Color Magic, Kissimmee, Fla. Contact: 800/375-3642.

APR. 25-26 California Landscape Contractors Association Certified Landscape Technician Test, Woodland Hills. Contact: 916/448-2522.

MAY 4 2nd Annual Meeting of the Equipment & Engine Training Council, Menomonee Falls, Wis. Contact: 512/442-1788.

MAY 7-9 Snow & Ice Management Association Snow and Ice Symposium, Pittsburgh. Contact: 814/456-9550.

MAY 29-31 Annual Business Christmas Decorating Seminar, Pittsburgh. Contact: 412/281-6352.

JUN. 4-7 Florida Nurserymen & Growers Association Annual Meeting and Convention, Palm Beach. Contact: 800/375-3642.

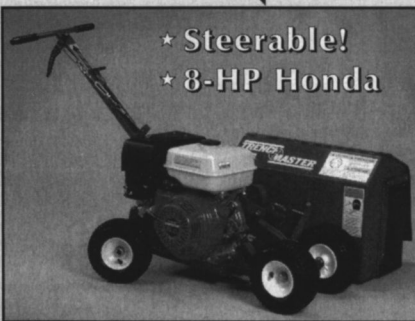
JUN. 18-21 Outdoor Power Equipment Institute's Annual Meeting, Colorado Springs. Contact: 703/549-7600.

JUL. 16-18 Turfgrass Producers International Summer Convention and Field Days, Tysons Corner, Va. Contact: 847/705-9898.

JUL. 20-21 Professional Lawn Care Association of America Legislative Day on the Hill, Washington, D.C. Contact: 800/458-3466.

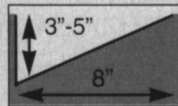
JUL. 25-27 International Lawn, Garden & Outdoor Power Equipment Expo., Louisville, Ky. Contact: 800/588-8767.

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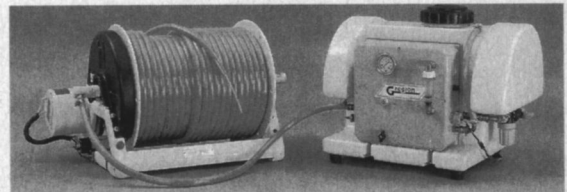
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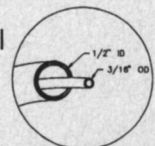


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AT LAWN & LANDSCAPE Online, we encourage Internet users to take full advantage of our online site, to mold the available features of *Lawn & Landscape* Online to fit your specific needs, thereby putting the Internet to work for you.

In March, we discussed the how-to of our online Conference Server and Message Boards – how they work, what and when to use them – in order to introduce the concept of “live” one-on-one and group communication online. This month, we want to make

sure we cover just how much interactivity is available with *Lawn & Landscape* Online as a tool for communication with industry peers.

Here is a quick overview of some of our exclusive online features designed to make communication within the industry easier and more beneficial to you.

Only Online Articles: These are articles prepared by *Lawn & Landscape's* editors, but only available on the website and not in the printed version of the magazine.

Lawn & Landscape Online Survey: By completing the *Lawn & Landscape* Online sur-

vey you, the user, give us a better idea of where you and your company are, technologically. Having information such as the average modem speed of our online clients allows us to mold *Lawn & Landscape* Online to fit your needs.

We strive to offer a website that feeds on your interest in technological advancement while still taking into account the compatibility of your individual computer.

Weather: Up-to-the-minute weather information for your area and cities all across the

country is available from the Interactive Weather Information Network.

It's an excellent resource for contractors planning pesticide application schedules or for those preparing for a trip.

Add Name to the E-mail/Industry Databases: By adding your name to the e-mail and industry databases, you allow your name and company information to be at the fingertips of industry professionals looking to connect with colleagues across the nation.

Adding your website to our

(continued on page 22)

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ON THE JOB

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(continued from page 20)

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Adding your e-mail to the e-mail database gives us a direct link to you – allowing you to have a more direct link with us. Adding your e-mail address to our exclusive list of industry professionals enables us to contact you, via e-mail, with breaking news stories as part of *Lawn & Landscape News Now*. In addition, we will let you know when our site is updated, when we are offering any special news reports and when one of our industry speakers is scheduled to

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The author is Internet Editor for Lawn & Landscape Online.

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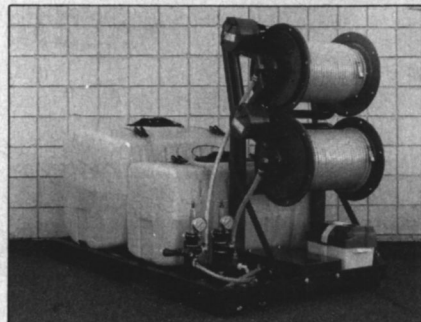
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USE READER SERVICE #23

IRRIGATION NOTEBOOK

IN THE TRENCHES

USING THE PROPER trenching equipment to install an irrigation system can make or break the successful completion of the job and impact a contractor's profitability.

Mike Hubbard, rubber tire trenching specialist, Vermeer Mfg., Pella, Iowa, outlined the considerations to take into account to select the correct size trencher for irrigation installations: "Depth of service, width of the service line, project deadlines, size of the project and ground conditions are the five main variables for picking the right rubber tire trencher," he said.

For example, say you need

a trench for an 8-inch water line feeding off a main supply source with a bed of pea gravel backfill. This will put you in the 50-horsepower trencher class, especially if the service will be laid 4 to 8 feet deep, Hubbard noted.

"You can get a smaller horsepower unit to cut a fairly narrow trench - say 4 to 6 inches at shallow depths - but at deeper depths, only a larger horsepower trencher will get you the desired productivity," he added. "Then you have to inspect and respect the ground conditions." If ground conditions are good, then going with a smaller horsepower unit is a viable option. However, tough ground conditions are better handled with a more powerful, heavier and more durable unit.



A careful site inspection is a critical first step in determining the necessary trenching capabilities. Photo: Vermeer Mfg.

is run by two different water supplies, one from the potable water and the other from a 400-gallon-a-minute pump station that pumps water out of a lake on the site.

One project that illustrates Hubbard's points was the Raleigh-Durham Airport, where 77,000 feet of irrigation piping was installed in the rocky ground surrounding it. Davis Landscaping Inc., Harrisburg, Pa., handled the installation.

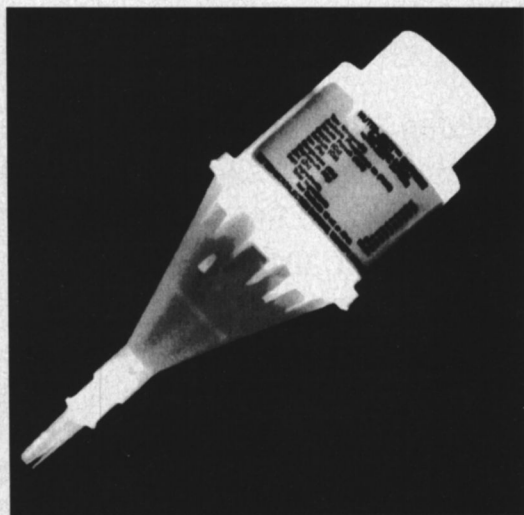
The entire irrigation system

The pipeline diameters that Davis Landscaping installed ranged from 12-inch mains at the source of the water supplies down to 3/4-inch diameter lines for the laterals.

(continued on page 31)

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1998

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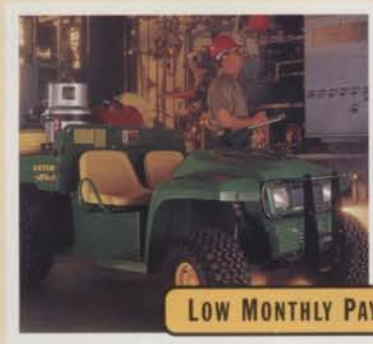


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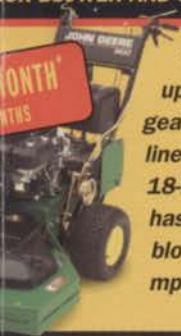
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Gator 6x4 offer includes base machine with heavy-duty tires, front bumper, bedliner, front shock kit, windshield, and brush guard.

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(continued from page 24)

Davis Landscaping used its 40-horsepower mechanical trencher. "The specifications called for the 8-inch line to be surrounded by 2 inches of crushed gravel backfill, so we needed to make a 12-inch wide trench up to 4 feet deep for these main lines," explained Scott Maherg, irrigation manager. "As the lines progressively decreased in size, we strategically used other rubber tire trenchers in our fleet. The riding trenchers were used to put in the 2½- to 3½-inch diameter PVC lines, and the lawn plow was used to plow for the laterals," he noted.

"The benefits of using the 40- to 50-horsepower trenchers in these conditions became evident to us," said

Maherg. "If we were trenching and ran into a boulder, we could turn the machines around and use the backhoe bucket to remove the rock and keep our productivity up. But the rock trenching took its toll, as we expected. We wore out chains and buckets of shark teeth on the trenching."

The innovative use of the lawn plow in these conditions was perhaps the most surprising construction development for Maherg's crew. When it came to laying in the ¾-inch PVC laterals, rather than cut a trench 18 inches deep the crew used the vibratory plow to pull the pipe.

"This vibratory plow was capable of pulling in glued 20-foot lengths of PVC up to 120 feet," recalled Maherg. "This

greatly improved our productivity for the thousands of feet of lateral we had to install.

"Since the specifications called for PVC pipe rather

small diameter PVC in," he explained. "What allowed us to pull PVC with the lawn plow was the fact that we had many 120-foot straight runs. And

with the runs straight, pulling in glued sticks of PVC was no different than pulling in poly pipe. We lessened ground friction and reduced the chance of the PVC pipe scoring on the trench wall by placing an 1½-inch diameter bullet on the plow blade that gave the pipe added clearance as it was pulled in." —

Richard Yach **LL**

• • • • •
'If we were trenching and ran into a boulder, we could turn the machines around and use the backhoe bucket to remove the rock. . .'
 • • • • •

than flexible polyethylene, we had to use the best method and the right machine to get the

The author is a technical writer with Vermeer Mfg., Pella, Iowa.

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The homeowners required privacy for the house and a

yard that flowed into the balance of the property. Logistically, a 16-foot elevation change from the home to the back of the property presented challenges for the pool location. Further complicating matters was the construction of the pool during the winter months and coordinating five different trades and subcontractors.

DESIGN SOLUTION. The design had to entail a logical progression. Entertaining areas were established for small, intimate gatherings and large entertaining parties. Because of the elevation change, levels were created that flowed together, yet with distinct separation.

The casual terrace with the pond and waterfall garden is 4 feet lower than the living room

DESIGN NOTES

PROJECT:	Alpharetta, Ga., residence
LANDSCAPE CO.:	Landscape Techniques, Inc.
DESIGNER:	Peter Wilkerson, ASLA
SIZE OF PROPERTY:	2 acres
MAN HOURS TO INSTALL:	700 landscape man hours and 4,000 hardscape man hours
PLANTS INSTALLED:	2,498 plants installed that included: 28 trees, 220 shrubs, 1,200 groundcovers, 50 perennials and 1,000 annuals.

elevation. With a pergola for shade, the stone terrace sitting area blends with the stone and boulders used in the water garden. Water is recirculated to a split waterfall for relaxing sound and aeration for the aquatic plant material and fish.

From this terrace, an arch and a 42-inch spindle fence define the formal lawn terrace, taking on a touch of the European garden feel with a border of more than 20 varieties of perennials and annuals. The lawn terrace then flows down into the main entertaining center of the property consisting of the pool, spa and cabana.

This level was set 5½ feet lower than the lawn terrace to minimize the height of the retaining wall on the backside of the pool. Wide, gracious, stone steps allow for a gentle transition, as well as provide a focal point from the living room to the spillway of the spa.

Back dropped by three 14-foot Southern Magnolias and flanked by a *Dissectum* Japanese Maple cantilevering over the pool beam, night lighting creates a dramatic view.

Each post of the cabana is anchored by a 36-inch stacked stone column to match the pool and terraced stone, and four 6-inch by 6-inch rough cedar posts blend with surrounding trees.

Opposite of the cabana, a large stone terrace provides space for lounging and sun bathing with adjoining lawn space for pedestrian overflow. The fescue lawn ties into the adjacent meadow as the defined gardens of the backyard blend into the balance of the property.

A multitude of plants and flowers embellish the garden spaces, such as a purple wave of petunias cascading over the double-tiered, stacked stone retaining wall. Heavy use of typical Georgia plant material, such as flowering dogwoods, varieties of Kurume and Indica Azaleas and Magnolias, relate the charm of the area.

Due to the nature of Georgia's red clay, all beds were over cut to allow a minimum of 12 inches of custom blended garden soil compacted in 6-inch lifts. This special soil back fill and mix allowed the plants to establish quickly and resulted in 100 percent plant viability. — Peter Wilkerson

The author is landscape architect with LTI.



With a 16-foot elevation change, LTI was challenged to incorporate a swimming pool, a casual terrace area, a formal terrace area and entertainment space into the backyard. Photos: LTI





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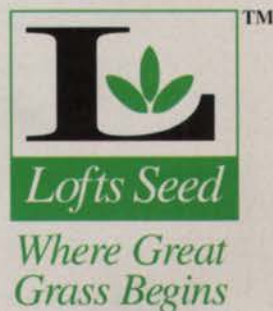


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Environmental Forum

BATTLE ROYAL. Massachusetts, a state that already places burdensome requirements for certification on its registered pesticide applicators, is looking to toughen its pesticide laws.

Senate Bill 1886, which has resided in the Massachusetts Senate's Ways and Means Committee since last July, calls for universal 48-hour prenotification of abutters of homes scheduled to be treated with pesticides and onerous application record keeping requirements.

Modeled after a bill passed in New York state that was forced through with the assistance of the breast cancer lobby, the data collected through this record keeping would be used to determine whether pesticide use levels coincide with cancer "hot spots" throughout the state, according to Fred Langley, manager, state government relations, Responsible Industry for a Sound Environment, Washington, D.C.

The bill itself supports Langley's claim about the record keeping aspect of the proposed legislation. "Current Massachusetts law requires licensed and certified pesticide applicators to maintain records of pesticide applications, but does not provide for systematic collection, centralization or organization of this information into an accessible format," the bill states. "Com-

prehensive, accurate, computerized data on pesticide use will provide invaluable information to the public and will assist in efforts to assess the impacts of pesticides on human health and the environment, such as the potential links between pesticides and breast cancer."

Richard Berman, technical manager, Waltham Chemical, Waltham, Mass., is one of a group of industry leaders from the pest control, lawn care, agriculture and railroad industries attempting to change the bill or convince legislators to let it die in committee. It is a highly controversial bill that has generated an exceptional level of interest among the industry and anti-pesticide factions, Berman noted.

And the debate is heated. For example, representatives of the industry visited the chairman of the Ways and Means Committee three days after the same chairman held audience with an anti-pesticide group. The activists had erroneously reported to the chairman that state farmers backed the bill, which had industry representatives fuming.

To add fuel to the fire, Massachusetts Democratic state Senator Lois Pines, sponsor of the bill, is running for state attorney general this year. In addition, her home district is considered one of the cancer "hot spots" in Massachusetts.

Presently, the bill is sitting in committee, and Langley said there have been indica-

tions that Pines may be considering rewriting the bill. At this point, however, the bill remains in committee limbo — where industry representatives hope it will stay.

BAN FEVER. Not unlike the situation in Los Angeles where city officials' attempts to ban gas-powered, backpack blowers sparked a rash of legislation from surrounding communities, so too has San Francisco's ban on pesticide use on city property. Langley noted that the city of Santa Cruz and San Bernardino County are considering similar bans, despite the fact that the San Francisco ordinance is full of holes.

"There are many exceptions, but essentially the rule allows the application of pesticides when there is no viable alternative," said Langley. "Consequently, you can get around it."

LOVE THOSE LAWNS. The Professional Lawn Care Association of America is again celebrating the benefits of a healthy lawn during its promotion, "April is Lawn Care Month." Promotional materials and ready-for-print articles promoting lawn care have been sent to thousands of consumer print, radio and television media to balance some of the negative media attacks levied against the industry every spring. For more information, call PLCAA at 800/458-3466. — Paul Schrimpf

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PLCAA NAMES NEW EXECUTIVE VICE PRESIDENT

MARIETTA, Ga. – As it turned out, the almost year-long search for a replacement of Ann McClure as executive vice president of the Professional Lawn Care Association of America found who it was looking for in the most unexpected spot – PLCAA's office.

The association's board unanimously agreed to remove the "acting" from Tom Delaney's title at a special board meeting Feb. 28 in Chicago. Delaney had served as acting executive vice president since McClure resigned on April 1, 1997, to take a similar executive position with the International Gas Turbine Institute.

Delaney, who has been with PLCAA for nine years, will continue to hold his position as government affairs director for the time being until a determination can be made as to whether an additional person should be hired for that position.

"Initially, I wasn't that interested in the position," Delaney related. "I felt that what I was doing with government affairs was important to the association and I didn't have any interest being in management.

"But as I watched the search committee go through the available applicants, I knew we were getting to a point where we would

have to begin the process all over," he continued, recognizing that the search committee had been close to recommending a candidate to the board on at least one other occasion. "When we got to this juncture and I was approached about the position it seemed like a good fit for everyone."

At the top of Delaney's "To Do" list now is refocusing PLCAA on its long-term plans and goals.

"Our primary goals are obviously growing the association and serving its members, but I don't know if we have as many long-term goals as we should," he recognized. "We have plans to bring in a very knowledgeable group to see where we should be setting our sights."

Although he declined to identify any specific plans or programs for PLCAA, Delaney did indicate that growing the membership base will be a major focus in the immediate future. He noted that PLCAA has signed a consulting contract with past PLCAA president Bob Andrews, owner, The Greenskeeper, Carmel, Ind.,

who will consult with the association regarding member acquisition and retention issues.

"I'm going to be reviewing all the print material PLCAA

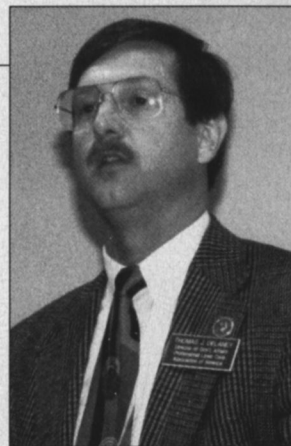
produces for its membership," explained Andrews. "I'll also be working on a program that will allow the association to keep in touch with its first-, second- and third-year members. It's at this level where we've historically had the most trouble retaining members."

Andrews stressed that direct communication with these members will be a critical aspect of member retention. To this end, he said that he will be available to members to answer "nuts and bolts, business oriented questions when members call in for help. It's something PLCAA has never really had before, and it gives small businesses with important issues somewhere to turn."

Finally, Andrews will be working with the board on the development of a new dues structure for members, a topic that will stay on the front burner in the coming months.

Andrews is pleased with PLCAA's present board of trustees, and is looking forward to his expanded role in the organization.

"PLCAA is healthy, and it has some really outstand-



Tom Delaney

ing leadership of mid-size companies who have been around the industry for a number of years. They have some tough issues that need immediate

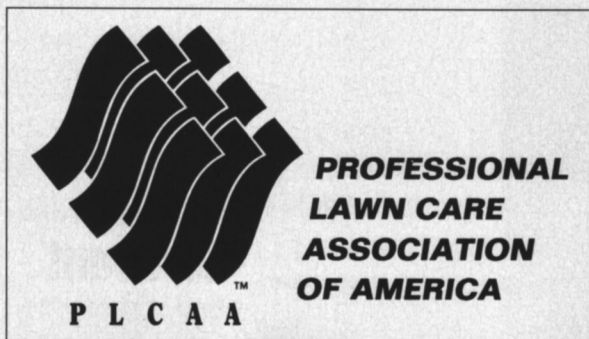
attention, and they're not backing away."

In addition to its consulting arrangement with Andrews, PLCAA is close to finalizing an agreement with an outside marketing firm to further address membership issues, Delaney noted.

"I've been very interested to note that in some other associations with very detailed strategic plans, the executives can stop before taking any new action and make sure that it fits with the association's strategic plan," he said. "That may mean they're not doing everything they can do, but they stay focused."

Delaney professed a real excitement for the opportunity to serve the association as executive vice president and credited McClure with making his decision to take the position easier.

"I had and always will have great respect for Ann and her managerial and organizational skills," he said. "There's no way, shape or form that anyone could've gotten me to go to another association for such a position. Here, I've had the opportunity to see what's been done, how Ann set up the procedures here and what has worked for us. Now I hope to continue that." – *Bob West & Paul Schrimpf*



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planning process, the restructuring of governance, Student Career Days and the legislative representation. Many of them have received ALCA's Environmental Awards, from which their businesses have benefited. They know what ALCA has to offer.

ALCA's strength has been in its ability to incorporate and represent the many different aspects of the landscape industry as it has grown. These

companies are products of the professionalism and sound business practices ALCA promotes. By becoming national companies, there will be a heightened awareness of the landscape contracting

business to the profit of all of our members. ALCA will be provided with the opportunity to expand services, develop new networking venues and present our membership with an expanded view of the industry.

ALCA is poised for this growth, and growth always has its challenges. It is difficult to anticipate the changes consolidation will bring to the industry, but ALCA has been a forum for discussion of these types of changes in the landscape industry for over 35 years. We are well prepared. — Debra Holder



Debra Holder

The author is Executive Director of the Associated Landscape Contractors of America.

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Putting employees and customers at the forefront of its business has propelled The Groundskeeper to the top of the green industry.

By Bob West



evin Killmer has seen The Groundskeeper grow from a landscape maintenance company with a couple of employees that he joined as a crew leader in 1976 to a \$20-million firm with more than 500 employees throughout the Southwest.

Today, as the new president and CEO of the 12th largest firm on The 1997 *Lawn & Landscape* Top 50, Killmer has a simple explanation for the company's success: "Our success comes from ownership's willingness to let the organization learn from its mistakes so people know that as long as they're putting forth the necessary effort with good common sense, when a mistake does occur, they'll get the opportunity to correct it and they won't just be sent down the road."

THE GREAT MISTAKE. That accepting and patient attitude was born as much out of one of founder Jack Hasbrouck's own oversights as it was a part of his management philosophy. When asked to talk about key eras or events in the company's history, Killmer, along with Vice Presidents Kent Miller and Robin Franklin, quickly brought up "the Arizona Bank contract," which was the company's first-ever construction job.

When Hasbrouck submitted a bid for the project, he didn't realize that he had omitted the price of the sod lawn for the bank. Obviously, his bid was the lowest, and The Groundskeeper had won its first construction contract with a job it couldn't possibly profit from.

Hasbrouck never brought the oversight to the attention of the bank, and the company completed the job. From that mistake emerged a valuable lesson to Hasbrouck, one that has never been forgotten by the company. "I can't tell you exactly how many other mistakes and errors in judgment we have made over the succeeding years, but I can tell you that the mistakes became lessons that we used to grow and mature as a business and as a people," Hasbrouck later wrote in the company's newsletter. (The fact that that initial contract ultimately served as a

(continued on page 46)



In Proper Perspective



Kevin Killmer, president (left), Kent Miller, vice president (right), and Robin Franklin, vice president (inset), strive to create a work environment that puts employees first. Photos: Scott Mitchell

The Groundskeeper

HEADQUARTERS: Tucson, Ariz.

FOUNDED: 1976

PRIMARY SERVICES: Landscape maintenance represents 54 percent of the company's business, while 23 percent is derived from landscape installation. Landscape improvements, such as irrigation repairs and seasonal cover represent 21 percent, and 2 percent are from tree services. Commercial/industrial clients represent 50 percent of the customer mix. Government/municipal accounts are another 45 percent with golf course work comprising the remaining 5 percent.

EMPLOYEES: 460 year round; 50 seasonal.

1997 REVENUES: \$18 million

1998 PROJECTION: \$20 million

Executive Summary:

THE CONCEPT: Artists at creating and preserving the urban environment.

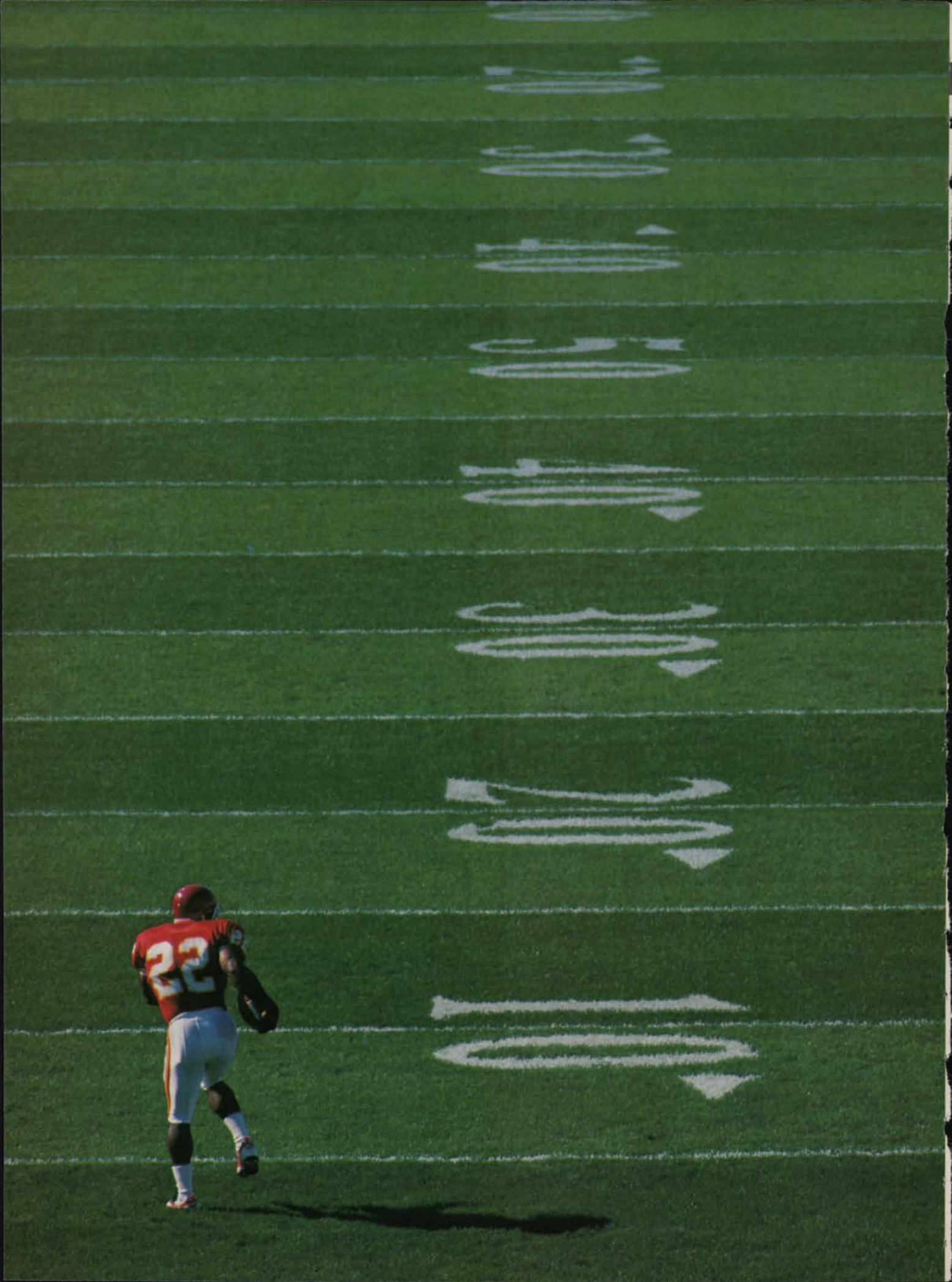
MISSION STATEMENT: The Groundskeeper is a team of highly motivated professional individuals that provide a variety of services, using the latest technology, to see to the needs of its commercial and municipal customers. Our responsiveness and consistent quality of workmanship lead to customer satisfaction and makes us a leader in the green industry.

President & CEO:

Kevin Killmer

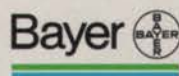
BACKGROUND: Killmer has been with The Groundskeeper for more than 20 years, having started out as a landscape crew leader and moving on to a supervisor position. He was vice president from 1985 through 1997.

pective



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USE READER SERVICE #54

cover story

(continued from page 42)

reference job for contracts for the succeeding branches in that bank's chain for the company certainly helped ease the pain.)

LIVE AND LEARN. The company learned its landscape construction lessons quickly and astutely, and The Groundskeeper enjoyed tremendous growth in the years that followed. Landscape construction contracts were being won all over Arizona, and construction soon comprised 70 percent of the company's jobs. But the growth was so dramatic that it also threatened the company's existence.

A 520 percent sales increase from 1978 through 1982 landed the company among the 500 fastest growing companies in the nation, according to *Inc.* magazine, but that didn't help with a cash flow crunch or management challenges.

"When you're running more jobs than you can manage, you're not running them profitably," noted Miller. "You're not con-



Groundskeeper founder Jack Hasbrouck personally hands out company stock certificates to employees in the company's ESOP program. Photo: The Groundskeeper

tract administering the jobs and performing the way you need to be.

"We made the mistake of identifying the jobs that covered our overhead and then thinking we could drop our gross profits on any other jobs we did," Miller continued. "All gross profits should theoretically become net profits from there on out. But what happens is that you end up with inefficiencies and mistakes on those jobs, so your gross profits actually need to be higher."

"We had that period where we did everything we could, but it also meant financial

destruction for the organization," Killmer recalled. "A real philosophical change came out of that era, that landscape construction is not the way to go."

From that point on, the company shifted its focus from commercial landscape construction contracts to government/municipal jobs.

"From 1985-1991, we were heavy into the municipal work," noted Franklin, estimating that those contracts represented 80 percent of the revenues for the Phoenix branch. "Then, in 1991, that trend ran its

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USE READER SERVICE #28

Doing the Right Thing

cover story

When a company makes more than 600 maintenance calls on a weekly basis, it will certainly generate a tremendous amount of green waste — between 75,000 and 100,000 cubic yards annually, to be exact. Fortunately, for The Groundskeeper, disposal of yard waste hasn't become the political issue in the Southwest that it has in other areas of the country. However, it still represents a significant line item on the company's annual budget.

To address this issue, the company set up Desert Compost, in an attempt to take advantage of this waste instead of taking up diminishing landfill space.

"The Groundskeeper has always tried to be the industry leader, and that includes being environmentally sensitive," explained Kent Miller, vice president, adding that the company also has about 35 vehicles operating on propane fuel. "There are cheaper ways to do things, but our approach represents our corporate makeup."

"We haven't really benefited from the compost operation financially," admitted Kevin Killmer, president and CEO. "But the composting is good for research, plus we don't incur the soft costs of extra travel time, there's less wear and tear on equipment and the employees associated with dumping at landfills." — *Bob West*

course as everybody was trying to get those contracts, and we shifted back to a commercial focus."

That's a commercial focus in terms of customer mix, but the company refuses to go after the construction market as aggressively as it once did. "In 1984, we had a ratio of 70 percent to 30 percent in favor of construction over maintenance," said Miller. "We reversed it to 75/25 in favor of maintenance five years ago, and last year we were at 60/40, still favoring maintenance."

"We'd like to ultimately be at 70/30 in favor of maintenance because construction work follows the volatility of the economy, whereas maintenance is more inflation-proof," Killmer observed.

KNOW THY NUMBERS. The Groundskeeper's various managers are well versed in the key statistical indicators of the company's success, be it at the branch, service, or market level, which was illustrated by Killmer's,

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USE READER SERVICE #29

LAWN & LANDSCAPE • APRIL 1998

47

Miller's and Franklin's ability to immediately identify the exact number of customers the company has and how much of the company's total business is represented by each property type.

"We've been tracking the market composition since 1993, and, in 1994, we got a little more sophisticated by breaking this down by branch and by property type," explained Miller. "Markets do change, and if you can see these changes coming you can prepare accordingly. If not, you get caught saying 'Oh my God,' and trying to react."

Corporate management relies heavily on the numbers included in branch reports in order to manage The Groundskeeper's seven branches spread over three states.

"We have real good job cost monitoring in place so we don't have to wait until the end of the year to see that we're dropping the ball," noted Franklin, quickly producing copies of the most recent branch managers' reports he received for labor costs.

Landscape 9-1-1

Customer service is indeed a 24-hour a day commitment for The Groundskeeper.

Customers encountering landscape emergencies can contact the company at anytime of the day and talk to a dispatcher who will address the problem. The problem will usually be relayed to a crew supervisor.

"We don't go out to do bids at 3:00 in the morning, but if a customer has a problem on a property we maintain, we'll have someone out there within 60 to 90 minutes," explained Kevin Killmer, president and CEO. "That person's job is to stabilize the situation and then dispatch a crew during normal working hours.

"It's like a triage unit to handle things like trees in a driveway," he continued. "The purpose is to give the property manager the peace of mind to know that first thing in the morning normal business functions will be able to take place." — **Bob West**

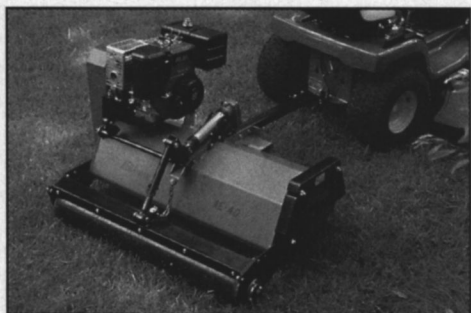
"We're getting information constantly, and it comes to us where we can still affect change with it and alter our strategy," agreed Killmer.

"Our branch managers deserve a lot of credit because they know what their labor

should be, and if they see that it's \$1,200 too high for a week, they find the job or jobs that caused that problem and fix it," added Franklin. "They operate autonomously, and they're good enough to make the corrections before corporate has to step in."

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Killmer was quick to point out, however, that while branch managers are expected to reign in labor costs that exceed budget figures, they are never to do so at the expense of the level of service provided. "Everything we do is predicated on customer service," he emphasized. "That branch manager should do whatever it takes to do the job right, but then he better have a plan to bring those numbers back in line."

STRUCTURE TO GROW. Because of the value it places on the rapid exchange of data, and as part of its ongoing search for a competitive advantage, The Groundskeepers' management

While the company continues to examine acquisition opportunities in areas such as Texas, increasing its captured market share in the areas it currently serves is a greater priority.

have eschewed certain common industry practices in an attempt to simplify day-to-day operations within its branches. And, true to its corporate philosophy, it doesn't hide the fact that these moves have been met with mixed results.

For example, The Groundskeeper used to subscribe to the philosophy of having separate managers to oversee construction and maintenance operations within a branch, but it decided this was too divisive and created more problems than it solved. "With one manager overseeing services there's a much greater sharing of resources that takes

place and a commonality toward servicing the client's needs," Killmer claimed. "The construction manager is equally sensitive to the maintenance needs of clients."

"This structure has let us eliminate some redundancy in terms of support personnel with two divisions," Franklin added. "Plus, our estimators are trained to handle both types of work, so it reduces the number of contacts clients have with us if we do both construction and maintenance work for them."

Sometimes, though, responsibilities can't be as streamlined as management would like them to be.

"We tried to decentralize the accounting functions to the branch level so data was entered at the branch for authorization of payment and such," said Killmer. "But we went back to a centralized system because the turnover was a problem and training people in a remote location for something they may only do once a month is too

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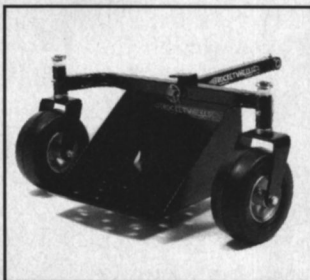


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cover story

difficult. We learned that when some things are centralized and done repeatedly by people, better patterns will emerge."

"It was also very difficult for the office manager or receptionist to balance the demands of inputting the accounting information in a timely fashion with all of the demands of serving the customers," added Franklin.

"Another layer of management has developed as we've grown," recognized Killmer. "The senior staff, board of directors and regional management are all the same group right now. Up until this point, it's always been the branch management with these responsibilities, but now that person has developed into a regional vice president who is wearing a production hat and a planning hat. That's had some real struggles."

"Our planning processes have been fragmented in the past and haven't gotten the attention they deserve," noted Miller. "Freeing up the regional managers from wearing a production hat by empowering the employees beneath them should give us more time for planning."

"The next layer of senior management is being developed now because it's not practical for us to be so involved in day-to-day issues," added Franklin, who pointed out that the branch manager overseeing the Las Vegas branch is also responsible for the Palm Springs branch. "That way we don't have to repeat the same information flow to two different people."

SHARING THE WEALTH. When it comes to talking about valuing employees, few statements say that as loudly or as clearly as offering them the opportunity to share in the ownership of the company they work for.

Thus, in 1990, Hasbrouck put together an Employee Stock Ownership Plan that allows everyone to benefit from the company's successes.

"It has always been Jack's philosophy that the people who made the company successful would participate in ownership in some shape or form," explained Killmer.

The ESOP is set up so participants are eligible based on their salary and length of service with The Groundskeeper. Eligible employees who participate then have shares of stock deposited in their own personal retirement account, according to Killmer.

The value of the shares is determined by the value of the company, plus the account can increase in value through cash contributions from the company and an investment of cash reserves. Employees cannot contribute cash to the account, and they are fully vested in the account after seven years.

"Right now, we have about 320 participants in the plan, or about 60 percent of the company, and 120 of them are fully vested," Killmer added.

Hasbrouck retained majority ownership in the company, and the remaining stock has annualized at a 25 percent increase over the last five years, Killmer said, while admitting that the benefits of such a program are difficult to measure.


"The average crew leader with 15 years of service with us will leave us with about \$250,000 for retirement, but I'm not sure all of the employees necessarily see the relationship between the work they do and the value of that account," he said. "But, at the same time, since we instituted the ESOP, our revenues have doubled with a 123 percent increase in profits."

BACK TO THE FUTURE. Expansion is certainly a top priority for The Groundskeeper, although that isn't necessarily limited to entering new geographic markets.

While the company continues to examine acquisition opportunities in areas such as Texas, increasing its captured market shares in the areas it currently serves is a greater priority, according to Killmer. "We probably have about 6 percent of the Phoenix market, but we'd like to be at 12 to 15 percent," he said.

Increasing its service offerings should offer the company additional growth opportunities. It acquired a tree care company in Tucson in October 1996 that it hopes to eventually expand to its other branches.

"But it's going to be at least two years before we have enough historical and statistical data to determine how to develop that business elsewhere," Killmer said.

Just because it has benefited from mistakes made years ago doesn't mean The Groundskeeper is in any hurry to commit any more in the future. 

The author is Editor of Lawn & Landscape magazine.

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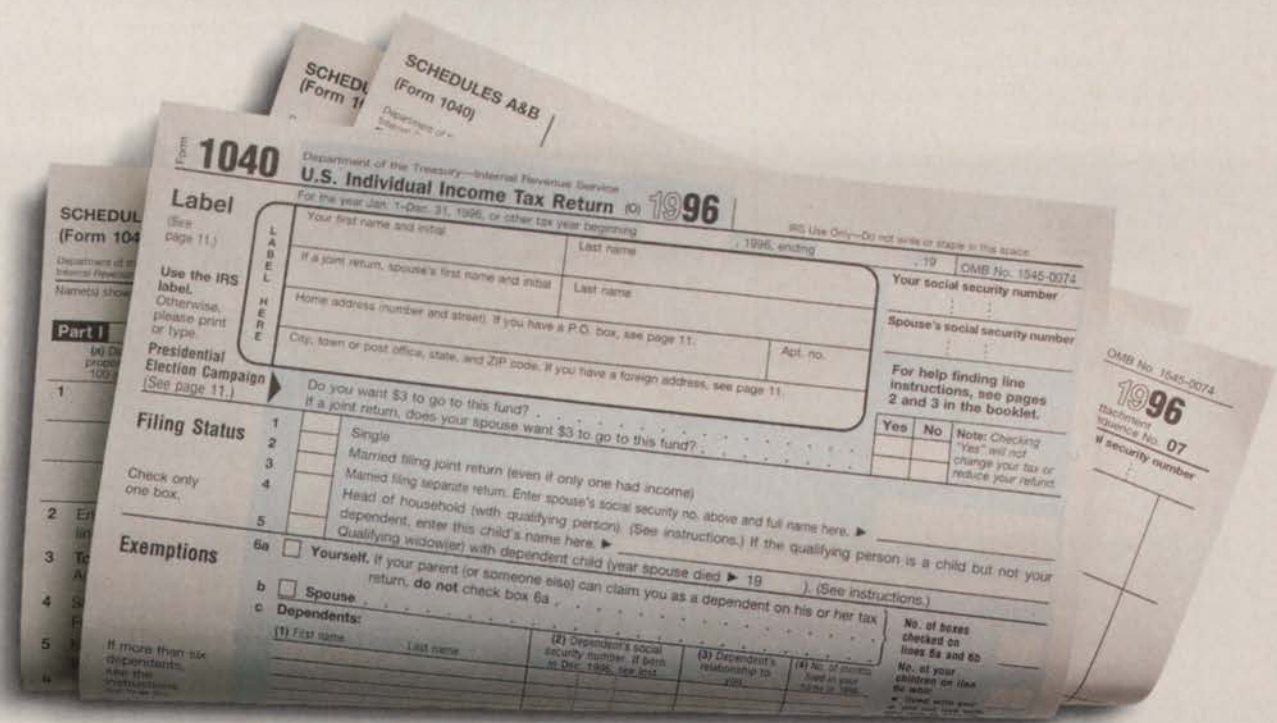
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Irrigation Controllers: Let's Get Flexible

Contractors continue to demand increased programming flexibility that is easy for end users to understand from irrigation controller manufacturers.

Controller technology continues to advance, allowing manufacturers to offer contractors greater flexibility.

By Bob West



A

nyone who has been even remotely involved with the irrigation industry over the last few years is aware of the most prominent trend involved in the application of irrigation to landscapes — water conservation.

According to the U.S. Department of Commerce, 22 of the 23 fastest growing counties in the country are located in regions where landscaping requires irrigation to succeed. (*Lawn & Landscape*, November 1997, p. 51) The country's population is moving to areas like Maricopa County, Ariz., Harris County, Texas, and Riverside County, Calif. This population shift translates into new landscape installation, which

equates to a greater demand on the water supply in these areas.

So while contractors are being asked to maintain a greater amount of landscaped earth, they're being expected to do so while using less irrigation.

Despite all of the advances in pop-up sprayheads, subsurface micro-irrigation and valves, perhaps no component of the irrigation system has the potential for having as significant of an effect on the amount of water wasted by irrigation systems as the system controllers.

WATER WATCHERS. When speaking to irrigation contractors about irrigation, water conservation is infallibly the first issue they speak about. And how that conservation

can be aided by improved controllers usually isn't far behind.

"The old, mechanical clocks are becoming obsolete as all of the manufacturers seem to have gone to the computerized, multiprogrammable clocks — and that's great," enthused Nick Bowen, sales manager and irrigation division manager, ILT Vignocchi, Wauconda, Ill. "Those old clocks only offered contractors one program, whereas the computerized controllers offer a number of programming options. As water continues to become a more precious commodity, we have smaller windows to irrigate in."

Bowen pointed out that, oftentimes, municipalities will enforce irrigation sched-

(continued on page 56)

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controllers

(continued from page 54)

uling limitations that require increased flexibility on his part to irrigate all of his clients' properties.

"Versatility in the controller clocks is a must," he asserted. "In order to design a successful water management program, we have to be able to set up different areas to be irrigated at different times."

FLEX TIME. Keeping the landscape healthy and alive while minimizing water use requires innovative scheduling approaches on the part of irrigation contractors. Dealing with this challenge has motivated them to voice their needs for increased flexibility to manufacturers.

In addition, manufacturers must be sensitive to the needs of the end users of these systems, who are often homeowners with little irrigation knowledge.

"Residential controllers are a challenge for manufacturers, because who are you designing for?" questioned Joe Childers,

controller product category manager, Irritrol Systems, Riverside, Calif. "There are certain features that are important to contractors that the homeowner doesn't care about, such as how the field wires go into the controller."

"Features designed for the contractor are fine because the contractor can be trained to use them," observed Dirk Lenie, residential/commercial marketing manager, Toro Irrigation, Riverside, Calif., who added that too much complexity can make controllers unattractive to the homeowners.

Lenie noted that manufacturers really have four groups to consider when designing systems: "There are irrigation specifiers, who are looking for a lot of control features. Then the contractor is looking for no call-backs and ease of installation," he noted. "The municipal users are looking for maximum flexibility of control, and the homeowner wants reliability. The only thing everyone is looking for is low price."

One result of contractors' flexibility demands has been the introduction by some manufacturers of modular-based controllers. "These are universal controllers for both residential and commercial projects," explained Jeff Carowitz, marketing manager, Hunter Industries Inc., San Marcos, Calif. "Contractors start with a base unit that is outfitted to operate eight stations. If the project eventually calls for more stations, contractors can plug in modules in four- or eight-station increments all the way up to a 48-station system."

The primary benefits of such a system to contractors, according to Carowitz, are that they will always have the correct size controller in stock and that they don't have to purchase more stations than they need when purchasing a system. "For example, if contractors have a 19-station system, they don't have to purchase a 24-station controller if they use modules," he noted.

In addition, modular systems can mini-

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controllers

The Center for Irrigation Technology, Fresno, Calif., continues to do its part in empowering irrigation contractors to be as efficient as possible with their irrigation efforts. Two new computer programs are designed to assist contractors in the development of irrigation schedules.

The first program, called the Watertight Program, is an online tutorial (<http://www.atinet.org/cati/cit>) addressing the basics of weather-based scheduling. The program also calculates water use requirements for specific landscape plants and, based on weather or evapotranspiration data input by the user, produces an irrigation run time, according to David Zoldoske, CIT director.

"The Space Irrigation Survey Program is designed to pick up where the standard sprinkler irrigation audit evaluation ends," Zoldoske explained. The program starts with an evaluation form contractors take to the field for data collection. Based on this data, the program will calculate sprinkler uniformity based on the scheduling coefficient and then allow for modeling of alternative sprinkler, nozzle and/or pressure combinations for uniformity measurements. In addition, SIS translates any net improvements in water uniformity in economic savings. — Bob West

revolutionary idea that will improve contractors' ability to manage irrigation."

L.R. Nelson, Peoria, Ill., has also focused development efforts on the adaptability offered by controllers. Greg Natvig, electronics business unit manager, explained that the company has also introduced modularity to its controller line, while expanding its offerings to include commercial controllers with 36-zone capacities as well as residential controllers with 12-zone capacity.

"These types of controllers make a lot of sense for contractors because they allow for the potential of adding on to a system without having to keep as much inventory," he noted.

The other challenge controllers must solve is managing systems that have integrated multiple types of irrigation systems.

"A simple landscape with a simple program can be handled by a simple controller," observed Mario Larach, product manager for controllers, Rain Bird Sales, Azusa, Calif. "But landscape contractors and designers continue to get more creative, which means that controllers have to be more flexible.

handle a diverse range of irrigation needs from drip to saturation," Larach continued.

WHY WIRE? One area of controllers that has really taken off, according to a couple of manufacturers, is the use of battery-operated controllers.

"These are controllers that mount on one valve or control a number of valves in the valve box," Larach noted. "This is opening up a lot of new avenues for irrigation that will go beyond the roadblocks contractors have been running into.

"The success we've had with our two battery-operated models has proven there are professional applications of battery power," he added. "We think that's an entirely new market that's just starting to emerge right now."

Natvig agreed, "We added a line of wireless irrigation control equipment that is battery operated, and it has been popular thus far. There's a real niche application in the industry for these systems."

The key with the battery-powered controllers is that they allow contractors to take electrical power to areas that can be too cost prohibitive to wire for traditional power. In particular, Natvig noted that battery-powered controllers are useful for systems irrigating median strips that are surrounded by concrete.

"These controllers also help with retrofit applications for older systems that may have faulty wiring or a dead electrical system but good piping," Natvig continued.

Larach observed that battery power can

(continued on page 60)

mize the damage done by system failures. "If a system controller fails, the contractor can simply replace the module that went bad instead of replacing the entire controller," Carowitz added. "We really think this is a

"Controllers today have to be able to



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make it easier and more affordable for contractors to expand a system's capabilities. "When there's already a 12-station controller operating but the contractor needs to add another zone, these controllers let them expand the system without having to rip up the landscape or add a new line," he said.

The battery-powered controllers haven't

been immune to the push for greater flexibility from controllers overall, either.

"Right now, some of the more sophisticated control features aren't available with battery-powered units," Natvig admitted. "But features like odd/even scheduling will be available in the future, and as new technologies come to market in the electronics

industry, we'll be able to adapt them to benefit the contractors even more."

In the case of automating older manual valves, Larach explained that contractors may be reluctant to trust battery-powered controllers because they utilize latching solenoids, but the electronics technology has improved enough to eliminate past problems. "A short pulse latches the solenoid, so there has always been the risk that if it latches open with water flowing and there's not enough current left in the battery to turn it off, you'll be stuck with constant water flow," he said. "Our controller has a mechanism built in so that the system won't turn on unless there's enough power left to turn it off."

"Battery-powered controllers used to have the reputation of being for homeowners or amateurs," Larach concluded, "but they've improved to handle the professional applications today."

Other manufacturers aren't as high on the battery-powered units, however. "Battery-powered controllers are really handheld valves," asserted Lenie. "There is an advantage to them in some specialty applications, but it can be a hassle to change the battery every year. Plus, reliability can be an issue since they go directly in the valve box where they can get wet."

SENSE & SENSOR-ABILITY. One area in which manufacturers can offer contractors increased control over irrigation systems is through the incorporation of rain and wind sensors with irrigation controllers.

"Rain sensors are a perfect example of a product that conserves water," commented Bowen. "We use a rain sensor on every system we install, including wind sensors for large, campus-type projects. I think the sensors should be a required part of irrigation controllers within the next five years and be hard wired into the clock, so contractors don't have to combine two manufacturers' products to use them."

David Klever, marketing director, Glen-Hilton Products, Richmond, Va., said the intensifying focus on minimizing water use has boosted interest in weather sensors.

"A study of two housing complexes with metered irrigation that started using rain sensors showed an average savings of 22,000

(continued on page 62)

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(continued from page 60)

gallons of water in one year," he noted. "These sensors have the most value in areas with the greatest unpredictability of weather. In some areas, contractors generally know when it's going to rain, and they can program their systems accordingly. But, in other areas where rainfall is less predictable, the sensors are a safeguard against operating a

system while it's raining."

While such sensors work hand-in-hand with irrigation controllers, the integration isn't as perfect as manufacturers would like as of yet.

"Most of the rain and wind sensors that are on the market right now are what we call 'passive sensors,'" Klever explained. "They

Keeping the landscape healthy and alive while minimizing water use requires innovative scheduling approaches on the part of irrigation contractors.

don't require the presence of electrical power to operate.

"The rain sensors, for example, have a dry contact switch that connects to the common line or sensor input terminal of the controller," he continued. "A disc in the rain sensor swells when it gets wet and will press on that contact switch and break the connection at a certain point. As it dries out, the disc recedes and the connection is re-established."

Klever said the primary challenge associated with contractors and manufacturers face with using active sensors that use electrical power is finding a way to ensure long-term sensor operation when such electronics are exposed to the weather.

Meanwhile, Klever said he sees even bigger potential in the future.

"I foresee the development of an integrated irrigation controller in the future that allows the contractor to see exactly why a system has shut off and then reprograms itself," he remarked. "Currently, the controllers aren't aware of the presence of the sensor unless there's a dedicated input, and then the contractor can only see a flashing LED light saying the system was shut off for some reason."

In addition, Klever also expects to see sensors incorporated into systems through construction as part of the main controller circuitboard. "This construction would allow for the use of more active sensors because they would be much better protected from the elements." LL

The author is Editor of Lawn & Landscape magazine.



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Water Features: Curbing Installation Problems

• The strong economy and the natural visual and aural appeal of water are driving a growing interest in the use of water in high-end landscape designs, according to contractors.

Proper installation of a water feature can mean the difference between making money and losing money in the market.

By Denyse Fissel

The sound of a steady waterfall. The sight of flowering aquatic plants with brightly-colored goldfish darting beneath them. These sights and sounds have a way of enticing consumers with dreams of relaxing evenings in their backyard.

Consumers are more willing than ever to dip into their savings for the chance to dip their toes in a custom landscape water feature, but that doesn't mean it's easy money for the landscape contractor. It takes a clear understanding of installation procedures and maintenance to ensure the customer is happy with the way it works as well as the way it looks.

UPFRONT & HONEST. Before any water feature installation takes place, customers of Aquascape

Designs Inc., West Chicago, Ill., are given a video informing them about the maintenance involved in a water feature.

"This lets them know ahead of time the demands involved in a pond," noted Greg Wittstock, president. "And it helps reduce possible callbacks after the job is completed."

The biggest problem with the construction of water features according to Ken Thomas, president, Landscape Techniques Inc., Atlanta, Ga., is customer callbacks.

The company routinely leaves behind a post-job packet explaining the pond and answering questions for the customer's maintenance concerns, Thomas said. Still, the company had to begin charging for each visit an employee made to instruct a customer on how to care for the the pond.

"It's a dynamic ecosystem," Thomas remarked. "We have certain times during the year when ponds are high maintenance. The early summer algae blooms are one example. We try to educate customers verbally up front and paint a realistic picture of what they're getting into."

People also tinker with their features and callbacks are often to fix something they changed, such as moving the rocks used to build the waterfalls, he remarked.

(continued on page 68)

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USE READER SERVICE #62

water features

(continued from page 64)

BLACK HOLES. Contractors should do some research about the water feature market before they even think of jumping into it, advised Kyle Worthington, general manager of Webb Landscaping, Ketchum, Idaho. Worthington said that too often contractors do not spend enough time putting together an accurate bid. They often

underestimate the time proper installation takes, and don't take into full consideration the materials costs.

After losing money from water feature installations in past years, Steve McHale, vice president of McHale & McHale, Upper Marlboro, Md., said he now prices his water feature installations at nearly twice

the estimated cost of a normal installation to compensate for a high level of difficulty.

"Sixty percent of the time, you have to go back and work out the kinks," he added.

Two reasons some companies fail to profit from water feature construction are the lack of a consistent installation plan and an inadequately trained installation crew, suggested Wittstock.

"If contractors don't have a system in place, they can't turn a profit," he warned.

Other problems, Worthington recalled, are unforeseen problems like tears in the liner that force partial or total replacement of the feature, or installation problems such as ground water levels being higher than the prospective depth of the water feature.

To protect the liner, Worthington recommended using a thick, 45 millimeter liner to waterproof the feature. "Contractors should also make sure the liner has been cut straight, without any jagged edges that could progress into extended tears," he said, adding that his crews are only allowed to wear tennis shoes when working on a water feature. "Also, watch not to place anything sharp on the liner, such as tools or rocks."

Worthington also recommended only using the flat back of the rake to spread rocks in the feature, so as to not accidentally puncture the lining with the rake teeth. He also noted that scrap pieces of liner can be used as a buffer or padding underneath heavy boulders in the water feature to keep the main liner puncture free.

MAKING MONEY. Profitability depends on an efficient crew and an accurate bid. Worthington relies on his experience when bidding a water feature and said he goes about his informal formula by looking at a pond as a triangle. For his typical sized feature, 11-by-16 feet, 3 to 4 feet deep, with a 30- to 40-foot long streamway, he uses a total of 20 feet of liner and adds 10 percent of liner for slack. He figures that he dedicates about 6½ feet of liner for the streamway and the rest for the pond.

Worthington also factors in six tons of boulders and about three days of work to build a feature that carries a price tag of about \$4,800, he explained.

"Really research whether you can afford to get into this market correctly," advised

(continued on page 72)

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USE READER SERVICE #52

water features

(continued from page 68)

Corey Johnson, design landscape coordinator, Kimberly Nursery, Twin Falls, Idaho.

Trying to cut corners in cost could lead to big problems in the future when working with a water feature, Johnson said. Use only quality and high efficiency pumps and filtering systems and be sure talk to people in the trade, he recommended.

"You could lose two to three times the original profit trying to fix a problem," Johnson said. "For example, when a liner fails, you have to remove all of the water and search on the bottom and sides of the liner, and perhaps even move some 8,000 pounds to 10,000 pounds of rock. It could take days to find the problem."

Contractors are fearful of excessive maintenance, said Gary Wittstock, president of Pond Supplies of America, Yorkville, Ill. They are hesitant to work with water and have the idea that water features are built like swimming pools, he added.

(continued on page 72)

Concrete vs. Liners

CONCRETE

PRO:

- Locks rocks into place.
- Use as footers for large multi-ton stones to minimize movement.
- Useful to stabilize loose soil or create tall retention walls for higher waterfalls.

CON:

- Adds to price.
- If used in pond to seal stones, the larger surface area of the stone is largely lost. This requires adding pond filters to compensate.
- Requires specialized skills.
- Labor intensive.
- Requires longer break-in time to avoid raising pH levels.
- Repairs and modifications are difficult.
- Harder to conceal concrete, especially along stream and pond edges.

LINERS:

PRO:

- Less expensive to use and contours easily to excavation to provide good water seal.
- Creates a biological surface area for natural pond filtration.
- Rocks and gravel over liner provide an ideal substrate to plant aquatics to naturalize the pond's appearance while protecting the liner.
- Large surface skimmers and submersible pump housings attach easily to liners.

CON:

- Some liners have poor ultraviolet resistance or are too thin to support rock loads.
- Liners can bubble up from ground water or gases forming from decomposition. Use in well-drained soil and use rocks to hold in place.
- Multi-acre ponds require field seaming and specialized skills or equipment.

— Gary Wittstock, president of Pond Supplies of America, Yorkville, Ill.

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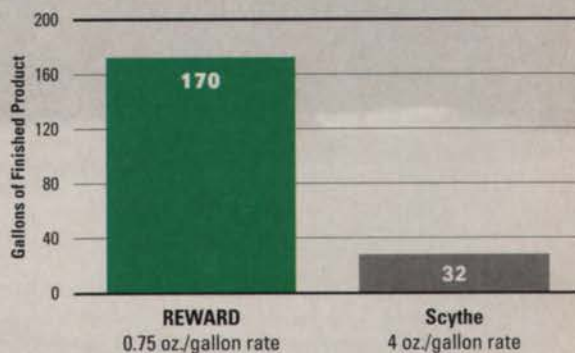


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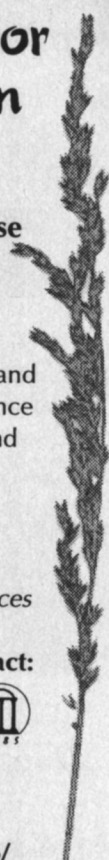
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water features

(continued from page 70)

Contractors need to remember that products must be specifically designed for either the pool or pond and can not be used interchangeably, Gary Wittstock noted.

CHOOSING THE RIGHT ROCKS. The use of rocks in water features is one of the most

important facets of an installation and one that causes the most difficulty.

When using rocks in water feature construction, Gary Wittstock recommended avoiding round, unstable rocks that leave gaps, and warned never to use river rocks for liner coverage. "Also, avoid using single-

Water Features & Sizing Aeration Systems

When constructing a new water feature, deciding on the correct aeration system is a critical factor. Making the right choice can mean a beautiful water feature that can be enjoyed for many years to come. Making the wrong aeration choice can mean a foul smelling, algae-laden pond.

There are several considerations when trying to determine the aeration needs of a new water feature. The basic parameters to keep in mind for a new pond are: does the customer desire subsurface or surface spray aeration; do they desire a fountain effect; what is the surface acreage of the pond (basic rule of thumb for surface acreage is two horsepower per surface acre); depth of the pond; shape of the pond and if the pond is going to become a basin for fertilizer run off.

There are limitless possibilities after the customer has determined what they need and want. An example of one combination that can be achieved is:

Pond Parameters: One-acre circular pond, 8 feet deep that will experience fertilizer run-off. Customer desires aeration and fountain with lights.

Pond Solution: Two horsepower (aspirating aeration system) for aeration and a two horsepower system with lights for a fountain/aerator combination.

Note: the horsepower has been increased due to the fact that the pond will be exposed to fertilizer run-off.

When trying to determine what makes a good aeration system, keep the following criteria in mind:

- A good surface spray aerator will pump a minimum of 300 gallons per minute per horsepower
- A good diffused aerator will lift air through an air compressor at a minimum of 2,250 gallons per minute
- A good aspiration aerator will influence the pond volume a minimum of 210,000 cubic feet per horsepower
- Safety testing and approval
- How much a month will it cost to run the unit
- Warranty, service availability, quality and reputation

Considerations when purchasing a fountain:

- Full spray pattern
- Good screening system
- Safety testing and approval
- How much a month will it cost to run the unit
- Warranty, service availability, quality and reputation — *Carla Barebo-Ott, vice president of sales and marketing, Otterbine/Barebo Inc., Emmaus, Penn.*

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sized rock that can give the impression of a gravel pit," he mentioned. "Instead, use decorative stones inside the water or along the pond or stream edges."

Waterfall stones should typically be flat and angular, providing stability and surfaces for the water to flow over. Gary Wittstock suggested selecting stones with interesting textures for the more visible portions for the pond and landscape.

"Size stones to match the scope and scale of the landscape, and use boulders to add interest to waterfalls," he urged. "Be careful with limestone, though, which can have sharp edges and can disrupt the pH level of the water by making it too alkaline."

OXYGEN NEEDS. For larger ponds deeper than 8 to 10 feet, an aeration system may be necessary to add oxygen to the deeper parts of the feature, said Don Fulmer, aquatic biologist at Aqua Doc, Chesterland, Ohio. Fulmer maintains ponds of about a half-acre to one acre that are often used with fountains or for drinking water. He said that only about 10 percent of ponds require aerator systems.

Fulmer explained that adding oxygen counters some algae growth and also allows fish and other aquatic life to use the entire pond, not just the first few feet where the oxygen is most plentiful.

Whether or not a pond requires a system may be determined by its watershed design, such as a stream feeding into the pond that may bring high amounts of undecomposed materials into it.

"Using a filter pump to remove debris can cut down the amount of decomposition that takes place in a pond," he said.

Any type of debris or materials that falls into the pond, and is decomposed, depletes the pond of oxygen. "When a pond is depleted of oxygen, it causes fish and plants to die and gives an unpleasant odor of hydrogen sulfide or methane," Fulmer said.

ATTENTION-GETTER. As the popularity of water features increases, there are more demands for contractors who install them. Thomas said the growing popularity of water features is a result of homeowners searching for new and unique ideas for their yard.

"Water is soothing, relaxing and a con-

(continued from page 76)

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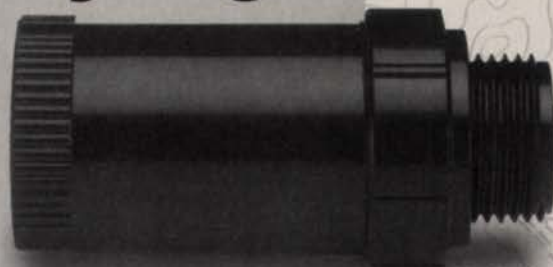
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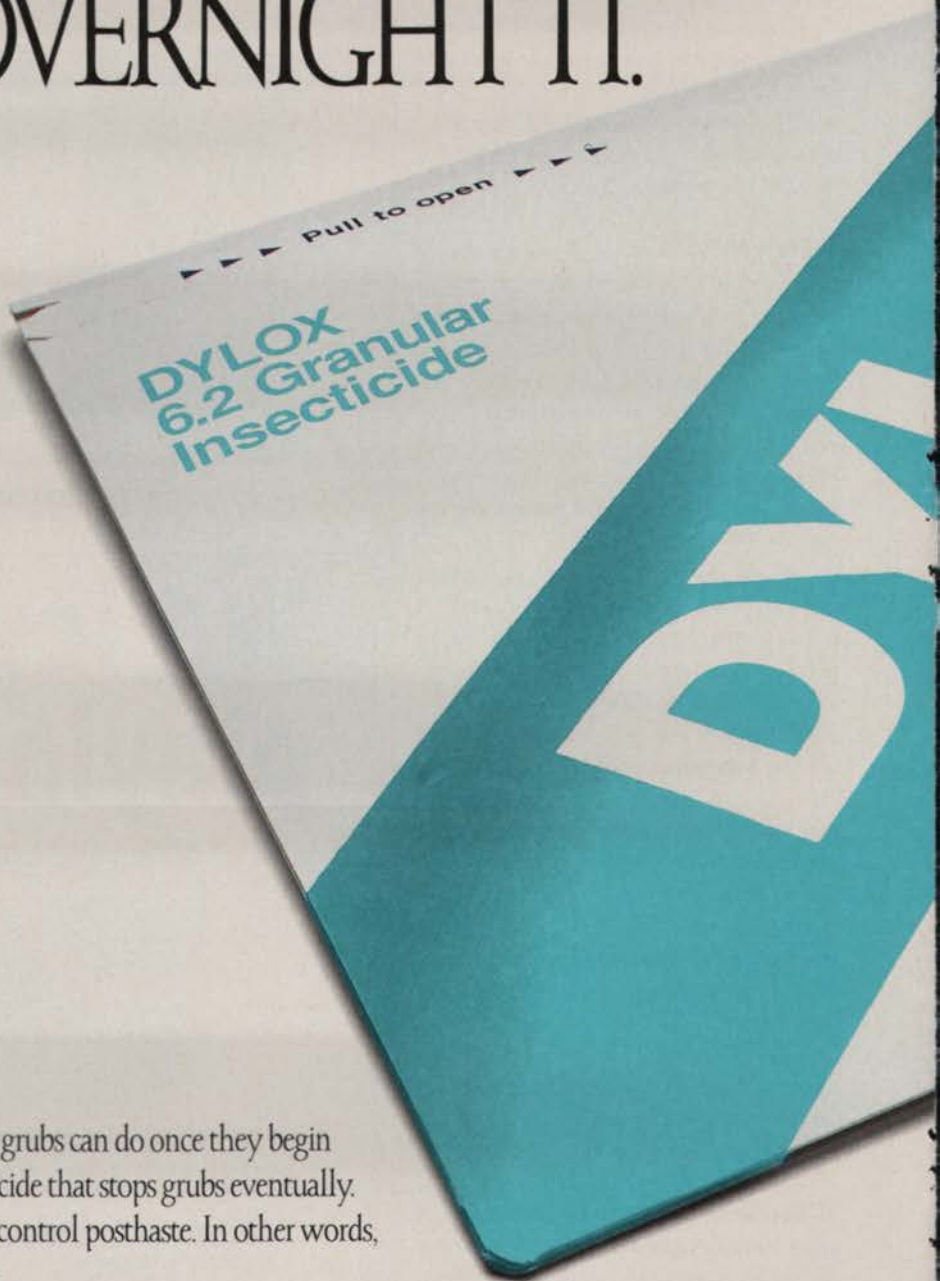
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water features

(continued from page 73)

versation piece," he added. "It is also becoming a hobby, and the water feature business is getting more exposure."

Thomas started constructing water features about eight years ago when he said he saw a niche in the market. Now water features are included in their sales pitches for landscape designs starting at about \$30,000.

"We throw it out there in the dream stage of the plans," he remarked. "It's not cheap. You got to have the right kind of buyer for the feature."

Thomas requires an \$8,000 minimum landscaping design in order to install a pond, typically 8-foot by 10-foot, he said. The company turns away less expensive projects.

"The economy is doing so well that people have the money to spend," he said. "The smaller garden ponds people tend to build themselves."

"Customers are getting away from the patio pond that has a fountain spitting water into the air," Johnson commented.

Contractors are fearful of excessive maintenance and do not know how to bid a water feature installation correctly.

"They're almost going all or nothing, more elaborate, more natural looking. If you plant a tree, in 10 years they can enjoy it. With a pond, they can enjoy it instantly."

Profits in ponds are not only in their building but also in the additional installation work they create, such as added landscaping or hardscaping around the pond or increasing the overall size of the landscape to match the size of an existing pond, Greg Wittstock explained.

People also want to be able to sit down next to their water feature, which spurs customer desires for hardscapes such as ga-

zebos, decks and patios, he added.

A person can spend \$30,000 to \$40,000 on their landscaping and people will think it is nice, but add a \$4,000 or \$5,000 waterfall to it and people will notice the water feature immediately, Greg Wittstock commented.

"It becomes the center of a landscape. It's alive," he added. "I don't know many people who sit and watch their lilies grow, but they will sit and feed their fish." ■

The author is Associate Editor of Lawn & Landscape magazine.

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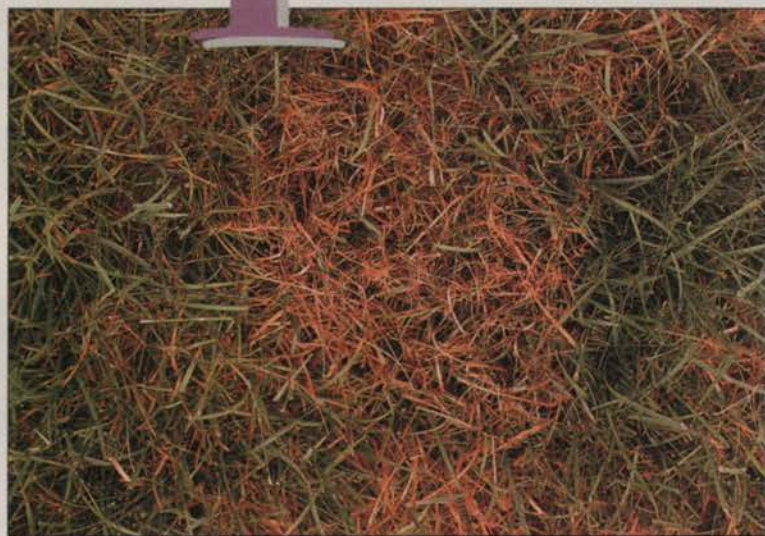
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5 Steps

To Healthy Turfgrass



The disease red thread pictured above is most commonly found during cool, wet weather. Photo: Schumann

Proper cultural practices and careful observation are keys to keeping turf disease in check.

By Gail Schumann

M

ost human beings are sick only occasionally, if they are lucky, and we should expect most of our lawns and grounds to be healthy too. Most people know the basic steps needed to keep themselves healthy – good nutrition, exercise, adequate rest, not too much stress – but turfgrass disease can seem to strike its victims without warning. Part of the problem is that many lawn and landscape contractors do not get to visit their properties daily, and diseases can strike quickly. As with human health, prevention is best. When problems do arise, an accurate diagnosis can lead to the proper management choices.

STEP 1. Start right. Too often, contractors and homeowners hope to save money on a new lawn by putting a minimal layer of topsoil over a hard packed construction site. Good drainage and optimal oxygen to the root system is the basis of good turfgrass health. No amount of fertilizer, water or fungicides can overcome turf growing in shallow, compacted soil.

One of the most destructive turfgrass diseases is necrotic ring spot. This disease commonly develops three to four years after Kentucky bluegrass sod or seed is established on poor sites. As a root disease, it is difficult to treat with fungicides. Necrotic ring spot and other diseases that occur on slow growing and stressed turf will be diminished by an improved environment for root growth provided by aeration and thatch management.

(continued on page 80)

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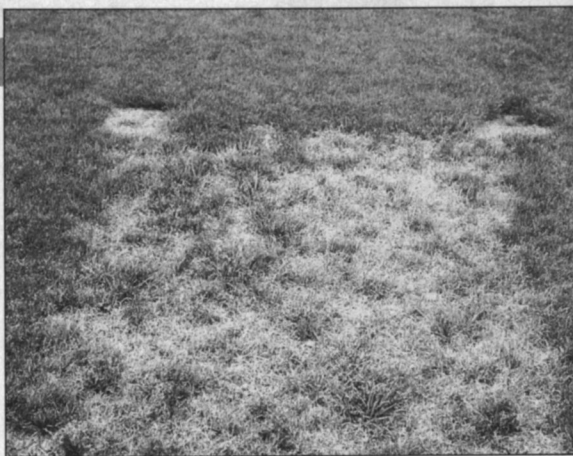
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turfgrass diseases

(continued from page 78)

Next in importance to a good growing environment for the roots are good air movement and sunlight on the leaf blades. The fungi that cause many important diseases begin to grow in the water droplets on the leaf blades. Landscaping should be planned to allow for good air movement. As landscape plants mature, dense plantings should be thinned and trees should be pruned to allow adequate sunlight penetration. This will also enhance air movement, so grass will dry off quickly after rain and nightly dews.

Third, turfgrass breeding programs have developed many new cultivars of lawn species with significant genetic resistance to major turfgrass diseases. If you are establishing a new turf area, seek advice from local extension specialists about which cultivars will perform best in your local conditions. If you find a chronic disease problem in an older established site, consider overseeding or reestablishing with improved disease-tolerant cultivars.



Dollar spot resistance is evident in this fine fescue variety trial. Notice the severity of infection in the diseased plots. Credit: Schumann

STEP 2. *Water the turf, but not the pathogens.* The cultural practices of proper irrigation, fertilizer applications and mowing are basic to all turf maintenance, but they really have two goals. The first goal is to keep the grass plants healthy and as stress-free as possible. The second goal is to minimize the opportunities diseases have to proliferate.

Fungi cause nearly all turfgrass diseases. Fungi are comprised of microscopic filaments, called hyphae or mycelium, that eat and grow. Some fungi are specialized plant

parasites that invade plants and use plant tissues as a source of food. When these fungi multiply quickly and overwhelm the turf, they become disease-causing pathogens.

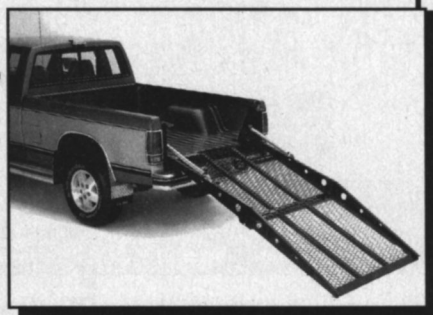
It is common to see the fragile fungal hyphae appear similar to spider webs on grass in the morning dew. They dry up and disappear as the dew evaporates. Most fungi produce spores for dispersal and as survival structures. Like seeds, spores must absorb water before they can germinate into new

(continued on page 82)

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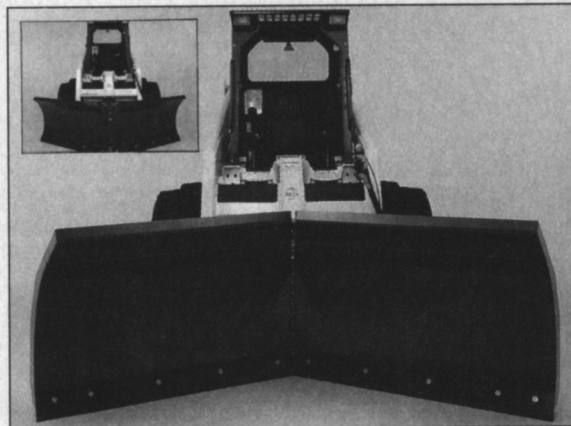


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turfgrass diseases

(continued from page 80)

mycelium that will invade the turf and initiate diseases.

This leaves turf managers with a dilemma. The turfgrass plants themselves need water in the root zone to be healthy, but it is difficult to deliver this water without wetting the leaf blades where most fungal diseases begin. Water should be applied infrequently and deeply. It should also be applied when the leaf blades will have a chance to dry off quickly. That means not irrigating in the late afternoon and evening because the grass will stay wet into the night dew period. Turf should also not be irrigated just as it is drying off in the morning.

If water puddles around a poorly maintained sprinkler head, disease may develop even where expensive automated irrigation systems are available. Turf's water needs also vary from month to month and even week to week. A soil probe or a shovel can be used to determine if enough water is reaching the root zone for good plant growth.

An Accurate Diagnosis

When disease diagnosis is difficult, know where you can find professional diagnostic help. Turf samples should be in the early stages of disease, and be large enough to show a variety of symptoms — generally a square sample 4 to 6 inches wide with at least 1 inch of soil and roots below the thatch is adequate. Provide the lab with detailed information about the sample, such as the grass species, environment and site conditions (temperature, rainfall, soil, recent fertilizers and pesticides) and probable causes (compaction, poor watering, improper mowing, dense landscaping). — **Gail Schumann**

Foggy, cloudy weather can be misleading, making it seem as if the plants are getting enough water in the soil when only the leaves are wet. This results in a severe disease

potential because the fungi on the leaf blades have optimal conditions for growth, but the plants are growing slowly due to insufficient water. Rust, red thread and dollar spot are common diseases that occur under such conditions.

STEP 3. Avoid the nitrogen roller coaster. A steady and balanced supply of necessary nutrients will help keep turfgrass healthy, but no nutrient is more important than nitrogen. Excess nitrogen makes turfgrass blades soft and succulent and can increase diseases such as brown patch, Pythium blight and leaf spots. Slow growing, nitrogen-deficient turf can become diseased because it

cannot "outgrow" certain fungi, resulting in increased dollar spot, red thread and rust. Late season fertilization, which delays turf

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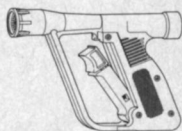
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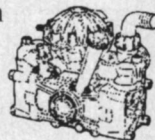
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turfgrass diseases

(continued from page 82)

dormancy, will enhance the possibility of snow mold problems in winter.

Large monthly applications of quick release nitrogen sources can set turf up for the disease roller coaster when combined with poor watering practices or rainy weather. High nitrogen diseases may occur right after the application, and low nitrogen diseases

may develop in the weeks before the next scheduled application.

Synthetic and natural slow release nitrogen sources should be the basis of a healthy turfgrass maintenance program with small amounts of quick release nitrogen applied as needed to optimize growth and to minimize disease. Excess nitrogen in the spring is

likely to result in leaf spot and melting-out, especially when accompanied by wet weather. Excess nitrogen in hot, humid weather may increase the severity of brown patch and Pythium blight.

STEP 4. Know your enemies. Some common diseases show symptoms that are readily recognized even without a microscope; others can be diagnosed accurately only in a laboratory. When a turfgrass disease does not easily match up with the pictures in a book, other possible causes of turf problems need to be considered. Mowing injury, insect problems or misapplication of fertilizers and pesticides can all cause symptoms that might be similar to disease symptoms.

Remember the "disease triangle" when trying to make a diagnosis. The triangle is a reminder that disease occurs only when three factors are present: a pathogen, a susceptible plant and an environment favorable for the disease. Contractors must know what turf species are present at the site because diseases can be specific to the type of grass they infect. For example, necrotic ring spot is a problem in Kentucky bluegrass but not in perennial ryegrass.

Several common turf diseases are easily recognized by the colored mycelium and spores. In cool, wet weather, the fungus responsible for red thread disease produces tiny red threads growing from the tips of the leaf blades. The same fungus produces tiny, cotton candy-like pink spores. These spores are sometimes visible even when the red threads are not obvious.

Rust is another common disease that is easily identified by its color. White athletic shoes may become covered with the orange, powdery spores during severe outbreaks, usually in late summer and fall in the northern half of the United States.

Several common turfgrass pathogens produce white mycelium on wet grass, especially in the early morning. The mycelium is very similar to spider webs. The two most common diseases associated with white mycelium are dollar spot and Pythium blight. Dollar spot typically occurs in warm, wet weather on low fertility turf. Infected leaf blades are often straw-colored below the mycelium. Pythium blight generally occurs in hot, wet weather on high fertility turf.

(continued on page 86)

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turfgrass diseases

(continued from page 84)

Infected leaf blades look greasy. Powdery mildew is also white and commonly seen on turf growing in shady areas.

The third point of the disease triangle is the environment. Many fungi have a temperature preference, so we expect certain diseases whenever an extended period of cool, warm or hot weather occurs, especially

when accompanied by excess moisture. In cool weather, expect leaf spot and red thread. As weather gets warmer, dollar spot and necrotic ring spot may develop. In hot weather, brown patch and Pythium blight are more likely.


Good drainage and optimal oxygen to the root system is the basis of good grass health.

STEP 5. Correct medicines for turf diseases. Fungicides are a useful way to control diseases, but effective use of these products depends on an accurate diagnosis and proper timing. Many turf diseases develop during unusual weather conditions that are only temporary. Once the weather pattern changes, the disease may no longer pose a serious threat to the health of the turf. Fungicides will not bring dead turfgrass back to life, however. Overseeding damaged areas and correcting faulty irrigation or mowing practices are also effective solutions to keeping turf healthy and helping it to recover after a disease strikes.

Fungicides differ from each other in the way they prevent disease. For example, chlorothalonil-based products such as Daconil stick to the sides of grass blades and fend off disease outside the plant. Propiconazole-based products, such as Banner MAXX, enter the grass plant and provide some systemic activity.

Always check labels for changes and updates to fungicide products.

Azoxystrobin, sold under the trade name Heritage, was first sold as a fungicide for golf courses in 1997. It offers broad spectrum control of many important turfgrass diseases and may be available for lawn use in the near future. Other fungicides give excellent control of a smaller list of diseases. For example, flutolanil (ProStar) gives excellent control of red thread, brown patch and Typhula blight (gray snow mold). Neither azoxystrobin nor flutolanil control dollar spot, so it is important to determine which diseases require treatment before choosing a fungicide.

Many people are excited about new biological controls for turfgrass. Several insect biocontrols are already available, but disease biocontrol is in its infancy. Before purchasing disease biocontrol products, ask for independent university research proving safety and efficacy of the product. If you try a new product, leave an area untreated to determine if the product worked or if the disease went away by itself – as they often do. 

The author is Associate Professor of Plant Pathology at the University of Massachusetts, Amherst.

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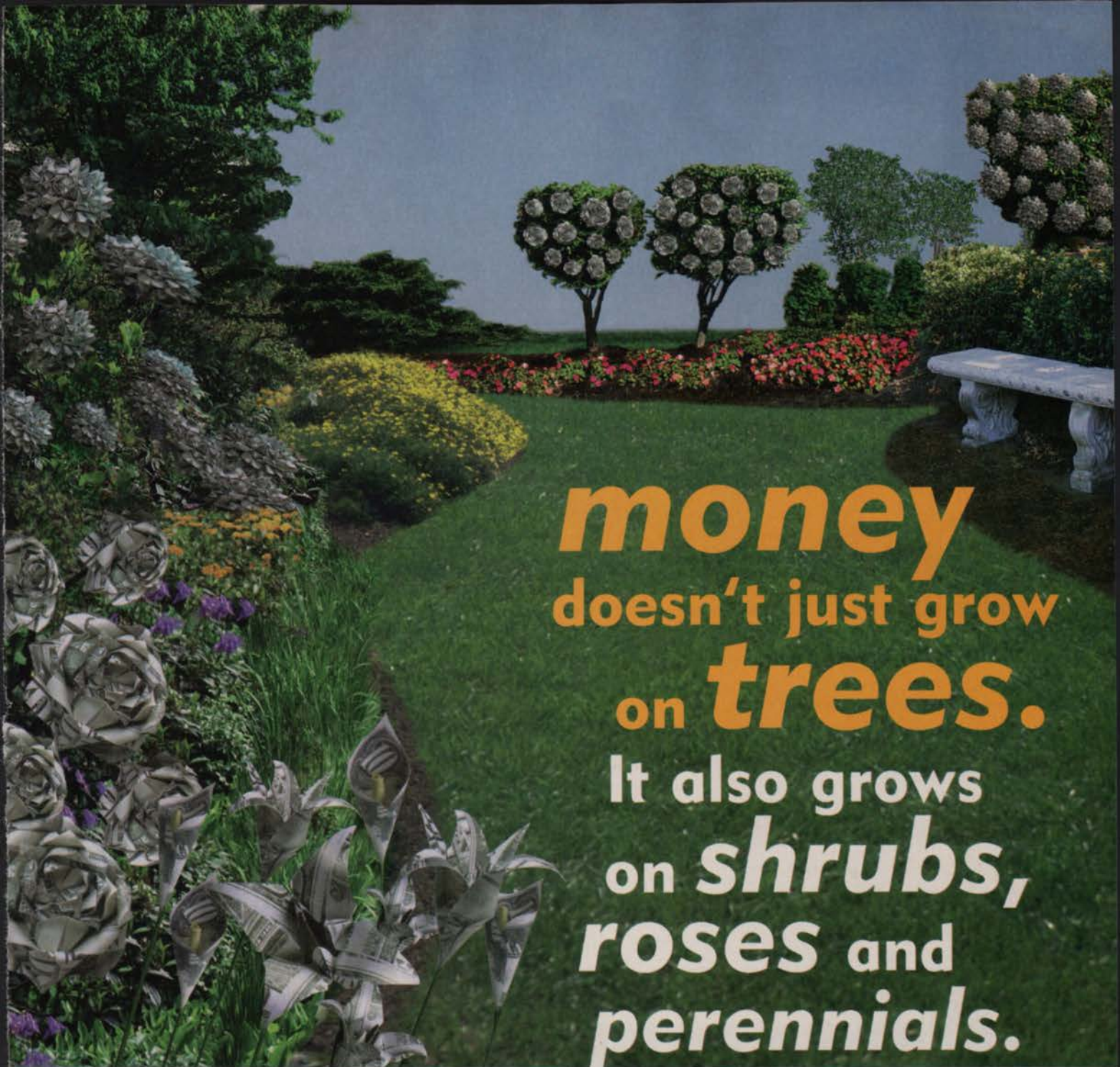
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Successful mowing crew management depends on how contractors handle a variety of variables.



Maximizing mowing crew efficiency means fitting the crew personnel and equipment to meet the specific needs of the jobs they'll be working on. Photo: Deere & Co.

By Bob West

Financial resources, corporate infrastructure and name recognition are just a few competitive advantages some contractors enjoy over the other companies in their market. But there are facets of running a lawn maintenance company that don't include any innate advantages for companies of greater size and, in fact, put all competitors on a level playing field.

Getting the most out of mowing crews is one such example. The biggest company in the land can be at a disadvantage competing against a two-person operation if the smaller company has a better, more efficient plan of attack for getting the most productivity out of its crews.

THE DOLLAR DICTATOR. Some contractors side with larger crews in order to spend less time on properties, while others like covering more of the market with smaller crews. For John Bates, vice president, lawn care division, Down to Earth Inc., Garland, Texas, his maintenance estimates tell him what size crews to use.

"We define crew size by the size of the jobs we'll send them to and the dollar amounts we can earn for that job," Bates explained. "It doesn't make sense to send a four-man crew to a job that you charge \$25 per man hour for and expect to require three man hours to mow.

(continued on page 90)

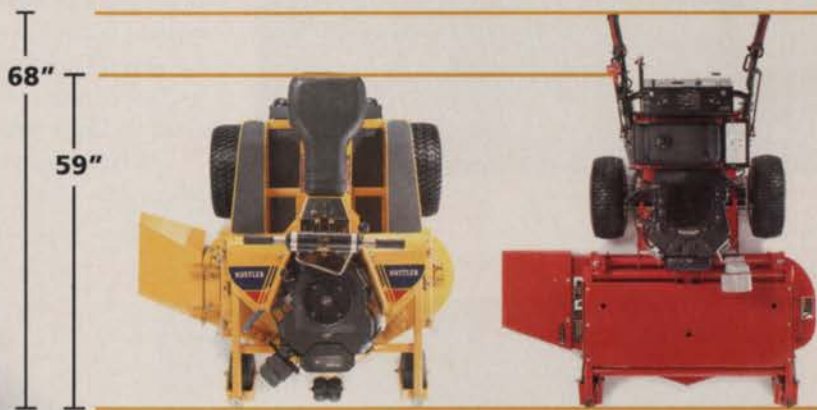
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mowing crews

(continued from page 88)

Even if the crew is only at the job for 30 minutes, the job will end up costing you four man hours because of the time required for travel, unloading and loading the trailer."

Bates noted that when planning is being made for an entire season, it's impossible to always forecast how much time will be required at a job from week to week as the weather changes. "We gear crew size by the

amount of budgeted hours on a per-visit basis," he said. "We average the time out over the course of the year and figure out the average time the crew will be able to spend on each job each week."

Down to Earth has settled on a six man-hour job as the maximum amount of time to be spent on a job by a three-person crew. Sites requiring more than six man hours will be attacked with a four-person crew or more.

nothing but sit on the riding mower all day and expect everyone else to do all of the weed eating and cleaning," Gordon admitted. "All that does is build resentment among the crew and hurt productivity.

"However, it's almost impossible to have a lazy crew member on a two-person crew," Gordon continued.

Setting up a management structure within a crew can be another benefit of smaller crews. "Larger crews can be a real challenge for one foreman and an assistant foreman to handle," noted Tim Lynott, branch manager, Chapel Valley Landscape Co., Woodbine, Md.

There are limitations to the jobs suited for two-person crews, but the job size isn't the only determining factor. "Some clients really want an English speaking individual on the crew, and with two-person crews it's important to make sure both people speak the same language," Gordon added, noting

(continued on page 92)

•••••

The notion of a supercrew isn't really a new idea, but some contractors have found using such a crew can provide unexpected and hidden benefits.

•••••

LESS IS MORE. Bill Gordon, president, Signature Landscape, Olathe, Kan., settled on two-person crews for his 1998 season. His goal with these smaller crews isn't maximizing productivity as much as it is minimizing a lack of productivity that plagues his larger crews.

"A problem we've had is having a crew chief who does



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mowing crews

(continued from page 90)

that his non-English speaking employees oftentimes end up working on the larger crews used for bigger properties.

Gordon also believes two-person crews can be more efficient on a property. "We tried using three-person crews with one person mowing, one edging and trimming, and the third using the blower for cleanup," he recalled. "But we figure someone can trim at a rate of 10 acres per hour and someone can mow about one acre per hour. So we set the crew up with two mowers and have the first one done come behind with the trimming."

Two-person crews are as small as most contractors will go, however. "People working alone tend to be less productive and have to motivate themselves," observed Lynott. "Plus, we don't want to have anyone alone if they get hurt."

SUPERSIZE YOUR CREWS. Some contractors have found using a supercrew can provide



Riding mowers are particularly popular on larger projects that don't require a great deal of tight turning. Photo: Walker Mfg.

some unexpected and oftentimes hidden benefits.

"We've found it works well to combine a couple of three-person crews to knock out a larger job in one day rather than leave one crew on a job for a couple days," recognized Bates. "If you leave one crew on a property for two or three days and they know they'll be back the next day, they can let things go undone. But if they're expected to get in and out in one day, they'll work harder."

"We set up a supercrew with six crew

members early in the spring, especially with all of the labor intensive spring cleanup work," noted Dan Daulton, landscape service manager, Glen Gate Co., Wilton, Conn. "We want to get the most properties done per day, but this also lets us put new employees with a group of experienced crew members so the new individuals can really see our way of doing things in the field."

Once the spring rush slows into the regular summer maintenance schedule, Golden Gate's supercrew is divided into

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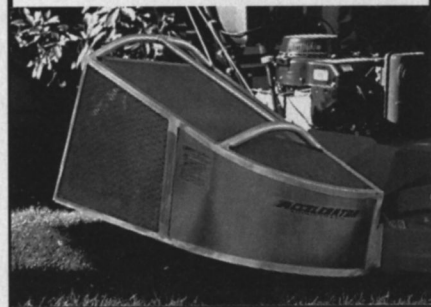
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two three-person crews. At the same time, Daulton likes to build some flexibility into the crews' scheduling for when his plans are thrown off by unexpected events.

Gordon will test the supercrew concept for jobs larger than 25 acres this year. "We want to see if we can't maintain or improve productivity if we stock the crew with the right equipment and have a real good crew chief who we pay a little more," he shared.

With the ever-present labor challenge facing his company, Gordon appreciates the fact that putting a supercrew in a truck that seats six people means he doesn't have to buy an extra truck or find as many employees who have a driver's license.

Gordon also noted that his approach of sending multiple two-person crews to handle jobs between 10 and 25 acres often results in the formation of an impromptu supercrew. "When you put a couple of different crews with Hispanic crew members on the same job, they will usually all end up working

together because they tend to be more social in their work and they look to help each other out," he observed.

MAKING ASSIGNMENTS. How to handle task assignments is one question that produces a two distinctly different options.

"Specific duty assignments vary from job to job for our crews," noted Bill Bray, east regional maintenance director, Landscape Resources Inc., Irving, Texas. "The decision is usually left up to the crew leader because each site may have its own opportunities for efficiencies that require taking advantage of certain crew members' skills."

"We encourage crews to develop regular tasks to help them develop a rhythm," added Bates.

Gordon, however, believes

in training crew members to handle a range of tasks so they have variety in their workday. "But I want them to do the same thing every time they report to each job," he added. "For example, if a crew member handles the 36-inch walk behind at Mrs. Jones' house one week, he should do that every time he's at that job. Using the same equipment every time you're on a particular

The other option companies are faced with is dividing certain maintenance responsibilities up among different crews.

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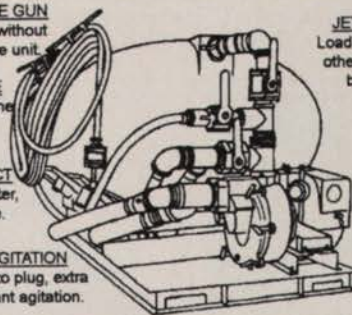
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job helps them learn the details like where the wet spots are. It's more efficient."

The other option companies are faced with is dividing certain maintenance responsibilities up among different crews.

"We have specific crews to handle mowing, fertilization, color replacements and other tasks separately," shared Bray. "We

tried mixing the responsibilities together in a crew, but it was difficult finding a way to carry all of the materials the crew might need on one trailer. Instead, having crew members focus on one task that they do well means they can end up doing it very well."

Bray also noted that his customers have mandated the separation of residential and

commercial crews. "Residential clients require more attention," he observed. "They require a crew leader who is more knowledgeable in current horticultural issues."

Down to Earth has vacillated between having its crews handle everything on a property and using separate crews for weeding and trimming work and another to handle mowing responsibilities. "This year, we're going back to separate crews," commented Bates. "We think this setup will help us control the quality aspect of the weeding and trimming. When one crew is responsible for everything, if it ever gets behind schedule because of weather or equipment problems, then the weeding and trimming is what always seems to be forgotten. Then, the next week, it will be twice as bad."

Chapel Valley managers believe that having one crew entirely responsible for all of the maintenance needs of a job is the best option. "By splitting the responsibilities up, you might be more efficient," Lynott recognized. "But is the client receiving the best service possible? We'd rather have one person responsible for the entire job so there's no finger pointing between crews or communication problems. For example, what if the client asks the mowing crews to prune a tree a certain way, but that message doesn't get conveyed to the pruning crew?"

THE WHOLE PACKAGE. Contractors also noted that developing efficient mowing crews involves managing time spent off the job.

"We watch for efficiency getting out of the yard in the morning," related Daulton. "It used to be a real Chinese fire drill for us, so we adopted a system where each crew has a specific truck and specific equipment to use every day. Also, we have the person who is second in command on each crew start 10 minutes earlier than the rest of the crew to get the trucks loaded up.

"The other big change for us was a switch from belt-drive mowers to hydrostatic drives," continued Daulton. "They've made a huge difference in productivity."

"Having a good shop is also a key," Lynott noted. "Our crews never go out with broken equipment, so we think that gets them to take better care of it as well." **LL**

The author is Editor of Lawn & Landscape magazine.

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Lawn and landscape contractors are becoming more and more comfortable relying on computers to perform a growing share of the workload. And the innovations keep on coming.

By Paul Schrimpf

L

ook out.

Computers have come a long way since the personal computer burst onto the scene 20 years ago. But where computer innovations in the green industry are headed in the near future will allow companies large and small to be efficient and productive as never before.

"The future of computer software will be different than anything we can prepare for," acknowledged Dave Tucker, president, Sensible Software, Gaithersburg, Md. "Most software companies have a five-year plan in place, but we all stand ready to change course because we really can't predict where things will be beyond six months into the future."

Several factors are driving these changes. A booming lawn and landscape industry is demanding products that are integrated and easy to use. The shortage of labor encourages contractors to automate as much of their businesses as possible. And contractors are looking for software that will help them beat their competition through better and faster service, more accurate and

Plugging In *to* Automation

prolific proposal writing, stronger presentations and, when necessary, the ability to change course on a dime.

PART OF THE BIG PICTURE. Imaging software that allows designers to lay out a landscape on computer, then present that image on screen and in print form to customers has come into its own over the past several years.

While no software manufacturer provides true integration of computer aided design, imaging and business management functions, integrating these components is a focus of research and development in the software industry, according to Brian Dontje, owner, UDS Computer Software, Grand Rapids, Mich.

"Future products will create dynamic interactivity between the accounting and design functions," he predicted. "As contractors create the design, they'll be creating the proposal."

The image, and the process of assembling the image on screen, continues to be a focus of ongoing development. Software manufacturers have been working to enhance the quality of the image and the ease of use to give contractors a competitive edge in productivity and the saleability of the projects they present to clients.

Stano Landscaping, Milwaukee, Wis., added imaging software about six months ago to aid in selling mostly residential clients on landscape designs. "Other companies in the market had been using imaging software at local home shows, and it's really a good sales tool for a public that is so visually oriented," said Mitch Rolsky, vice president of operations. Designers on sales calls take a laptop computer and make changes for the customer on the spot. Each computer is also loaded with software featuring plant photography, so designers don't need to carry plant picture books.

The imaging component of the software itself has been strengthened in different ways by improving the appearance of the trees, shrubs and structures in the image.

For example, Barton Greer, director of media relations, Diehl/Graphsoft Inc., Columbia, Md., said that creating photo-realism has been a central focus in software development. The company's CAD product ships with a renderer that enhances the image on the screen.

"It allows users to create soft shadows and takes out the 'jaggies,' or points of distortion, within an image," said Greer.

AutoDesk has also been working on presenting the cleanest design possible, and its newest release of ProLandscape features "alpha channel blending," according to product manager Chris Lohman. The colors

around the borders of the plants are graded so that plants placed against structures in a layout look more dimensional and don't look as though they've been stuck into the picture, he noted.

Dontje added that the imaging component of his Image.Scapes software includes a feature that shows a proposed design in a

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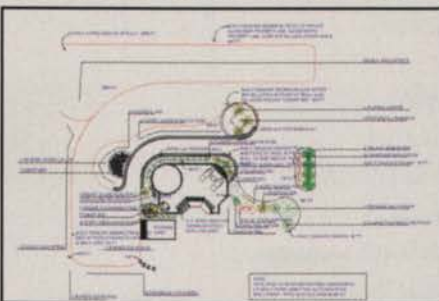
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LAWN & LANDSCAPE • APRIL 1998

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night lighted setting. It also provides designers the ability to drop plant labels into a design to give to customers when the landscape is complete.

More and better image "editing" tools

are also being designed into imaging programs. For example, DesignWare from Design Imaging Group, Holtsville, N.Y., includes a "copy shadow" function which allows users to create the shadow effect from

trees on homes and structures. Another feature allows the user to alter parts of the image without losing the original picture scanned into the system. "You can 'prune'

(continued on page 100)

Software for the Green Industry

COMPANY	PRODUCT	MARKET				APPLICATIONS									
		LANDSCAPE MAINTENANCE	LANDSCAPE DESIGN/BUILD	LAWN CARE	IRRIGATION	CAD	IMAGING	ESTIMATING	BILLING	ROUTING	EQUIPMENT MAINTENANCE	JOB COSTING	ACCOUNTING	HAND-HELD COMPUTER	INVENTORY TRACKING
ASOMA-WTC	GRO-MACS				X			X				X			
Autodesk	ProLandscape		X		X	X	X	X	X			X	X		X
CompuScapes	CompuScapes	X	X	X	X			X	X	X	X	X	X	X	X
Creative Custom Software	Lawn Manager	X	X	X	X				X	X	X	X	X		X
Design Imaging Group	DesignWare	X	X	X		X	X	X	X			X			
Diehl/Graphsoft	MiniCAD 7		X			X	X	X				X			X
DK Enterprises	Winlawn Pro	X		X	X			X	X	X		X	X		X
Eagle Point Software	LandCADD Series	X	X		X	X	X	X	X	X	X	X			
Fronrunner Technologies	PowerRoute 97	X		X	X			X	X	X	X	X	X	X	X
Genius Software	Landscape Genius	X		X				X	X	X		X			X
KRS Enterprises	Service First!	X			X			X	X	X	X	X	X		X
Mobile Data Collection Corp.	Service Tracker	X	X	X	X			X	X	X		X	X	X	
Performance Software Technologies	Pen Diagrammer Plus	X		X	X			X	X	X	X	X	X	X	X
Practical Solutions	The Service Solution			X				X	X	X			X		
Real Green Systems	Lawn Assistant II	X	X	X	X			X	X	X		X	X	X	X
Sensible Software	CLIP Light, Classic, Pro	X		X	X			X	X	X	X	X	X	X	X
Service Communication Software	Service Communication Software	X		X	X			X	X	X	X	X	X	X	X
Thornton Computer Management Systems	SLICE Plus	X	X	X				X	X	X	X	X	X		X
Time Saver Technologies	Hydraulics				X			X							
TKO Software	RainCad Suite		X		X	X		X							
Trims Software	Trimmer Software	X		X				X	X	X					
	TRIMS '97	X								X			X		X
UDS Software	Image.Scapes/Landscape Master Module		X			X	X	X	X			X	X	X	X
Vander Kooi & Assoc.	Mr. Accountant/VKA Estimating	X	X	X	X			X	X	X	X	X	X		X
Visual Impact Imaging	EarthScapes		X			X	X	X							

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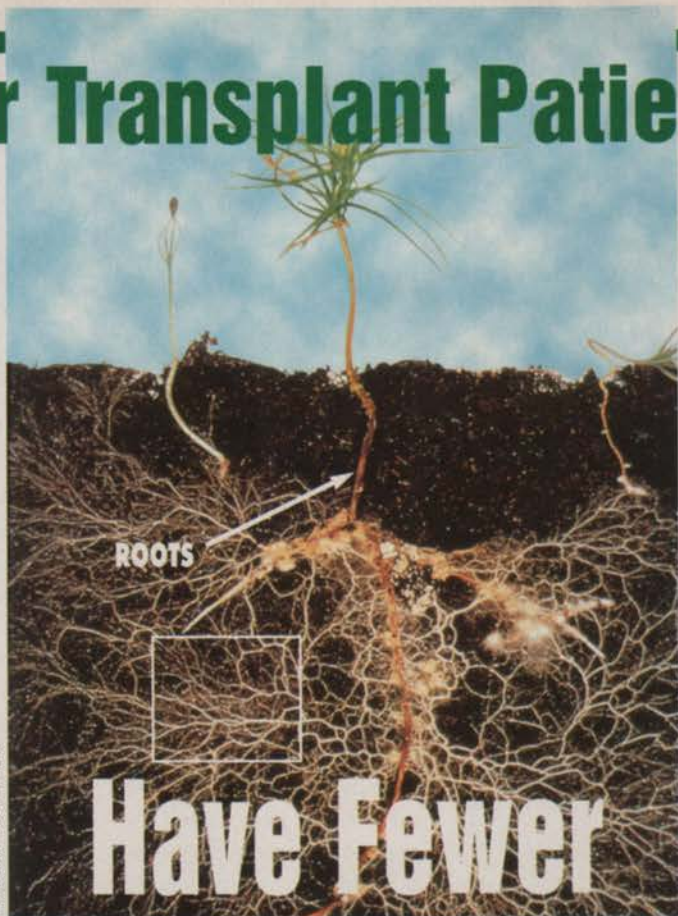
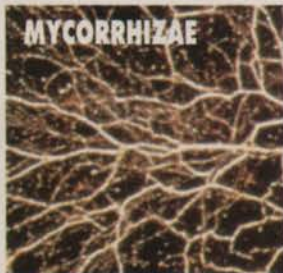


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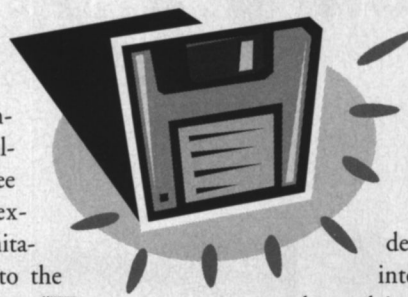
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(continued from page 98)

branches off trees and restore them on the image days or even weeks later," noted Garry Galpin, DIG president.

Jim Karo, president, Visual Impact Imaging, Hopatcong, N.J., noted that his imaging software contains a cloning feature that allows for the reproduction of patterns in a scanned image that closely matches the quality of the original image. It can also "paint in" features such as grass and mulch so curves and odd shapes can be easily drawn into the image.

With all of these image options, one of the last real appearance enhancements left is the ability to see the design in three dimensions. Dontje explained that current limitations are more related to the hardware than the software. "We could write that program, but you have to consider, for example, that a three-dimensional tree contains millions of colors," he related. "The program would simply be too large for the types of computers landscape contractors own."



ferent types of accounts, services and billing options. "Every contractor believes that his or her system is the best, so we try to design the software so it fits into what they are doing,"

he explained.

"Most of our clients want to do their work during the day and be able to make easy, quick data entry at the end of the day," Acosta continued. "They don't want to worry about the data on the other end."

"We've noticed that companies are moving more toward providing full-service landscape care," agreed Joe McPhail, vice president, Real Green Professional Service, Walled Lake, Mich. "Contractors getting into full-service need to have software that allows for flexibility."

Recent changes in Sensible Software's CLIP program were also driven by the need for flexibility, explained Sharon O'Donnell, marketing coordinator. The company recently began offering the software at three levels - Light, Classic and Pro - geared to the needs of small, medium and large contractors. The software is easily upgradable, so growing companies can move up to the next level of the program when they need the additional power and features, O'Donnell noted.

Brett Harward, chief executive officer, Frontrunner Technologies, Glendale, Ariz., agreed that the industry needs adaptable software, but he added that companies need guidance to understand the capabilities of today's software.

"There are companies out there using DOS and Windows 3.1 applications that are getting the most they can out of that software, but they have no idea what computers can do for their businesses," he said, adding that Frontrunner offers business consulting as well as its management software. "We feel we need to educate people about the power of a computer program to help them elevate their business."

For Stano Landscaping, a change in software is being implemented to adapt to an aggressive growth strategy planned by the company, explained Rolsky.

The company is implementing accounting, contact and business management soft-

TAKING CARE OF BUSINESS. The trend in business management software is a carbon copy of the trend in the green industry - to perform as many functions as possible so one vendor can service all of a customer's needs.

Tim Shields, president of CompuScapes, Atlanta, Ga., noted that the most recent release of the company's software, featuring enhanced estimating and job costing abilities, is a direct result of both the needs of diverse clients and the growing computer literacy in the market.

"Five or six years ago, I was worried more about educating contractors than talking about our particular product," admitted Shields. "Now, all levels of the market understand the value of having a good program in-house. For the smaller guys, it levels out the competitive playing field a bit."

Frank Acosta, president, Creative Custom Software, Port Murray, N.J., said his company has nearly completed a Windows version of its scheduling software, which should be released by the third quarter this year. Contractors have been demanding a high level of flexibility in scheduling dif-

Internet To the Rescue

Nothing is more frustrating than a computer program that won't cooperate when so much of a company's productivity and efficiency is tied to its smooth operation. Fortunately, the internet is making it easier and less expensive for software companies to service and communicate with their clients.

Many of the major computer software manufacturers maintain a website where users and prospective buyers can pick up demonstration programs and compare different brands and features of the software. In addition, e-mail within the sites allows contractors to communicate directly with manufacturers with questions and issues regarding their programs.

Websites also allow users to download updates to programs that manufacturers offer from time to time.

The internet is also making servicing software packages more direct and less expensive, noted John Deering, president, Service Communication Software, Plain City, Ohio. Software can be downloaded from a contractor's computer to the software company, fixed and sent back for the cost of a local phone call and the software technician's time. — *Paul Schrimpf*

Irrigation Made Simpler

computers

Simplifying the irrigation design process has been the ongoing focus of software manufacturers, and some new and interesting solutions are becoming available.

Time Saver Technologies, Richmond, Va., developed its Hydraulics software to simplify the irrigation design process. It can convert a wide range of calculations, including area, flow, pressure, weight and velocity. It can also determine the placement of sprinkler heads based on their output. "It eliminates a lot of planning time," stressed Mike Small, project manager. "What used to take hours to complete can be accomplished in about 40 minutes."

For complete irrigation design, RainCad, sold by Rain Bird and manufactured by TKO Enterprises, offers complete irrigation design capabilities, including head layout, zoning, pipe sizing and hydraulic calculations. "It doesn't do the job for them, but it's a great tool for an irrigation specialist," noted John DeCell, president of TKO. — *Paul Schrimpf*

THE MARKETING EDGE. Lawn care, maintenance and irrigation contractors who rely on the conversion of leads from a database for new sales rely on computer software to help make their marketing programs as effective as possible.

Maris Franke, president, Practical Solutions, Columbus, Ohio, noted that software is growing more sophisticated in its ability to analyze databases and separate hot and cold leads. Software can take purchased databases and compare them to the company records to determine who the most likely candidates are for a potential sale. This increases the effectiveness of any targeted direct mail.

Don Mayle, president, DK Enterprises, Pocono Summit, Pa., said that computer software today can also take advantage of the information gathered about a site, such as the lawn size and number of trees, to generate an individualized sales piece with a price list for the customer.

ware that isn't specifically geared to the green industry, but that Rolsky said will provide flexibility. This flexibility comes at a cost of between \$15,000 and \$35,000 for the business management portion of the software, Rolsky revealed. The main ben-

efits to the company include ease of customization and expandability. "We're paying for cutting edge," he added. "With this software, we can adapt it to the way the company runs now, so our people won't have a significant learning curve."



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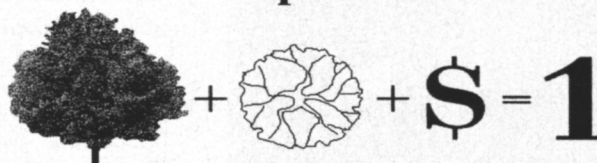
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LAWN & LANDSCAPE • APRIL 1998 101

Mayle noted that one contractor he works with performs "drive-bys" of large multi-unit developments with consistently designed landscapes. He puts the information on lawn size and plant material into a computer and generates a "personalized" price list of services which he mails to all of the addresses in the development.

GOING MOBILE. Contractors who are satisfied with their current software for managing accounts agreed that the next, and perhaps biggest, wave of technology will be the use of hand-held, mobile computers.

Hand-held units have the ability to take information about the day's route from the company's computer system and present it

in an easy to understand format for the crew people. Most systems give the user a destination, a checklist of work to be done and require the user to check in and out of job sites by touching an electronic device to a prompt area on the screen. At the end of the day, the information is downloaded into the company computer eliminating the need to manually input the information.

Tim Doppel, president, Atwood Lawn Care, Sterling Heights, Mich., uses a green industry-specific program to run his lawn care business, which is integrated with the QuickBooks accounting program. Having used a computer since he first went into business, Doppel said the computer system allows him to run the office with one full-time and one part-time secretary.

He's happy with how smoothly the business is operating now, but believes that "the next big leap will come when technicians can take the computer into the vehicle, and we'll no longer be printing invoices. I know the equipment is out there, but right now it's so expensive that I can't justify the productivity benefits," Doppel said.

"The amazing thing is, I know this isn't pie in the sky," he continued. "In five years or less, they'll probably be less expensive, and we'll be able to afford it." Doppel estimated that a sticker price of about \$1,000 per vehicle to install such a system would be affordable enough for him to seriously consider making such a purchase.

Computer software manufacturers say that the era of the affordable in-vehicle computer is indeed drawing near.

"We've really just seen the tip of the iceberg with hand-held computers," said Shields, noting that software companies are making incredible investments in programming to bring the hand-held computer to the market.

One of the benchmarks of hand-held computing came last year, when Microsoft released its CE operating software for such smaller units. Nine manufacturers of hand-held hardware have embraced the software since then, which is causing prices on the units to fall dramatically.

The benefits and justification for making such an expenditure are easy to see, once contractors consider the time savings that such a system creates, Shields explained.

(continued on page 133)

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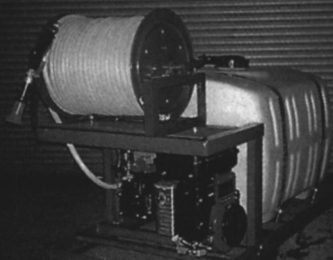
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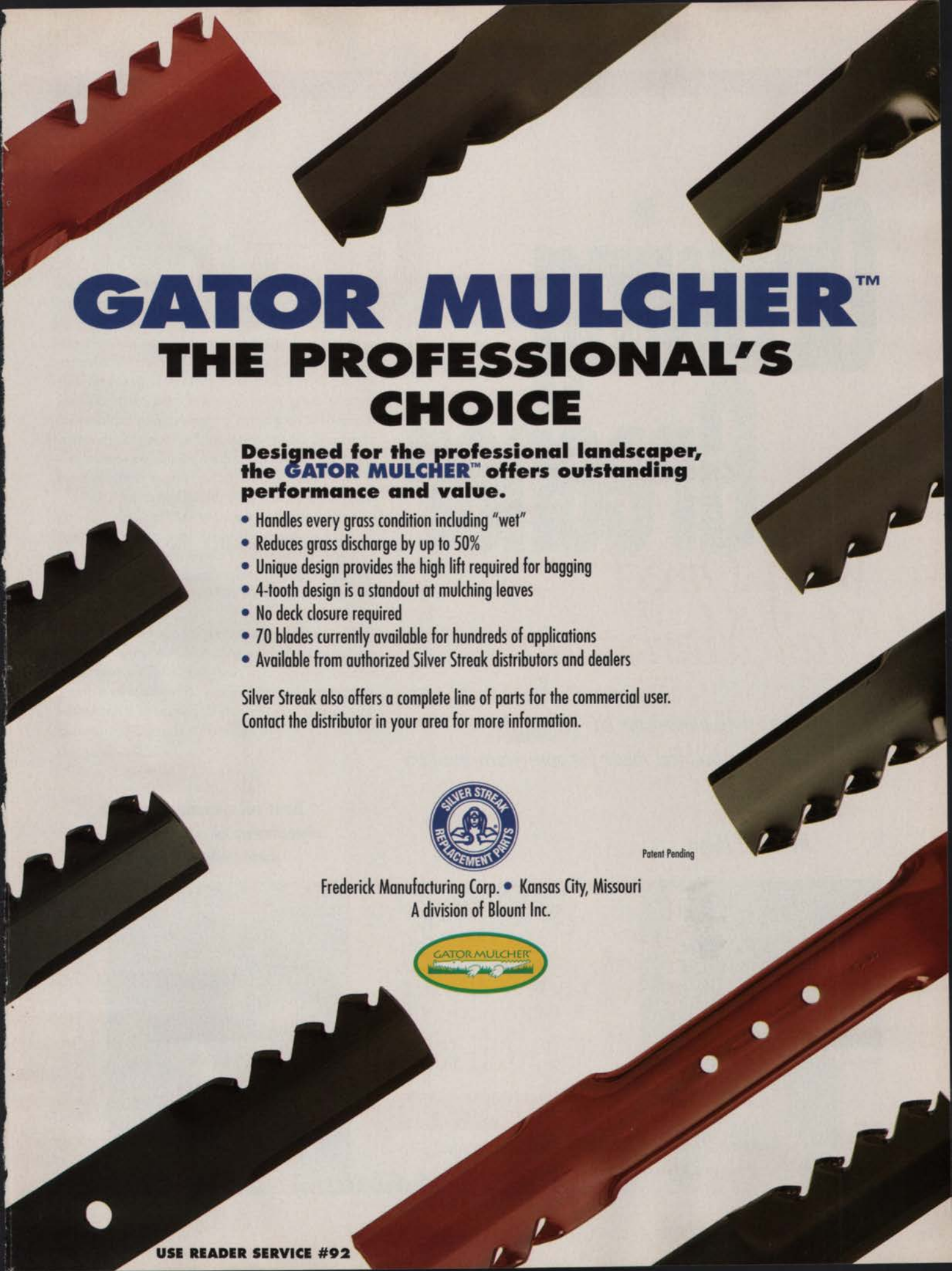
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Growing Greener

With Direct Mail Marketing

Direct mail advertising has become the marketing problem solver for some green industry contractors.

By Carol Pilon



ow green is your landscape business? For some lawn care and landscape contractors, business is growing greener daily because they are using a direct mail campaign to attract additional customers.

Savvy lawn maintenance and landscape operators are adding this marketing technique to their advertising mix as they sharpen competitive skills to gain their share of the growing demand for their services. That demand has been fueled in recent years by families with both spouses in the workplace, by graying baby boomers and by concerned consumers' reliance on route monitoring to guard against the necessity of pesticide use to treat problems that grew through neglect.

A recent Gallup survey of the lawn care industry found that those individuals who gave the highest ratings to the benefits of a well-maintained lawn and landscape have a median income of \$30,000; the majority are 30 years old or older and are college educated.

More than one in five U.S. households spends an average of \$667 on professional landscaping, lawn and tree care services each year – a \$14 billion investment in eye-appealing yards. Lawn care companies estimate they have only penetrated 15 percent of the potential market (23 million households strong), so attracting

(continued on page 106)

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(continued from page 104)

first-time customers from among the remaining 85 percent of households is an industry priority.

EYE ON THE TARGET. Historically, lawn maintenance services have advertised to the residential market through flyers, newspapers,

yellow pages and word-of-mouth, particularly in neighborhoods where their work is heavily concentrated.

Today, however, cooperative direct mail offers these increasingly professional companies a more sophisticated way to access targeted neighborhoods.

The ability of direct mailers to target geographic areas within the radius of a specified point has never been more precise. It is a marketing mode ideally suited to a neighborhood-intensive business like lawn care or landscape maintenance.

Because the mailer—a discount coupon—shares envelope space with coupons from other advertisers (offering services from a variety of industry sectors), it is extremely cost-efficient—only pennies per household. What makes the offer in a cooperative direct mailer effective for landscape businesses?

- Name and basic information stated boldly to differentiate service
- A coupon with a strong incentive offer
- The word free, such as “free estimate,” “free analysis” or “free lawn inspection” displayed prominently
- Name and phone number displayed prominently
- Attractive design utilizing full color
- Dollar, rather than percentage, discounts (\$10 off first service)
- Consistency of mail campaigns

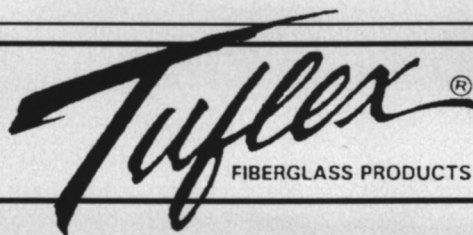
John Couch, owner of Green Grass Lawn Care & Landscaping, Atlanta, Ga., utilized some of these tips in his 1997 campaign with Val-Pak Direct Marketing Systems Inc., and he credited the duo-mailing with doubling his business. “I was totally mobbed with calls after the March and October mailings,” he said.

In fact, Couch has hired two additional employees to handle the new work generated by his direct mail campaign. Moreover, he bid successfully for a \$27,000 contract to landscape a lakeside home after the owner saw his Val-Pak ad. Other contracts followed, and the increased business helped Couch reorient his services to a heavier concentration on landscape design projects — “a much bigger profit center,” he noted.

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*More than
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(continued on page 108)

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USE READER SERVICE #94

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SCAG
Simply The Best

(continued from page 106)

What worked for Couch in his coupon design and message? He used a four-color offer featuring photos of beautifully landscaped homes with offers of 10 percent off landscape services and \$35 off the first month of lawn service. His company's name and phone number were prominently displayed in an eye-pleasing design, and the back side of the coupon included a detailed listing of his services.

Couch mailed again, three times, in the first quarter of 1998 and – to match his service to the winter season when the demand for lawn care is down – he offered 10 percent off tree removals. All of his mailings go to approximately 20,000 households, chosen for their proximity to his business location.

An appropriate first-time plan for a lawn

Fine-Tuned Mailings

Telemarketing today is full of chuckholes and obstacles. From caller identification devices and answering machines that screen calls to recent legislation in Florida that has created a state registry of residents that businesses are prohibited from soliciting over the phone, telemarketing isn't what it used to be.

However, blanketing the neighborhood with flyers isn't necessarily the answer, either. To help zero in on good potential clients, computers are coming to the rescue.


Maris Franke, president, Practical Solutions Inc., Columbus, Ohio, said that some software packages have the ability to take an existing database and provide a thorough analysis of a company's "typical" customer. They can also provide information on where the best customers reside.

This information can then be used to select leads from the databases of companies that provide demographic information on residents of a given area. For example, the names and addresses of residents in the same neighborhoods as a company's best customers, or residents with demographics similar or the same as individuals designated as best customers, can provide a wealth of strong leads. — *Paul Schrimpf*

care business might be a test mailing to about 30,000 homes at least three times over a six-month period. The total cost would be approximately \$1,500 for each


mailing and can return \$10 to \$12 for every dollar spent.

Designing the campaign is relatively simple, even for the novice mailer, because



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direct mail companies put their full design resources at the customer's disposal. Your account executive will counsel you on every step, and these services are included in the price of the advertising program. You'll get advice on your ad design and wording, and a professional graphic designer will produce your product. Direct mail companies' libraries offer clients thousands of photo choices for art work. (Couch used photos from Val-Pak's files for his first mailing; his second offer included a photo he submitted of one of his landscape jobs.)

Because the new customer must present the coupon to redeem the discount you offer, you can track results – a capability unavailable with many other advertising modes such as newspapers, yellow pages, radio and television.

Direct mail has been proven to be a highly effective advertising medium. According to the Direct Mail Association, each dollar spent results in a return of \$11.65

on investment. In addition, approximately 87 percent of Americans use coupons, and more than 10 percent of consumers purchase products and services as a result of direct mail pieces.

Is it any wonder that cooperative direct

mail is blooming among landscape and lawn care professionals who want to grow their businesses? **□**

The author is vice president of marketing for Val-Pak Direct Marketing Systems Inc., Largo, Fla.

In Need of Closure

Mike Dauer, national sales manager, lawn care division, Americalist, North Canton, Ohio, said that green industry companies have good reason to be direct mail believers. The close rate of direct mail leads averages 60 percent to 80 percent, second only to referrals, he said.

What many companies fail to do effectively, however, is close the leads that the direct mail generates. "The major window of the selling season is when the weather has been good for about two weeks," explained Dauer. "Leads are coming in from all of the marketing and contractors have just started round one. Then, two months later, they look at the closure rate and see they didn't get what they wanted. The reason is, they didn't spend the time on the leads, making the callbacks it takes to get the sale." — **Paul Schrimpf**

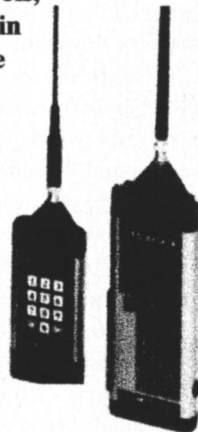
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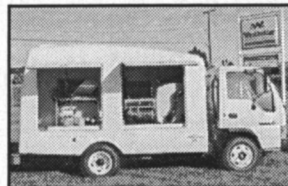
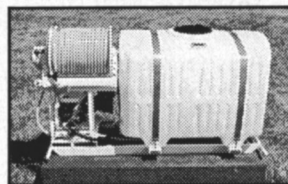
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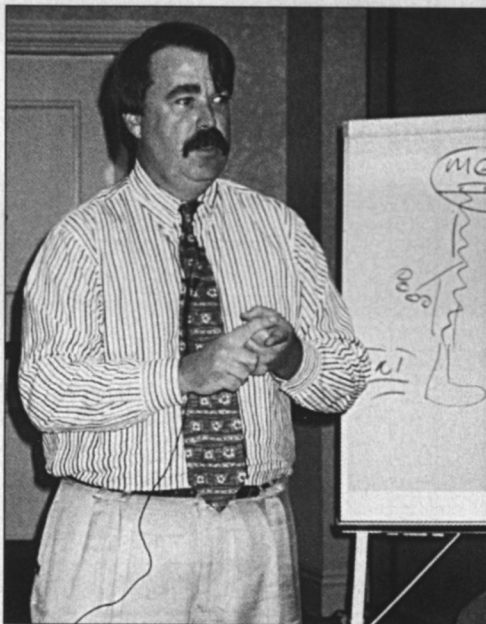
People:

The Key to Success

Attendees at the second Lawn & Landscape School of Management learned one company's secrets to employee recruitment and retention.

By Bob West

**Bill Arman:
addresses
School of
Management
attendees.
Photo: L&L
Staff**



P

ople are a passion for Bill Arman, vice president and regional manager for Environmental Care Inc., Calabasas, Calif. In particular, the recruitment, retention and development of ECI employees have come to be one of the standards he measures his professional success by.

At the second *Lawn & Landscape* School of Management, Arman shared the philosophies and experiences he has acquired leading the personnel charge for this 2,500-employee company.

START AT THE NEEDS. Arman commented that the first step in any successful recruitment program is an accurate identification of the company's immediate and future personnel needs.

"The first thing we do is ask ourselves, 'Where are we going?'" he explained. "We get all of the managers together and we look at what kind of company we think we'll be one, three and five years from now, with the focus on three years down the road.

"We start off with revenues and the types of business that we'll be in, because that drives the whole ship," he continued. "From there, we identify the types of people we'll need as that company and the skills we'll need them to have. As a company, we'll diagram our future in terms of a corporate structure, and identify those people already within the organization who are performers, those who are mediocre and those who aren't cutting the mustard."

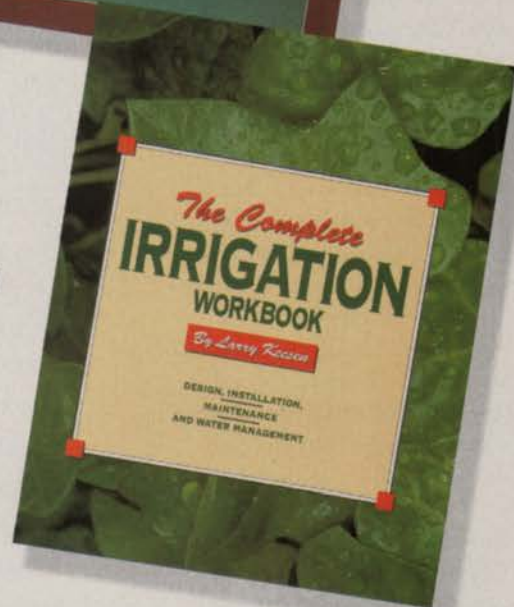
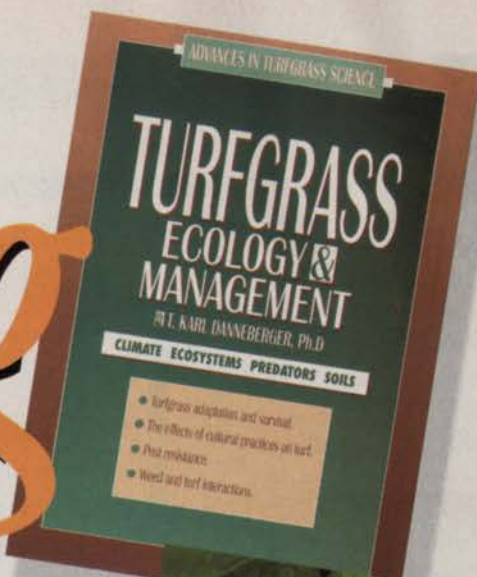
Once that structure is completed, the company devises a plan for the necessary development of its current personnel, as well as the recruitment of additional employees.

Arman also encouraged contractors to look into the future and anticipate personnel needs before they occur. "You don't want to all of a sudden realize you need to hire someone and you

(continued on page 112)

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(continued from page 110)

need to hire them right away," he pointed out. "We use a time frame of 18 months to three years as how long it takes us to hire someone and get them up to a productivity level where they're in a money making position for the company."

Once it has identified its upcoming personnel needs as an organization, ECI shares this information with the entire company. This ensures that the entire organization is moving in the same direction on recruitment and enables all of the employees to take part in the recruiting process.

"I think contractors should always have employees involved in recruiting because the best people will only want to surround themselves with the best people," Arman noted. "It's also the cheapest way to find people. But it's important that managers explain to the employees why the company is recruiting so they don't see it as a threat to their jobs. Show them how recruiting new employees will mean more opportunities for the company and for them to advance.

"We try to build it into our culture that we want employees to pursue the success of others as if it's their own success," he continued.

ON THE SPOT. When it comes time to interview, Arman encouraged contractors to identify specific skills desired for vacant positions and tailor the interview questions toward those skills. "Sometimes your mind and emotions can put pressure on you to hire someone because you think you have to have them," he said. "Interpersonal skills are really the biggest thing we look for in a candidate because we can teach people the technical side of the business."

In addition to the interpersonal skills, Arman said an individual's attitude, desire to learn and ability to learn are the most important traits to look for. "If someone can bring those traits to the table, we'll supply everything else they need," he remarked.

ECI also strives to find people with a

The Five Questions

The recruitment process should never start unless the individual running the company and the individual in charge of recruiting — who are often one and the same — know the answers to the following five questions, according to Bill Arman, vice president and regional manager, Environmental Care Inc., Calabasas, Calif.

1. What am I supposed to be doing?
2. How well am I supposed to be doing it?
3. How well am I doing it now?
4. What are the things I need to do or skills I need to get to be more successful?
5. What can I expect for doing this?

Arman said these are the five biggest questions employees have about a job, and it's the owner's responsibility to make sure all of the company's employees know the answers to these questions for their specific positions.

"As an owner, if you know the answers to these questions, I feel very confident that you'll have excellent results with your people," Arman noted. — *Bob West*

variety of strong points. "We want to put together a balanced, complementary team of employees," Arman explained. "Companies need people who are strong in different areas, such as equipment skills and customer relations."

In addition to interviewing, ECI checks candidates' personal references, DMV reports and requires drug testing. "And we won't hire anyone who doesn't have a driver's license, because if they won't take that much initiative in life, we don't want them on our team," Arman related.

NOW YOU'VE GOT THEM.

In addition to recruiting new employees, Arman emphasized the value of working to retain those employees the company

already has. ECI's retention efforts start with sharing the company's vision with all employees.

"We think it's critical that we have all of our arrows pointing in the same direction toward one common goal," he shared. "When all of the employees are working toward a common destiny, the power of that synergism is very powerful."

To make sure everyone is in philosophical agreement, ECI puts its mission statement and statement of corporate principles on laminated cards in English and Spanish for every employee to carry with them. "If all of the employees aren't in alignment as to the company's mission, new people who come into the company will end up forming a negative opinion of the organization from the people they work around," Arman warned, pointing out that crew leaders or foremen are often the most influential contact on new

employees.

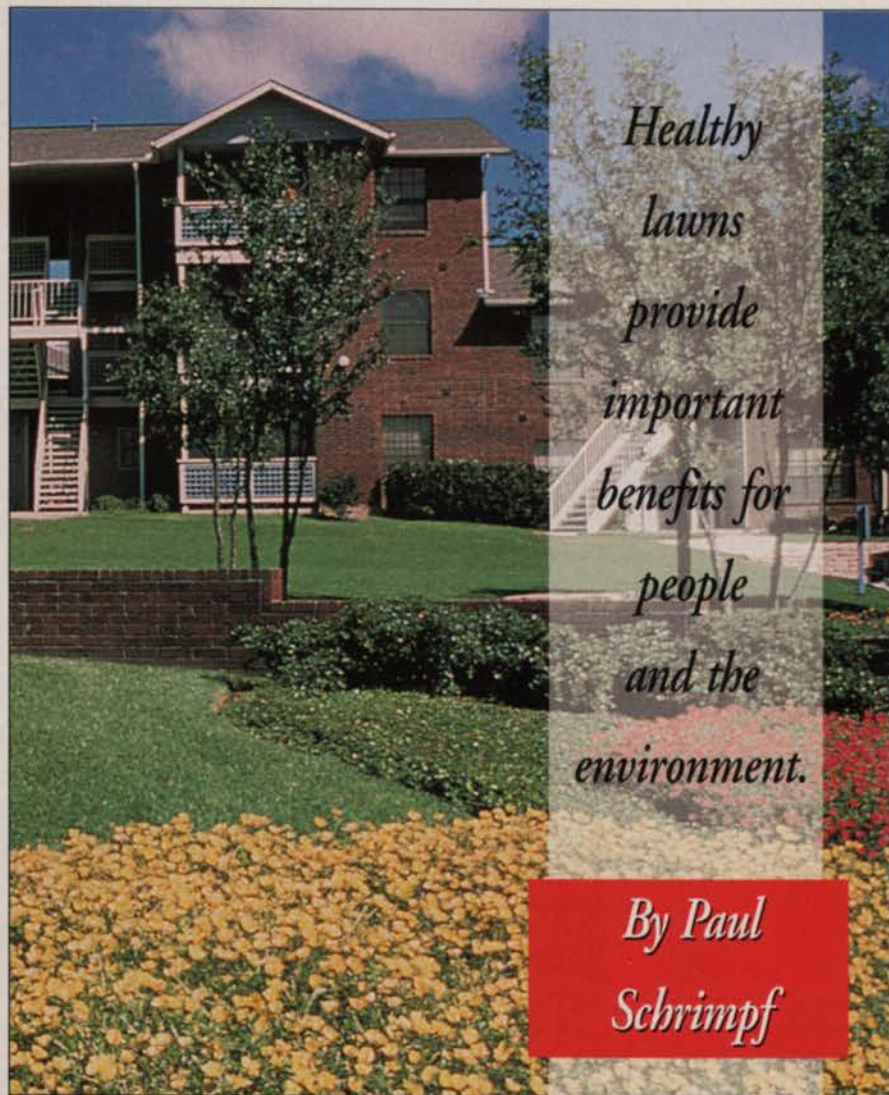
Reward and recognition programs can also be a powerful tool to keep employees happy and productive, but they have to be developed carefully, according to Arman. "The keys to recognition programs are knowing what the employees really want and then being consistent in the awards you give," he said.

In the event that employees do leave the company, exit interviews can be good learning opportunities, if handled properly. "A third party should conduct the interview if you want to get honest, valuable information from the employee," Arman recommended. **LL**

The author is Editor of Lawn & Landscape magazine.

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Turf and the Common Good



*Healthy
lawns
provide
important
benefits for
people
and the
environment.*

*By Paul
Schrimpf*

In addition to providing an attractive landscape effect, healthy turf provides a number of benefits to the environment.

It's so easy to take turf for granted amid the flowering shrubs, blooming dogwoods and intricate fountains featured in professional landscapes. But turf provides some impressive benefits that equal, and in some cases surpass, its aesthetically pleasing look when green, full and healthy.

This article describes some of these turfgrass benefits that lawn care customers should understand.

REDUCING NOISE. Research has shown that turf, as well as other ornamentals, has the ability to reduce noise by up to 30 percent. Its ability to absorb sound surpasses padded indoor carpeting, and sounds that bypass lawn and garden areas are generally softened in their quality.

One study conducted to demonstrate the sound absorbing quality of turf compared freeway noise after passing over embankments of turf vs. bare ground, and the turf embankment reduced the noise level by eight to 10 decibels.

TEMPERATURE CONTROL. Turf is a superior cooler of air temperatures in the heat of the summer. On an average size street of eight houses, the front lawns have the cooling effect of about 70 tons of air conditioning, compared to the average home central air

Many of the problems contractors encounter with customers can be avoided by sharing the right information with customers ahead of time. This section is designed to help contractors better communicate with customers. Reprints of this section are available — call our reprints division at 800/456-0707 for more information.

conditioning unit, which has a three- to four-ton capacity. On an average summer day, an acre of turf will release about 2,400 gallons of water through evaporation and transpiration, which effectively eliminates half of the heat that reaches the turf.

This temperature control feature of turf makes it pleasant to use for recreational activities, even on hot days. It also serves to keep homes cooler overall.

ALLERGIES. Well-maintained turf reduces the proliferation of weeds that release pollen and aggravate people's allergies. Turf is usually mowed at a height too low for the plants to go to seed, so turf is unlikely to cause an allergic reaction.

PURIFYING WATER. The turf-soil profile provides an ideal environment for the degradation of contaminants and the cleansing of rainwater. As water runs through the thatch layer, soil and root layers, these contaminants are held and degraded by soil microbes that are highly active in the soil profile. Materials that these microbes degrade include pollutants and chemicals, including turf pesticides.

Turf-soil profile is also a highly efficient

Adding Real Value

Professional lawn and landscape care may be considered a luxury by some, but the truth is that a well manicured landscape provides outstanding value to homeowners in the form of greater perceived property value.

A Gallup survey reported that 62 percent of all homeowners in the United States believe that an investment in lawn care and landscaping is as good or better than other types of improvements. A well maintained landscape will add 15 percent to a home's value, and the investment recovery rate for landscape improvement is 100 percent to 200 percent of the actual cost. — *Paul Schrimpf*

user of applied fertilizers. Grass plants absorb fast release nitrogen fertilizer quickly, and the soil-thatch layer holds the remaining product effectively for later use by turf. Very little leaches through the soil profile.

AIR CLEANER. Turf has the capacity to absorb some of the world's most insidious pollutants, including carbon dioxide, ozone and sulfur dioxide and assimilate them into its leaf blades. And, like other plants, turf turns carbon dioxide into oxygen. The rate at which it creates oxygen is impressive — a 25-square-foot area of turf generates enough

oxygen to supply one person for a day, while the grass and trees along the country's interstate system produce enough oxygen to supply 22 million people daily.

Don't take your turf for granted — its benefits are enormous, and it deserves the best care you can provide. **□**

Information for this article was excerpted from the publication, Lawn and Sports Turf Benefits, by Eliot and Beverly Roberts.

The author is Managing Editor of Lawn & Landscape magazine.

Keeping it Healthy

While professional care is an important factor in the maintenance of a healthy lawn, there are some things that customers should do to the lawn to ensure they are getting the best value for their lawn care dollar. The Professional Lawn Care Association of America recommends the following lawn maintenance practices to help maintain healthy grass:

Soil Sampling. Turf must have the proper amounts and proportions of nutrients, as well as the correct pH level, in the soil in order to thrive. Ask your lawn care professional about having your soil sampled and analyzed by a testing laboratory to ensure your soil is in balance and fertile.

Grass Selection. When reseeding or seeding bare spots in the lawn, don't be tempted to purchase seed from the economy bin. There are wide variances in the quality of turf seed in the market, and you usually get what you pay for when you choose based on price. Always buy name brand seed that grows well in your region and that will stand up the amount of wear it will receive.

Mowing. PLCAA recommends mowing at the highest recommended height and mowing often. Never remove more than 1/3 of the blade each time you mow — mowing too close stresses the turf and opens it up to potential weed, disease and insect problems.

Watering. The rule for irrigating turfgrass is to water deeply and infrequently. The turf should be watered to a depth of 4 to 6 inches, which promotes healthy root growth and minimal waste. Frequent, light watering keeps the leaf blades wet and may promote disease problems. — *Paul Schrimpf*

Pricing the Job

By Jim Huston

T

here are many methods used to price jobs. This article examines five of the more common methods used today in the market place. The important thing to keep in mind is to first correctly identify all costs (the breakeven point) and then add profit and any necessary contingency factor to those costs.

For comparison of the following five pricing methods, we will use the two following jobs as examples:

	Job A	Job B
Materials	\$100,000	\$40,000
Labor with labor burden	15,000	60,000
Equipment	5,000	20,000
Subcontractors	0	0
Total direct costs	\$120,000	\$120,000
OPH	\$7.50	\$7.50
PPH	\$5.00	\$5.00
Labor Hours	1,500	6,000
CAW	\$10.00	\$10.00

(with 33 percent labor burden)

THE FACTORING OR MULTIPLIER METHOD. Using this method, contractors multiply estimated material costs or material and labor costs by a "factor." The factor may be based on past profit and loss statements or it may be a number arrived at by monitoring past bids. The rationale is: If you ended a previous year with a sufficient profit, and if material costs were 33 percent of gross sales for that year, then all you have to do is multiply material costs for the new year by a factor of 3.0. Supposedly, this will produce prices that will ensure sufficient profit.

Sales taxes, field-labor burden, profit and overhead are all included in the factor. A contingency factor may be applied to the job, but not always. This is a highly flawed method, but many landscape and irrigation contractors bid work using this "material-times-two" approach. The only variables addressed in this method are the amount of materials and the factor.

Unfortunately, it does not address other variables that usually apply. Some of the items that may change from job to job and that need to be dealt with separately in the estimating process are:

Every job performed by every contractor has a price, but how do you determine that price?

By the Numbers

- General conditions
- Profit markup
- Site conditions
- Types of equipment
- Subcontractors
- Labor rates

If we use the mythical method of material times a factor of two, our prices for jobs A and B are \$200,000 and \$80,000, respectively. As we continue our analysis of the other common pricing methods, the flaws of factoring will become quite apparent.

	Job A	Job B
Material Costs	\$100,000	\$40,000
Factor	<u>x 2.0</u>	<u>x 2.0</u>
Price	\$200,000	\$80,000

THE GROSS PROFIT MARGIN METHOD. There are a number of popular derivatives of the gross profit margin approach to pricing, which is also called the single overhead recovery system method. Although it has some merits and applications, virtually all of these positives are only useful when they are incorporated into other, more accurate and flexible, estimating methods. And, like factoring, the GPM/SORS method is useful for the purposes of "hindsight" analysis.

Two of the more popular applications of the GPM/SORS pricing method are:

The 1/3, 1/3, 1/3 Rule

Although the specific fractions may change, their use is the same. The estimator, after reviewing past profit and loss statements, determines that material costs have comprised approximately 33 percent of gross sales. Labor, with burden, and possibly equipment costs, account for another 33 percent. The remaining 33 percent covers equipment costs, if not combined with labor, overhead and profit.

	Job A	Job B
Material Costs	\$100,000	\$40,000
	(33.3%)	(33.3%)
Labor Burden and Equipment	\$100,000	\$40,000
	(33.3%)	(33.3%)
Subtotal	\$200,000	\$80,000
	(66.6%)	(66.6%)
Overhead and Profit	<u>\$100,000</u>	<u>\$40,000</u>
	(33.3%)	(33.3%)
Total Price	\$300,000	\$120,000

GPM Markup Method.

Although similar to the previous technique, the GPM markup method requires contractors to do more homework. You must first accurately identify specific costs for material, labor, equipment (unless included in labor or overhead) and subcontractors. Sales taxes are then added to materials and labor burden to field payroll. The total is then marked up to a desired gross profit margin.

The method fails because of what happens to direct costs once you calculate and identify them. Jobs A and B have the same direct costs. Assuming that our company field payroll is \$15,000 per month, job A consists of one month of payroll while job B consists of four months of payroll. If profit is 10 percent (\$12,000) of the 30 percent GPM markup on both jobs, that leaves \$24,000 for overhead – the remaining GPM markup.

Both jobs would have \$24,000 built into the bid to cover overhead. Using the company's entire field labor force, job A will last one month. Accordingly, job B will last four months. But the overhead in the four-month job is the same as the one-month job.

THE MARKET-DRIVEN UNIT PRICING METHOD.

Do not make the mistake of assuming that there is something inherently wrong with organizing and presenting an estimate in a unit price format. The format is not the issue. The issue is, however, the process – or lack of a process – used to arrive at the unit price. If correctly calculated, unit prices can provide considerable insight into an estimate and plenty of ammunition at the bid table when it's time to negotiate. For this reason, every time I bid a project, my computer is programmed to simultaneously provide pricing in both a lump sum and a unit price format.

The prices are calculated, however, after all costs for M/L/E/S, general conditions and accurate markups are included in the estimate. These unit prices are then compared to ones normally found on the open market. However, contractors who rely solely upon the market-driven unit pricing method seriously shortcut the estimating and planning process. In turn, they short circuit their business systems. Key information and data

Using the most effective estimating system can be of particular value on extremely complex jobs.

Photo: Toddco Landscape Co.



needed to direct and control individual jobs, as well as the company and division, is just not available. As a result, meaningful job costing is not possible, and the company lurches forward in a fog.

It's hard to imagine an estimating method that is less useful in helping to run a company than factoring, but the market-driven unit pricing method is. Factoring, at least, requires that you build upon the foundation of material costs. The MDUP system operates independent of any relevant data, budgets, costs or strategic planning.

THE MULTIPLE OVERHEAD RECOVERY SYSTEM.

This method of pricing projects has gained popularity in recent years and is being widely taught in estimating workshops.

This method can have distinct advantages over the previous systems, but it does have definite disadvantages. It is overly complex, and it is difficult to make adjustments for varying market conditions. This becomes a particular liability in periods of rapid market change.

In addition, the MORS method treats all jobs throughout the year as if the mix of materials, labor, equipment and subcontractors were the same as the overall budget and uses traditional markup values that have no clear analytical basis.

The MORS method can and should be firmly grounded upon accurate historic data,



current financial statements, well thought out estimating, overhead budgets, projected sales and direct costs for the upcoming budget year.

The first phase of bidding under the MORS method includes costs for materials physically included in the finished product and the labor, equipment and subcontractors' costs. Material is included at cost. Labor is calculated in field-labor hours multiplied by either a crew average wage or specific wage rates for differing classes of labor. Equipment is included by multiplying hours by the cost per hour for each piece of equipment. Subcontractors are included at cost.

General conditions costs are included for those items required to produce the finished product but that are not directly required to produce the end product. (*Lawn & Landscape*, March 1998, p. 89)

It must be understood that if you do an inaccurate takeoff, miscalculate labor or equipment production rates, miss other important site conditions or other bidding variables, then the most perfect of estimating systems will be of little help.

Once you have calculated the costs for Phases I and II, add the markups.

- Sales tax is added to materials.
- Labor burden is added to direct labor costs.
- Overhead is calculated.

- Profit is added to the job based on a straight percent markup on the total of all aforementioned costs.

- Finally, a contingency factor is added.

It is with overhead recovery that the MORS method begins to breakdown. Overhead is recovered in a bid by marking up M/L/E/S direct cost totals for Phases I and II by predetermined percentages. Materials costs are usually marked up 10 percent; field equipment costs 25 percent; subcontractor costs five percent.

The cornerstone of the MORS method is the percent that labor combined with labor burden is marked up for overhead recovery. Larger companies, because of benefits enjoyed from economies of scale, generally can use lower markups.

Large commercial companies' (more than \$1.5 million in sales) labor markups usually range from 25 to 45 percent.

Medium-sized companies (\$750,000 to \$1.5 million) doing commercial and residential work range from 45 to 65 percent.

Smaller companies (less than \$750,000) doing commercial and residential work, along with larger (more than \$1 million) high-end residential companies, usually range from 65 to 100 percent.

	Job A	Job B
Price	\$153,667	\$174,667

(with 10 percent profit)

THE FIELD-LABOR HOUR RECOVERY. Also known as the overhead and profit per hour method, this method provides considerable advantage over all of the previous methods.

It begins by adding tax to materials and adding labor burden to field payroll. It then becomes necessary to have a clearly identified overhead amount on a company or division basis to recover for the year. The overhead amount is divided by the projected number of billable field-labor hours in the company or division to determine the overhead per hour amount.

Overhead is then allocated to projects on the basis of the number of field-labor hours estimated in each bid.

Profit is then calculated in much the same manner as overhead. Contractors do have the choice, however, of marking up the total of the aforementioned costs by a desired percent or by multiplying the number of field-labor hours in the bid by a predetermined profit per hour dollar amount.

There are two critical requisites attached to the OPPH method:

Projected company/division field-labor hours must be reasonably accurate (within 10 percent) for the year.

Overhead must be correctly defined. If you include items in overhead that should be in direct costs, such as field equipment costs and field-labor burden items, you will seriously distort the effectiveness and accuracy of any estimating system.

During the estimating process, you are attempting to identify two numbers. The first is total of your direct costs plus the amount of overhead you need to recover on the job. These two combine to create your breakeven point. The second number is the profit.

Beyond price, a good estimating system produces a plan and a process that will help you run your jobs and company.

How high can you go without losing the project? How low can you go to win the bid without hurting yourself? A good estimating system provides these answers. **LL**

The author is a partner with Smith Huston Inc., Orange, Calif. He can be reached at 714/288-1202.

PHENOLOGY: NATURE'S SECRET TIMEKEEPERS REVEAL ALL

ONE OF THE GREAT frustrations for landscape maintenance professionals is trying to predict when insect pests are in their early, and most treatable, stages of development. In general, it takes judicious scouting and climatic observation to determine when is the best time to apply control products.

But what if you could predict the development of tree and ornamental insects by simply observing the emergence or blooming of a specific plant species? Rather than having to get out in the field and search for the critters, you could drive by Mrs. Jones' house and see if the forsythia were blooming.

Too good to be true? Not according to Daniel Potter, professor of entomology, University of Kentucky, Lexington.

With graduate student Guy Mussey, Potter spearheaded a three-year project comparing the activity of insects and how they coincided with the development of trees in the spring and summer.

A DEFINITION. Phenology is defined as the science dealing with the effects of climate on seasonal biological events, which include pest emergence and plant flowering. Plants and pests share a common bond in that their emergence is dependent on the changes brought about when the weather warms in the spring.

Theoretically, by observing pest and plant activity simultaneously and keeping detailed records, one could eventually draw conclusions about insects by observing the plants.

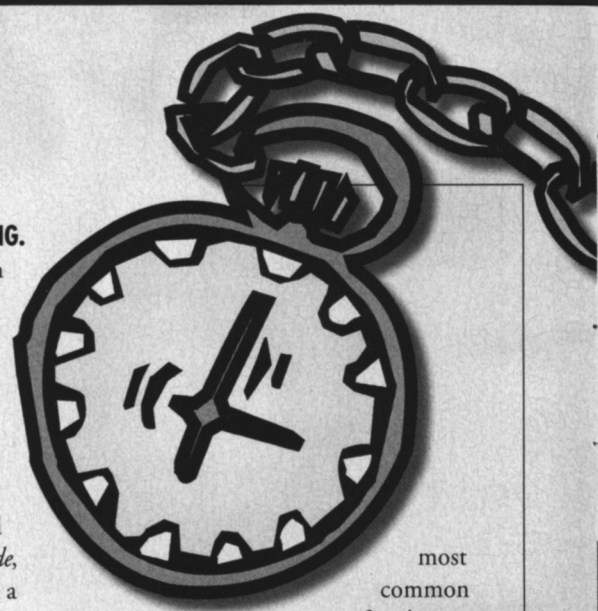
ALL IN THE TIMING.

Potter's research is groundbreaking, but the concept is nothing new.

In 1989, scientist Don Orton published the book *Coincide*, which contained a lifetime of observations about plant and insect emergence and how the two are interrelated.

About the same time, Dan Herms, presently an assistant professor at The Ohio State University/Ohio Agricultural Research and Development Center, Wooster, began comparing data he had been maintaining on the phenology of blooming trees to the emergence of pests while employed at Dow Gardens in Midland, Mich. His methodology was the foundation for Mussey's and Potter's research.

They targeted 33 of the



most common turf and ornamental insects, and tracked their spring emergence each year for a three-year period.

At the same time, observations were made about the emergence of flowers in 34 common landscape plants in Kentucky. Three specific events were noted: first bloom, when the plant produces its first flower; 50 percent bloom, when half of the blooms on a tree have flowered, and 95 percent bloom, when the plant has essentially reached full flowering.

Mussey and Potter's findings have spurred similar studies in Georgia, Pennsylvania and Ohio, where Herms is reconstructing the experiment at the OSU/OARDC. His concern in performing the research is answering the question, can the findings from one state be duplicated in another? After one year, the answer is both yes and no.

"For about 2/3 of the insects, we've found that the predictions Mussey and Potter made are pretty darned accurate," Herms stated. "Where we've found significant discrepancies has been the soil-borne insects."

Herms will be replicating the experiment in future seasons to see if he can achieve a higher level of predictability.
— Paul Schrimpf

Sample Phenological Data

Below is a sample of what researchers discovered about the emergence of bronze birch borer and calico scale, and how they coincided with the emergence of three tree species over three years of observation:

PLANT OR INSECT OBSERVED	PHENOLOGICAL EVENT OBSERVED	DATE OF PHENOLOGICAL EVENT, THREE-YEAR AVERAGE
Bronze Birch Borer	Emergence	May 22
<i>Tilia cordata</i> (littleleaf linden)	1st bloom	May 23
<i>Syringa reticulata</i> (tree lilac)	1st bloom	May 23
<i>Catalpa speciosa</i> (northern catalpa)	1st bloom	May 24
Calico Scale	Egg Hatch	May 24

Source: University of Kentucky

COMMUNICATING THE DIGITAL WIRELESS WAY

JIM MCCUTCHEON always realized that instant communications could improve the way Post Landscape Services conducts business. But, he never realized how substantial that impact could be, however, until he discovered a faster, more efficient way to design, install and maintain multi-million dollar landscape projects.

Post Properties, Inc., an Atlanta, Ga.-based developer of upscale apartment communities throughout the Southeast, is recognized for its award-winning landscaping. The lush park-like settings surrounding more than 16,000 Post apartment homes — perennials, seasonal color, turfgrass, shrubs and trees — are a company trademark and its most successful client marketing tool.

After years of receiving requests to provide landscape services to outside business clients and private home-

owners, it established Post Landscape Services in 1990, which has grown to more than 150 full-time employees.

Like other companies with employee teams spread across different job sites, Post relied upon traditional analog cellular phones, pagers and dispatch radios to stay in touch with its managers and the crews they supervised. But each of these systems had serious inefficiencies.

"We had major gaps in being able to communicate with each other, especially when it was important to contact someone quickly," said McCutcheon, vice president/director of maintenance for Post Landscape Services.

"Unless managers were in or near their vehicle, they missed calls on the radio. And when we cut back on cell phone usage as costs got more expensive, our managers

started carrying around rolls of quarters to use when they had to stop and find a pay phone when they got paged.

"Redeveloping our communications systems to give us faster and more efficient communications was a major strategic goal for our business," he noted.

McCutcheon found that the solution to his communications dilemma was Nextel Communications. The Nextel National Network is the largest guaranteed all-digital wireless network, combining digital cellular, text and numeric paging, and Nextel Direct ConnectSM in a single phone.

The key productivity feature for many business users, though, is the Direct Connect, a digital two-way radio feature that lets

users instantly talk with coworkers and other Nextel users for a fraction of the cost of cellular. This simple push-to-talk function allows users to talk privately with individuals or talk instantly with an entire group.

"Since we switched to Nextel, we've cut our down time on job sites, increased our ability to respond quickly to our clients' needs, and opened up new opportunities

for efficiency," said McCutcheon. "It has helped everybody here feel and work more like a team."

Good communications with its work teams is an important factor in Post Landscape Services' ability to

provide outstanding service to its clients, according to Post's Director of Installation, Kip Hays. Hays, with primary responsibility for managing more than seven installation teams and coordinating the work of subcontractors, likes the instant conferencing features because he can stay in touch with his crews and subcontractors.

"Pagers were good, but now I can contact the crews, get a quick update

anytime, and it's easier for them to get in touch with me," said Hays. "Our people report directly to the job site, so being able to contact them at any time is important. Nextel Direct Connect works great for us, because we can monitor each team's progress in the field and move them quickly to the next job site when they finish." — *Tim Burningham*

The author is area marketing director for Nextel Communications, Atlanta, Ga.

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•••••
'Pagers were good, but now I can contact the crews, get a quick update anytime, and it's much easier for them to get in touch with me.'
 •••••



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 - Four flat resistant extra-wide 9- by 3½-inch front caster wheels
 - Notched double "V" drive belt
 - Operator fatigue reduced with the Vari-touch control with soft touch operation
- Circle 205 on reader service card**

LITERATURE

Advanta Seeds Pacific released its first ever product guide, *A Guide to Turf and Forage Grasses*. The guide includes zone charts detailing species for the North American market followed by a general guide to varieties. The guide also describes current and future turfgrass varieties offered by Advanta.

Circle 201 on reader service card

A free product guide of **Stanley Hydraulic Tools, Handheld Tools Volume 4**, offers education and information for choosing the right hand-held power tools for the job. The 18-page guide contains practical and comparative information on more than 120 hand-held tools.

Circle 202 on reader service card

The 1998 newly revised insecticide, herbicide, fungicide Quick Guide from **Thomson Publications** is a 200-page reference guide to materials and pest control. All materials are cross-referenced to their registered usage and lists pests each material controls to enable readers to make general recommendations on material to use. This reference handbook has been in publication for more than 30 years.

Circle 203 on reader service card

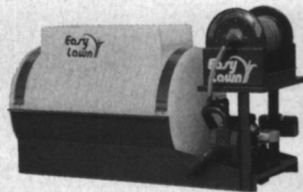
Echo has distributed its master products catalog detailing all of its new products. The catalog features the entire Echo line of products. The specially color coded pages distinguish between products such as trimmers and brushcutters, hand-held and backpack blowers, sprayers, hedge clippers and chain saws.

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17	41	65	89	113	137	161	185	209	233	257
18	42	66	90	114	138	162	186	210	234	258
19	43	67	91	115	139	163	187	211	235	259
20	44	68	92	116	140	164	188	212	236	260
21	45	69	93	117	141	165	189	213	237	261
22	46	70	94	118	142	166	190	214	238	262
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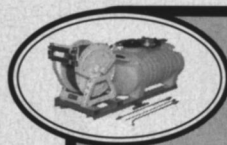
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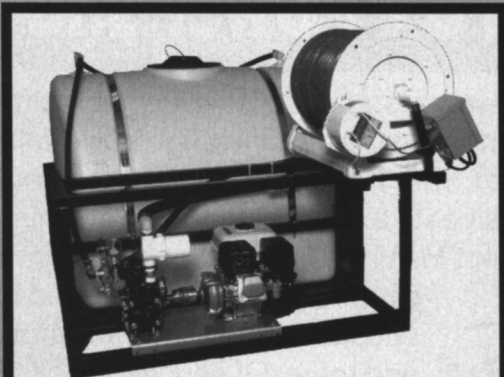
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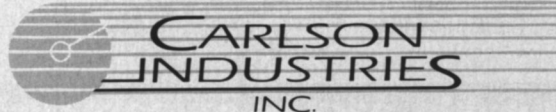
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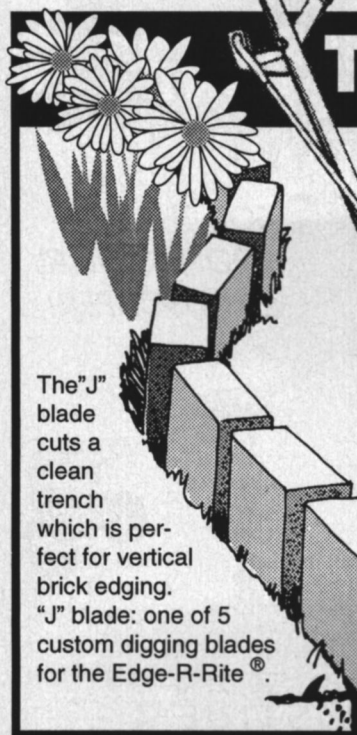
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(continued on page 126)



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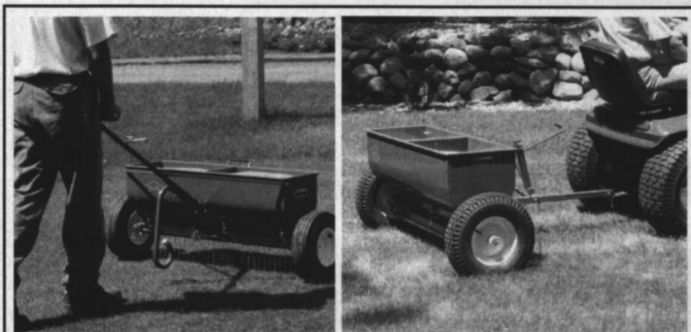
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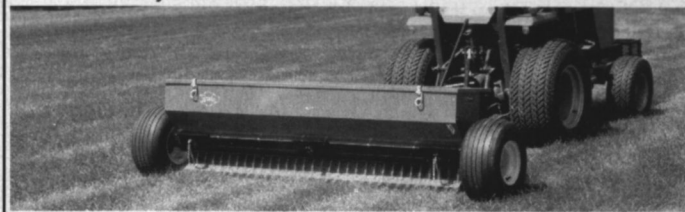


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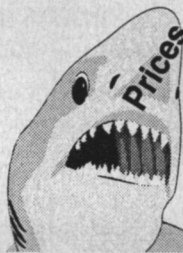
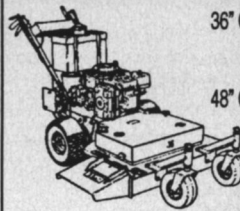
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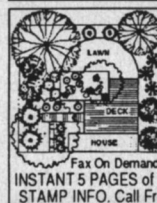


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(continued from page 102)

"The landscape service process is highly complex. When you really look at all of the functions - routing scheduling, timekeeping, the route sheet, time in and time out of job sites - the cost to have one person keystroke all that information costs about \$20,000 to \$25,000 per year in salary."

Of course, in-vehicle computers are only as good as the route plan, and software has made some tremendous leaps toward easing the burden of creating an effective route. Joe Kucik, president of Real Green, said that the ability to set routing parameters, such as square footage, hours required on the site and revenue generated by the job, is an important part of a strong routing software package. Real Green's Lawn Assistant II uses user-preset parameters and mapping software to generate routes in minutes that used to take hours or days to produce.

Some software developers are taking the hand-held concept even one step further. Todd Reinhart, partner, Mobile Data Collection Corp., Normal, Ill., has been working on integrating a hand-held computer with a global positioning system.

The GPS is a tracking device that, when mounted on a vehicle, can monitor and record the route and activity of a service vehicle throughout the day. The unit communicates with a satellite, which relays information about the truck's location, movements, speed, stops and starts to the company computer. This information is translated into reports that allow accurate route monitoring for maximum productivity.

Reinhart said that the landscape industry will soon have the ability to pinpoint costs and maximize efficiency. "For years, the manufacturing industry has had total knowledge and control over the cost of the work they do," he related. "Automobile manufacturers know to the penny how much it costs to put every bolt on a car, but the service industry hasn't had that."

The next phase of products will use wireless hand-held units that communicate directly with the home office computer will enter the market. This will make constant and on-demand data transmission and communication with field personnel a reality in the not-to-distant future. **LL**

The author is Managing Editor of Lawn & Landscape magazine.

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*Denotes regional advertising.

DEVELOPING A SAFETY PROGRAM

THE SAFETY program at David J. Frank Landscape Contracting Inc., Germantown, Wis., is nearing its 15th year in a fairly formal format. The program has evolved continuously with changes and improvements made each year.

One of the five key objectives of all staff members at David J. Frank Landscape is to promote a safe and helpful workplace as well as maintain the safety standards the company has established. The company has prepared a comprehensive written safety manual that outlines the expectations, rules and guidelines of the program.

The concept of using an incentive was suggested by the production staff members through an annual pay and benefits survey several years ago. Although safety is a key part of everyone's job, it was thought that an incentive would help focus our staff members' attention on this important topic continuously.

Recognition is one of the key features of the program. Safety is talked about formally in weekly department meetings. Individuals that hold safety tailgate talks regularly and/or have compiled a good

safety record are recognized on an ongoing basis at department meetings, in the company newsletter, on the company bulletin board and at bi-annual company meetings.

In addition, there are other incentives that focus on two different areas of the program. The first is results. If individuals compile an exemplary safety record, they earn one paid day off each year. This reinforces the results that we

would like to achieve with the program. However, I think the real strength of the program has to do with the fact that it provides an incentive for safety-related activity, including creating and conducting a weekly safety tailgate talk. It was thought that it would be proactive to talk about safety, workplace hazards and safe working habits before accidents occur. There is a weekly monetary incentive

for having these talks, and there is a monthly prize drawing to recognize the staff members that have consistently held these talks.

The results of the program have improved from year to year. Adjusted for our growth curve, total company accidents in all areas was down approximately 20 percent from 1996 to 1997. Worker's compensation accident costs have dropped by about 66 percent in that period. In the current period, our experience modification rate has dropped an additional five percent to an all-time low of .63.

A lower number of accidents and a better safety record has improved company morale, aided in smoother operations by not having to fill in for missing people, and allowed us to negotiate very good rates with our insurance carriers and save money on the insurance coverage. — *David Frank* 

The author is president of David J. Frank Landscape Contracting Inc., Germantown, Wis.

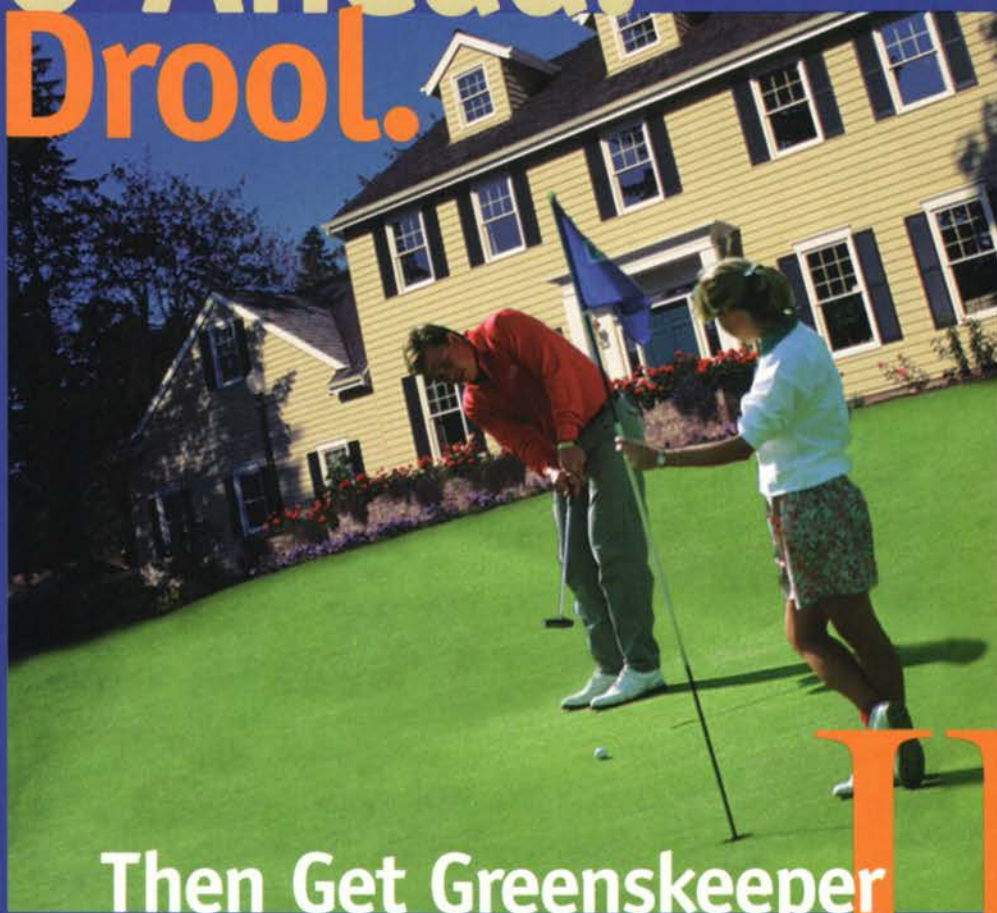
From the Front Lines is a new department from *Lawn & Landscape* designed to share specific programs or ideas that have been successfully implemented by lawn care or landscape contractors. If your company has a program that you think would be of interest to your colleagues, send a 650-word explanation of the program to: Bob West, *Lawn & Landscape*, 4012 Bridge Ave., Cleveland, OH 44113, or fax it to 216/961-0364.

Putting the Plan in Place

PROGRAM STRENGTHS

- **BONUS:** For each properly completed and promptly turned in report, the crew leader who gave the talk will receive a bonus of \$10 and each crew member/participant will receive a bonus of \$5. These bonuses will be paid with payroll checks.
- **PRIZES:** A drawing will be held with three prizes awarded each month. All participants who have completed a safety talk each week of the month will be eligible.
- **RECOGNITION:** There will be public recognition at company meetings and in the company newsletter for staff members who have completed a substantial number of tailgate talks and/or have compiled an exemplary safety record for the year.
- **SAFETY DAY OFF:** All staff members who work more than 1,800 hours in the calendar year and maintain an accident/incident free record for the entire year will receive one paid day off.

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