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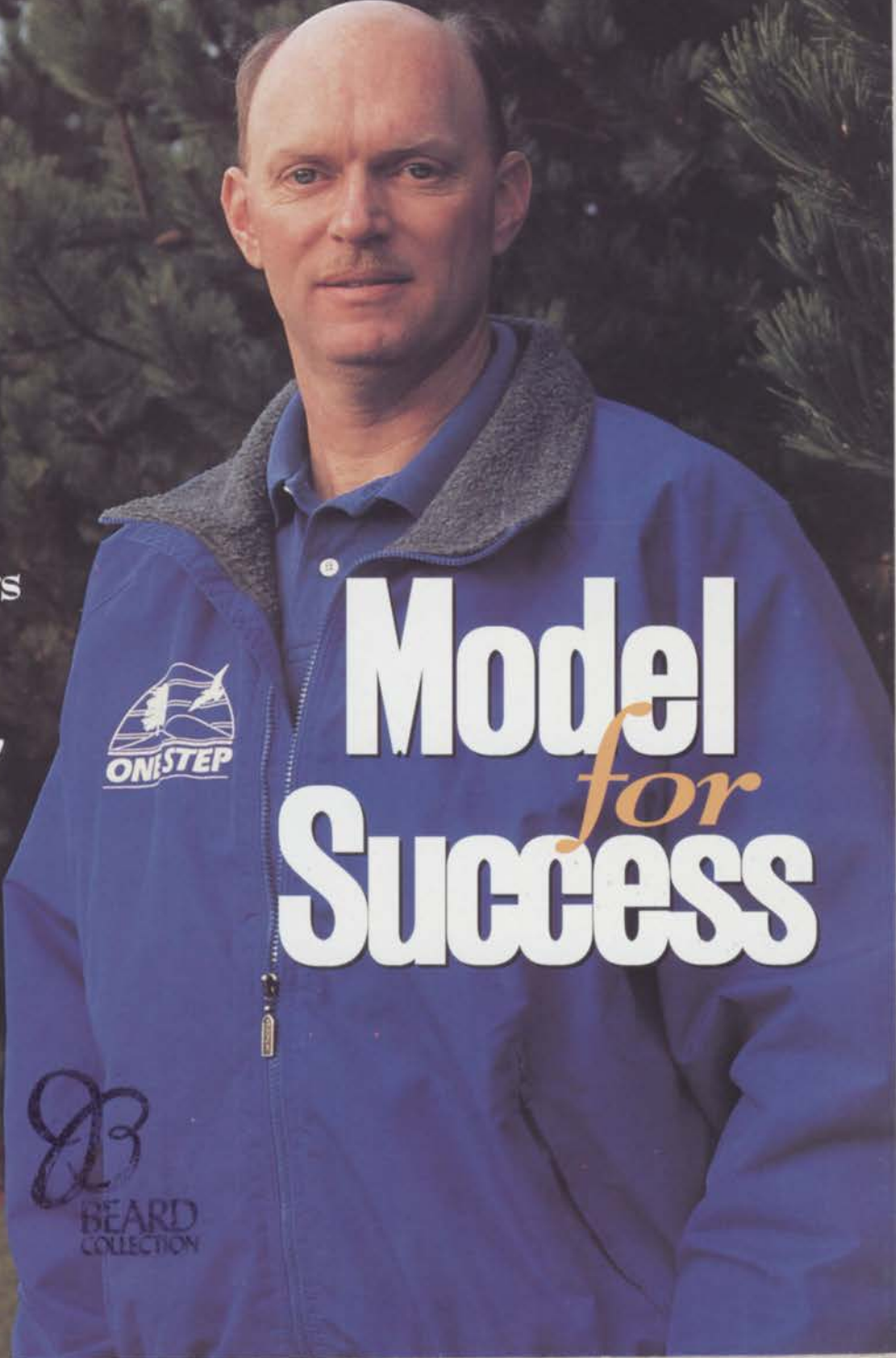
Inside:

Grub Control

Nursery Stock
Update

New Sprinklers

Commercial
Mower Buyers'
Guide



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Cover Illustration

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CONTENTS

Cover Story

34 Model for Success

One Step Tree & Lawncare is living proof that following some simple philosophies can lead to long-term success.

Features

44 In Short Supply

A thriving industry and growing retail demand will keep nursery stock availability low for at least one more year.

54 White Grub Control

White grub control today is a far cry from grub control of 10 years ago thanks to new insecticides.

93 Variable Approaches

Improvements for sprayheads and rotors continue to focus on flexibility for contractors.

111 The Multi-Purpose Machine

Compact utility vehicles are not replacing skid-steer loaders, but they are giving contractors a mechanized way to manipulate tight areas and replace lost labor.

118 On Solid Ground

Preparing a level base is the most crucial part of installing a retaining wall.

128 The Quest for Quality

Using the principles of Total Quality Management, companies have become more productive, efficient and successful.

138 Working Smart

At the Lawn & Landscape School of Management, Ed Wandtke explored the principles and styles of leadership.

140 It's Show Time

The annual GIE and Irrigation Association shows continue to grow in scope and attendance.

Lawn & Landscape School of Management

Here are the answers to your questions and registration information for this



jam-packed, informational event. **103**

Departments

154 Advertisers' Index

24 Equipment Notebook

18 Association News

32 In Your Turf

20 Breaking News

6 Market Trends

14 Calendar

10 People

149 Classifieds

142 Products

4 Editor's Focus

148 Product Profile

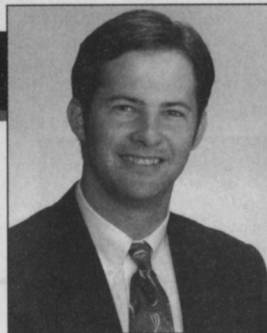
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Commercial Mower Buyers' Guide

Here's the information contractors need to know when buying a mower.



▶ 65



Bob West
Editor

A

s we close the books on one year and prepare to embark on another, the quest for personal improvement spurs many of us on and our New Year's resolutions are formed.

For many people, I think the awareness that the passing of each year represents an opportunity or two that was missed motivates us to promise, 'This year will be different.'

Of course, in some cases, the close of another December is a time for positive reflection and internal congratulation for getting the most out of 365 days of opportunity.

The dropping of the apple in Times' Square also symbolizes an opportunity for us at *Lawn & Landscape* to set forth our own resolutions to pursue in the coming year, a few of which I'd like to share with you here.

For starters, obviously, we will reaffirm our commitment to continue providing professional lawn care and landscape contractors nationwide with the information you need to improve yourselves professionally and your businesses.

We've been fortunate in that *Lawn & Landscape* has grown substantially in size over the past few years, which offers us tremendous opportunity to further examine critical issues such as emerging pesticide chemistries, hot plant varieties and share even more profitability tips with you.

At the same time, the continued growth and support for *T&O Service Tech* magazine – the industry's only training and educational magazine for technicians – has spurred us to increase its publication frequency to six issues in 1999.

Another goal of ours is to put even more educational options at your disposal. To that end, we will expand the *Lawn & Landscape* School of Management (see brochure on page 103) to a 2½-day program addressing some of the most pressing topics for your businesses. In addition, plans to expand our Technical Resource Library with more educational videos and additional green industry-specific books are nearing fruition.

Of course, we're also big believers in the power of the Internet to bring contractors closer together and create an accessible forum through which the lessons experience teach each of you can be of benefit to your colleagues as well. In addition to expanding the benefits of our bulletin boards and adding live chat rooms, *Lawn & Landscape* Online will expand the amount of information it offers that does not come directly from the pages of the magazine.

These are just a few of our resolutions for this year. If there are any others that you would like to see us make to better serve you, please let me know, and best wishes for a prosperous 1999. **LL**

Bob West

EDITORIAL

Cindy Code Group Publisher
e-mail: ccode@gie.net

Bob West Editor
e-mail: bwest@gie.net

Nicole Wisniewski Assistant Editor
e-mail: wisniewski@gie.net

Angela Dyer Assistant Editor
e-mail: adyer@gie.net

GRAPHICS/PRODUCTION

Mark Rook Creative Director
Charlotte Turcotte Art Director
Helen Duerr Production Manager
Lori Skala Advertising Production Coordinator

ADVERTISING/MARKETING

Maureen Mertz Eastern Sales Manager
1723 South Hill
Milford, Michigan 48381
248/685-2065
Fax: 248/685-2136
e-mail: mmertz@flash.net

Kevin Gilbride Senior Account Manager,
e-mail: kgilbride@gie.net Midwest

Carl Hammer Account Manager, Northeast
e-mail: chammer@gie.net

Vincent Ricci Account Manager,
e-mail: vricci@gie.net West Coast

Amy Peppers Market Coordinator

INTERNET

Bill Cox Webmaster
e-mail: bcox@gie.net

Carolyn Antl Internet Editor
e-mail: cantl@gie.net

CORPORATE STAFF

Richard J. W. Foster President and CEO
Cindy Code Group Publisher
Christopher W. Foster Director, MIS Department & Internet Communications
Jami Childs Director, Business Resources and Operational Systems
Jeff Fenner Director, Conferences and Seminars
Cheryl Thomas Manager, Accounting
Fran Franzak Manager, Books & Directories
Pam Morales Manager, Circulation

EDITORIAL & SALES OFFICES

4012 Bridge Avenue, Cleveland, Ohio 44113
Phone: 216/961-4130
Fax: 216/961-0364
Internet: <http://www.lawnandlandscape.com>
Subscriptions and Classifieds: 216/961-4130

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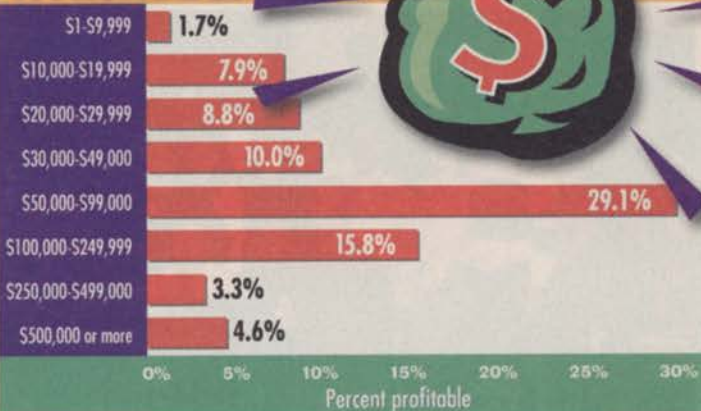
BIG GET BETTER

It's no secret that the big companies got bigger in the green industry in 1998. But how much was the rest of the industry growing at the same time?

According to a survey of 1,000 *Lawn & Landscape* readers, sales went up for most of the industry in 1998, but the key number — profits — remained flat. Contractors earned a median profit of \$47,760 from a median gross sales figure of \$303,950 in 1998, compared to \$47,250 off of \$247,150 in sales in 1997.

On the upside, the survey clearly indicated growth among the smaller and less profitable contractors, with 37.2 percent of respondents indicating they would earn a profit of less than \$30,000 in 1998 compared to 46.4 percent earning less than \$30,000 in 1997.

A PROFITABLE PROFESSION



(Source: Lawn & Landscape Reader Survey)

SWINGLE TREE'S DICKSON DIES

DENVER, CO. — Dave Dickson, chairman of Swingle Tree Company and one-time president of the National Arborist Association, passed away after a six-month battle with cancer.

Dickson was a veteran of the tree arboriculture industry, having joined Bartlett Tree Expert Company in Connecticut in 1965.

His career at Swingle began just two years later as a tree pruner, and culminated with his appointment as company president in 1989.

A successful company's role in its local community was always of tremendous importance to Dickson, and he took great pride in the contributions Swingle made to the Denver community in the form of donated work at the Denver Zoo, Denver Botanical Gardens, Four-Mile House and Chatfield Arboretum.

The company was also known for donating trees and Dickson's own personal service in other areas where they could be of value to the surrounding communities.



Dave Dickson

CATERPILLAR BUYS INTO ASV.

GRAND RAPIDS, MINN. — A.S.V. announced an agreement with Caterpillar under which Caterpillar acquired 1 million shares of A.S.V. stock at \$18 a share and retains the option to purchase majority ownership of the company at \$21 a share.

The deal means ASV products will be available to Caterpillar's dealer network and ASV will have access to management, financial and engineering resources from Caterpillar.

Dick Benson, a Caterpillar vice president with administrative responsibilities for its Diversified Products Division, said ASV's rubber-tracked technology for work vehicles intrigued Caterpillar and was the primary impetus behind the deal.

"By combining ASV's sus-

pension system technology with Caterpillar's legendary track know-how, ASV will be ideally positioned to develop new business and new products around the world," Benson noted.

The deal means ASV products will be available to Caterpillar's dealer network and ASV will have access to management, financial and engineering resources from Caterpillar.

While the Posi-Track vehicle accounts for about 98 percent of all ASV sales, the cash infusion from this deal will enable ASV to increase production of additional products as well, according to Gary Lemke, ASV president.

(continued on page 10)



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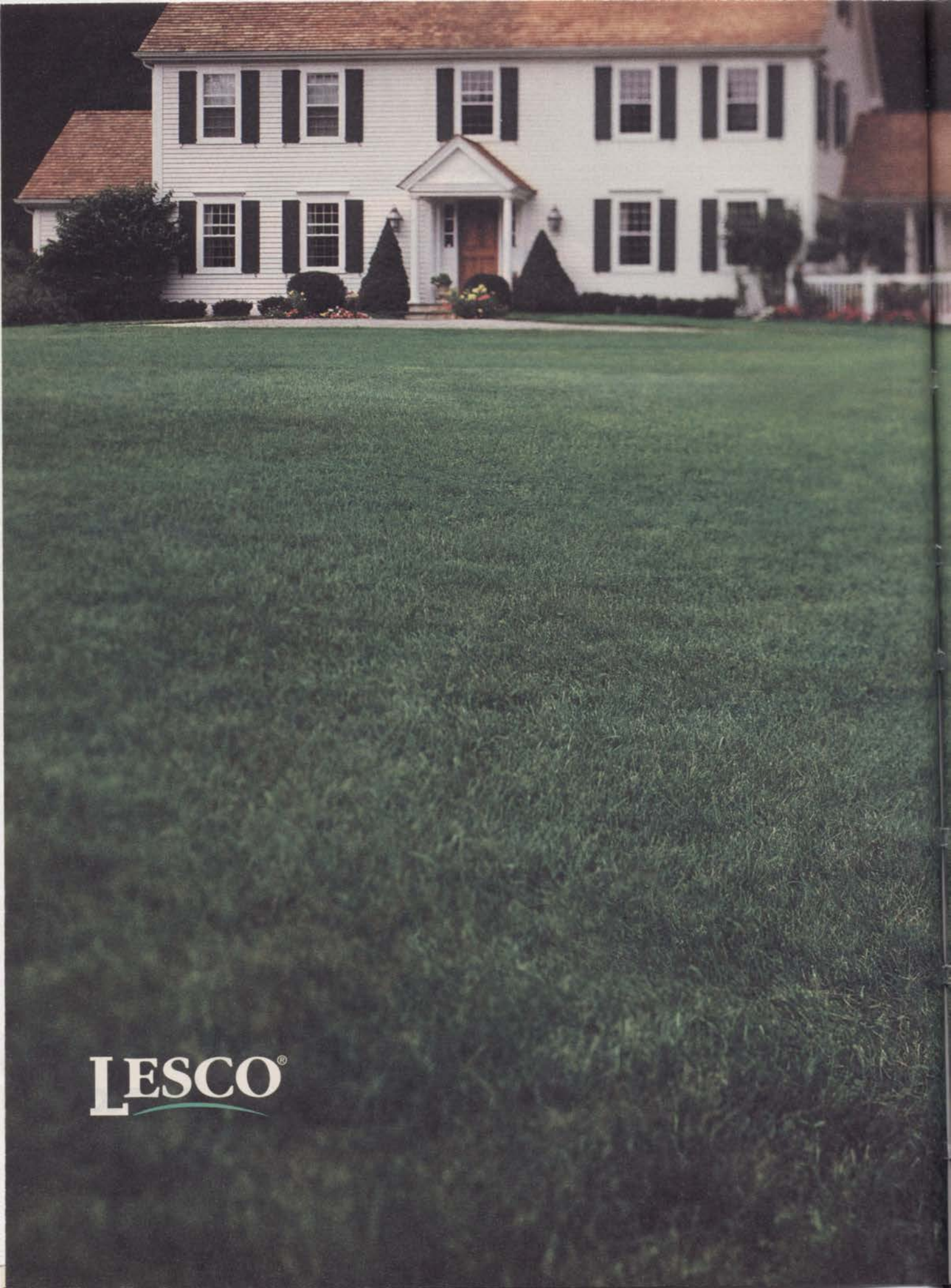


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USE READER SERVICE #16

MARKET TRENDS

(continued from page 6)

IMMIGRANT LABOR BILL KILLED IN CONGRESS

WASHINGTON, D.C. – The H-2A guestworker reform bill – a bill to provide legal immigrant labor to nursery growers – was removed from the Omnibus Spending Bill by Republican leadership in response to a threat from the White House to veto the entire bill if the H-2A bill was left in the proposal. The U.S. House of Representatives and the Senate had already passed the bill.

According to Bryce Quick, director of legislative affairs for the American Nursery & Landscape Association, Washington, D.C., top leadership aids in the

PEOPLE

Ruppert Landscape Company announced the following promotions: **Ken Thompson** to the position of branch manager for Ashton Landscape; **Matt Postlethwait** to enhancement manager of the Ashton Maintenance branch. Three employees were named area managers: **Jon Minns**, **Robert Adamski** and **Bill Lopez**.

Three new district sales managers were named for Hunter Industries. The appointees: **Jim Bissett**, **Doug Christian** and **Bill Millward**.

ATI Global named **Robert Hartsock** to president and CEO.

Chip Houmes joined Precision Laboratories as a turf district manager in the Midwest area.

Vermeer Manufacturing named **Vince Newendorp** general manager of the Environmental Division.

David Hanson was promoted to the new position of senior vice president of Environmental Care, Inc.

Robin America announced the following appointments: **Jay Peck** to president; **Art Porter** to director of sales; **Brad Murphy** to director of customer service.

Metko appointed **Michael McCarthy** president, while **David McCarthy** became CEO.

The following promotions were announced at K-Rain Manufacturing: **John Bailey** moved to national sales manager; **Phyllis A. Wheelles** to sales and marketing coordinator; **Jane Benoist** to international sales manager.



Dave Hanson



John Bailey

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LETTER TO THE EDITOR

To the Editor:

Regarding your August 1998 article on "Fall Preemergents, Doing Tomorrow's Work Today," I am concerned that the focus of the article is on how convenient fall applications of preemergent herbicides are for the applicator, while paying little attention to the environmental concerns many people have regarding applying pesticides during a period of low microbial activity (which inhibits breakdown) and high water movement (via leaching and runoff) as snows melt in the spring.

These conditions foster a much greater chance of environmental contamination and deserve greater attention than a minute disclaimer after the article.

Sound Integrated Pest Management practices focus around scouting for pests and treating only areas which exceed a set tolerance level. When this level is going to be breached, the application of pesticides is made in a

manner that maximizes their effectiveness while reducing overall rates.

Fall applications of preemergent herbicides meet neither of these goals as scouting is not possible, and maximum rates are required to have any residuals in the soil during the following spring. Though fall applications are "Ergonomically...a smart thing to do," they are a poor environmental management practice especially when one considers that a "booster shot" in the spring is required.

I disagree with the statement that, "The primary problem associated with fall applications...is with customers whose contracts expire Jan. 1."

In a period of increasing scrutiny of the turf industry and its pesticide usage, you should strongly consider addressing these types of concerns in a much more upfront manner.

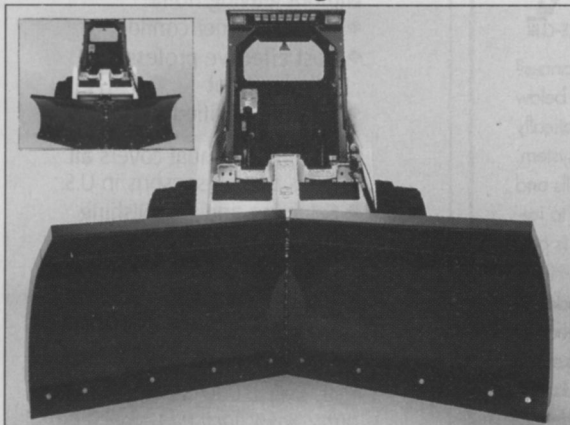
Michael Tiskus
UMass Extension/Entomology Dept.
University of Massachusetts, Amherst

House of Representatives and the Senate have indicated the bill was sacrificed so that the computer industry could have its own immigrant worker program provision left in the bill.

While this bill wouldn't have helped contractors obtain labor, its primary ramifications for the green industry lie in what this move says about the climate in the nation's capital toward immigrant laborers.

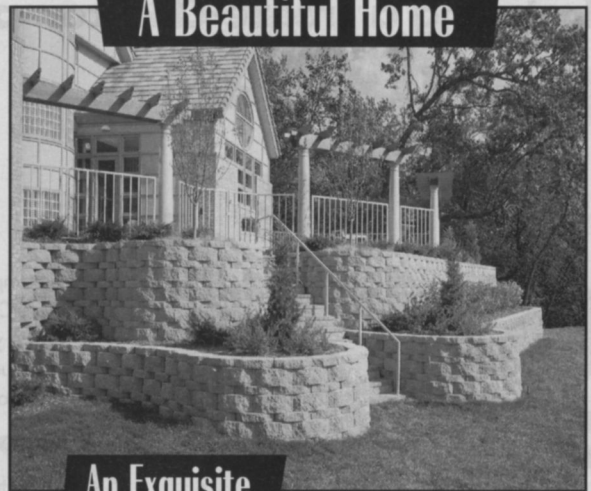
"The Social Security Administration has an account of \$260 billion it has gathered from untraceable, unaccountable payroll contributions over the last decade that the government can't touch," noted Quick, adding that these funds all come from illegal workers. "So the SSA is now partnering with the Department of Immi-

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gration and Naturalization Services to trace illegal employees through forged social security numbers."

Quick explained that with the SSA's computers employers of illegal immigrants are now notified about bad social security numbers within a day of filing the appropriate forms with the government.

"And for the first time on record, SSA agents and INS agents have shown up on a worksite raid together," Quick commented, adding that any employer who thinks he or she has illegal immigrant employees probably does. "With the SSA's computer systems, the INS now knows exactly what employees it is after now when it goes on a raid."

(continued on page 16)

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.

JAN. 18-19 Lawn Care & Landscape Industry's Mergers & Acquisitions Institute, San Francisco. Contact: 212/647-0808.

JAN. 18-21 Michigan Turfgrass Foundation Conference, Lansing, Mich. Contact: 517/321-1660.

JAN. 19-21 Mid-America Green Industry Convention, Kansas City, Mo. Contact: 816/561-5323.

JAN. 19-22 The 38th Virginia Turf and Landscape Conference and Trade Show, Richmond, Va. Contact: 540/942-8873.

JAN. 20-23 ALCA Interior Landscape Conference & Tropical Plant Industry Exhibition, Ft. Lauderdale, Fla. Contact: 800/375-3642.

JAN. 21-22 Professional Landscape Management School, Evansville, Ind. Contact: 812/435-5287.

JAN. 22-23 The Jacksonville Horticultural Tradeshow, Jacksonville, Fla. Contact: 904/387-8850.

JAN. 25-27 Iowa Turfgrass Conference and Trade Show, Des Moines, Iowa. Contact: 800/605-0420.

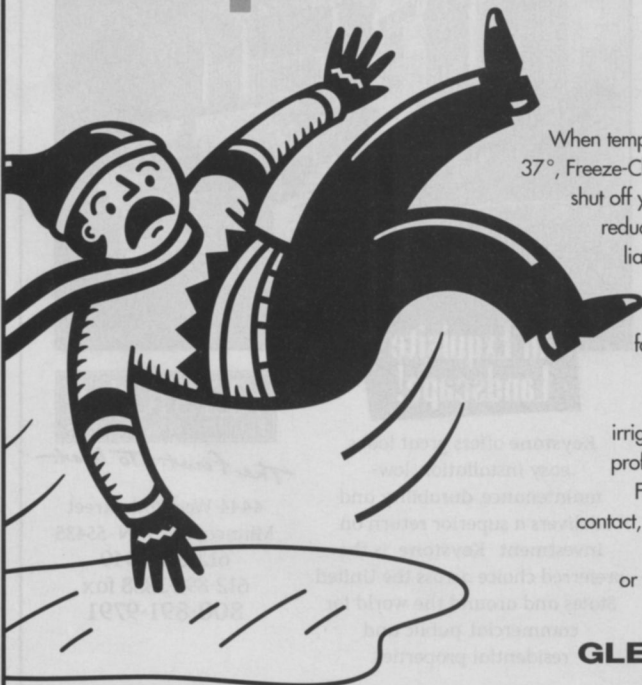
JAN. 25-28 The Professional Horticulture Conference of Virginia, Virginia Beach, Va. Contact: 757/523-4734.

JAN. 27-29 Midwest Regional Turf Foundation, Indianapolis. Contact: 765/494-8039.

JAN. 28 Northeastern Pennsylvania Turfgrass and Grounds Maintenance School and Trade Show, Lake Harmony, Penn. Contact: 814/863-3475.

JAN. 28-31 Ohio Tree Care Conference and Trade Show, Worthington, Ohio. Contact: 440/548-2228.

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USE READER SERVICE #18

MARKET TRENDS

(continued from page 14)

PALUCH PUBLISHES AGAIN

CLEVELAND, OHIO – Jim Paluch, owner of JP Horizons and a popular industry speaker and consultant, has followed-up the publication of his first book, *5 Important Things*, with

a new book described as “an inspirational guide to taking action and making a difference.”

Leaving a Legacy follows seven characters through their lives in order to provide readers the wisdom necessary to leave a legacy when they have the courage to take action.



Jim Paluch

To order a copy of the book, contact JP Horizons at 440/254-8211.

day use financial or accounting software when paying their bills.

NEBS' survey also found a surprisingly high number of businesses disproving the conventional wisdom that new businesses will lose money in their first year. In fact, 49 percent of the respondents indicated they were profitable in their first year of business.

Managing accounts receivable remains an obstacle for many of these companies, however, with 16 percent of respondents either not aware of their receivables status or not having collected on at least 10 percent of their outstanding invoices.

“Many lawn and landscape firms tend to fall into that

(continued on page 18)

SMALL BUSINESSES FIND COMMON PROBLEMS

GROTON, MASS. – A survey published by New England Business Service found that small businesses (defined as companies with 20 or less employees) still prefer the “old-fashioned way” of running a business.

For example, despite a general willingness to embrace technology, only 35 percent of small businesses operating to-

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LAWN & LANDSCAPE magazine delivers superior, total coverage of the continually evolving professional lawn and landscape contractor market, from in-depth business trends and technical research reports to market analysis and new product introductions. For 19 years, L&L has provided industry presidents, business owners and top-level managers the most up-to-date information needed to effectively run their businesses.

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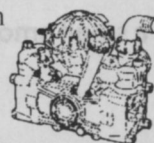
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MARKET TRENDS

(continued from page 16)

'less than 20 employees' category, and I think this survey identifies common areas where business of this size need help," noted Freddie Baytos, corporate research director for NEBS, adding that small businesses generally fit one of two categories.

"The first type is people who can do their craft in their sleep because they're so skilled at it," Baytos explained, "and the second type is the small business run by entrepreneurial individuals who are not as passionate about the line of business they are engaged in but really enjoy the challenge of running a business. Green industry contractors probably fit the first category more than the second." **LL**

ASSOCIATION NEWS

The Professional Grounds Management Society announced the 27th Annual Professional Grounds Maintenance Awards winners. The contest produced 21 winners from 12 states, of which six are grand awards. The contest is organized to credit the level of the grounds maintenance for the sites, and not the landscape design or other visual aspects of the site.

The 1999 officers and directors have been announced for the Professional Lawn Care Association of America. They are: Bob Ottley, president, One Step Tree & Lawncare; Gerald Grossi, president-elect, Arborlawn; Michael Kernaghan, vice-president, Weed Man; Gene Pool, secretary/treasurer, Emerald Green/

Bolton & Pool Lawn Care; Larry Messina, immediate past president, Lawn Cure of Southern Indiana.

The International Society of Arboriculture released the expanded version of *The Tree and Shrub Transplant Manual*. This new publication, entitled *Principles and Practices of Planting Trees and Shrubs*, authored by Dr. Gary Watson and Dr. E.B. Himelick, contains current information on the proper methods for tree and shrub planting. The 200-page publication includes many photos, illustrations and tables. For more information, call 217/355-9411.

The Oregon Association of Nurserymen, in partnership with the Oregon Department of Agriculture, announced plans to boost its endowment to the Horticultural Research Institute to \$250,000 over the next several years. HRI is the research division of the American Nursery & Landscape Association, and with a total endowment fund of \$6 million it funded \$355,000 of nursery industry research in 1998.

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USE READER SERVICE #26

USE READER SERVICE #27

Mycorrhizal Fungi

NATURE'S PLANT PROTECTION

More than 400 million years ago, plants evolved a symbiotic relationship with mycorrhizal fungi—a relationship that remains critical to plant health today.



Mycorrhizal fungi (fungus roots) are unique, root-inhabiting fungi that colonize plants outside (ectomycorrhizae) or inside (endomycorrhizae) fine absorbing roots to obtain essential organic chemicals. In return, the fungi extend vegetative strands (mycelia) far into the soil to extract water and essential elements and share them with their host. Mycorrhizae are



able to absorb, accumulate and transfer all of the 15 major and minor mineral elements and water to plants more rapidly than roots with no mycorrhizae. Decades of research show that mycorrhizae increase the tolerance of their plant host to drought, compaction, high soil temperatures, heavy metals, soil salinity, organic and inorganic soil toxins and extremes of soil pH. These beneficial fungi also extend life, viability, and productivity of their host root system.

How to Select Mycorrhizal Fungal Products

Commercial access to mycorrhizal fungi is due, largely, to the research begun 40 years ago by the U.S. Forest Service's Dr. Donald H. Marx. Awarded the 1991 Marcus Wallenberg Prize (considered the Nobel Prize for forestry) for his research, Dr. Marx continues his work as Chairman and Principal Scientist of PHC, Inc. The Company is the world's leading producer and supplier of mycorrhizal fungal products.

Experts worldwide agree that use of mycorrhizal fungi in plant health management will become widespread in the new millennium. However, because production of these beneficial fungi requires significant technical investment and expertise, buyers should be very selective about the products they purchase and who they purchase from. Ask these important questions before you make a product purchase:

- Q. Does the product manufacturer, packager and seller have adequate scientific expertise and technical knowledge to guarantee quality and proper use?** Growing, formulating and delivering mycorrhizal fungal inoculants require significant in-house scientific expertise. Four PhD specialists are on staff at PHC, Inc. to ensure quality control, to develop usage guidelines, and equally important, to answer customer questions.
- Q. Are you buying long-lived spores or short-lived propagules?** Many products that claim to be viable endomycorrhizal inoculants contain mostly fungal propagules in root fragments and few viable fungal spores. Published research shows the fungus in these root propagules only survive for 10 to 20 days after production. PHC, Inc. products contain a guaranteed number of quality dormant spores that are viable for a minimum of 18 months after production. PHC, Inc. conducts independent spore viability tests and plant root colonization on all of its products to ensure they work as represented.
- Q. Is the product guaranteed pathogen-free?** Since endo (VAM) spores are produced on plant roots, the potential for the unintentional propagation of fungal pathogens and nematodes with the mycorrhizal fungal inoculum is high. Random sample testing of several commercially available "me-too" products show they contained an abundance of undesirable pathogenic fungi and nematodes. All PHC Mycor™ and MycorTree™ brand products are guaranteed pest-free with the full backup of rigid laboratory Quality Control production standards and protocols.



PLANT HEALTH CARE, INC.

Plant Health Care, Inc. (PHC, Inc.) is the world technology leader in the commercial development of endo- and ectomycorrhizal fungal inoculant products, and is fast becoming a leader in beneficial bacterial technology.

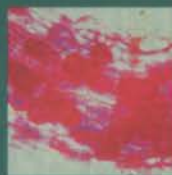
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MYCORRHIZAE



Mycorrhizae:
Fungus Roots



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Produce fine
absorptive roots

What buyers need to know about commercially available mycorrhizal fungal products and their practical application.

Fungal Facts

MYCORRHIZAE:

- Benefit more than 99 percent of Earth's plants
- Increase absorptive surfaces of root systems up to 700 percent
- Extend through the soil up to 30 feet away from a plant host
- Can occupy 100 times more soil volume than a non-mycorrhizal plant's entire root system
- Depress many root diseases caused by pathogenic fungi and nematodes

Mycorrhizae Types Matter:

ECTO VS. ENDO

Ectomycorrhizae: Colonize the outside of plant cells and the root to benefit conifers and hardwoods, such as beech, birch, eucalyptus, oak and willow

Endomycorrhizae: Colonize the inside of plant root cells to benefit turfgrasses, most ornamental plants, hardwoods, fruit and nut trees and shrubs



How Mycorrhizal Fungal Inoculant Products Work

Any condition that affects root growth influences mycorrhizal development. For

example, grossly over-fertilized and watered plants produce rapidly growing absorbing (white) roots that contain few available sugars, so these roots are much less susceptible to mycorrhizal fungal colonization. Also:

- Mycorrhizal fungi only colonize juvenile non-woody roots, not woody or white water roots. For best results, apply them with a root biostimulant product to encourage new root growth.
- Research has shown that soil-enriching bacteria, natural surfactants and soil-water managing gels are very effective in stimulating root fibrocity (fine absorbing roots), rooting depth and mycorrhizal development.
- High light intensity and moderate soil fertility encourage mycorrhizal colonization.
- Some fungicides can have a detrimental effect on mycorrhizae, while some are beneficial. In general, insecticide and herbicide applications do not affect mycorrhizae.
- Once colonized, mycorrhizal fungi spread to new roots in new soil areas and continue to thrive as long as root growth is maintained and soil conditions are appropriate.

CONTACT PHC TECH SERVICES AT 1-800-421-9051

BREAKING NEWS

AGREVO, RHONE-POULENC CONTINUE MERGER MANIA

LONDON — When Sandoz and Ciba Geigy joined forces in early 1996, it was predicted that the tremendous dollars newly-formed Novartis would be able to dedicate to research and development would force subsequent mergers among other chemical companies.

No such mergers occurred immediately, but soon after the failed deal between American Home Products, American Cyanamid's parent company, and Monsanto dissolved late in 1998, rumors surfaced that

AgrEvo's parent company, Hoechst, and Rhone-Poulenc were close to joining forces.

Those rumors became fact when the two companies formalized plans that would create Aventis, a firm with more than \$45 billion in annual revenues and \$4.5 billion in annual agricultural chemical sales alone. The agricultural operations of each company will be combined as Aventis CropScience.

Aventis, to employ in excess of 168,000 worldwide and be headquartered on the French-

Zeneca Announces Merger Plans

LONDON — Just days after AgrEvo and Rhone-Poulenc announced plans to combine forces and form Aventis, Zeneca announced it will merge with Astra to form a new organization named Astra Zeneca.

The deal, under which Zeneca will own 53.5 percent of the new organization, was called "a merger of two equals," which some viewed as a reference to the fact that both companies were left out of numerous preceding merger deals.

Both companies' leading products are in the pharmaceutical drug market.

German border, will surpass Novartis as the world's largest producer of pharmaceuticals and agricultural chemicals.

Analysts and industry sources have commented that the deal was driven by a lack of emerging products in either

It's a cold,
dark day when
a Shindaiwa
finally quits.



companies' development pipeline and a desire to direct more dollars toward research and development to accelerate future development efforts. As Aventis, approximately \$3 billion will go toward developing new products annually, according to the company.

About 25 percent of the combined organizations' sales presently are in the United States, with overall sales being split between agricultural sales (28 percent of worldwide sales) and pharmaceutical sales (72 percent).

According to a release from the company, Aventis CropScience will have 15 percent market share in the crop protection market with plans to aggressively grow its mar-

ket share in the midwestern U.S. through "increased marketing strength and a large combined offer of new products for weed and insect management in corn."

While the organization's plan for its turf and ornamental business is far from solidified, Tim Driscoll, president of AgrEvo Environmental Health, sees some definite synergies ahead for Aventis.

"After the merger, this joint company will have a broader portfolio of active ingredients and branded products than ever before," he noted. "It would also allow us to bring some new chemistry to the lawn care marketplace that is going to be complementary to both parties."

Aventis reported that after the deal closes, it will command prominent market share

market; 13 percent of the herbicides market; and 7 percent of the environmental health market.

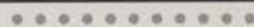
AgrEvo is best known among lawn care operators for its herbicides Acclaim® and Finale® and its fungicide Prostar®. Rhone-Poulenc offers products such as the fungicide Chipco® Aliette®, the herbicide Chipco® Ronstar® and the insecticide Chipco® Sevin®.

Both companies plan to operate in their independent forms until the deal is closed in mid-1999.

— Bob West



Rumors became fact when the two companies formalized plans that would create Aventis, a firm with more than \$4.5 billion in annual agricultural chemical sales alone.



in the various major product categories with: 15 percent of the insecticides market; 15 percent of the fungicides



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TWO-STROKE VS. FOUR-STROKE ENGINES

AS THE pressure from regulatory groups continues to mount against hand-held power equipment – which is commonly powered by two-stroke engines – some manufacturers have begun to explore four-stroke engine technology as a solution.

Other manufacturers, however, see faults with four-cycles that they believe will keep it from being as effective as two-stroke engines have become.

Lawn & Landscape invited two engine manufacturers to share their thoughts about why the technology they have chosen to focus on is better:

TWO-STROKE ENGINES

Nick Jiannas,
product manager, power tools,
Stihl Inc., Virginia Beach, Va.

The two-stroke engine is a typical internal combustion engine in the sense that energy is released when the air/fuel mixture in the cylinder burns rapidly. This energy is converted into motion via the piston and crankshaft. The stroke of the piston is its movement in the cylinder from one end of its travel to another. As the name states, two-stroke engines require two strokes of the piston

to complete an operating cycle. By comparison, four-stroke engines require four strokes of the piston to complete an operating cycle.

An operating cycle consists of the following four functions: intake, compression, power and exhaust.

This operating cycle is the same for four-stroke engines, but the method in which it is completed in both engines is quite different. Simplistically speaking, in two-stroke en-



Regulatory pressures have fueled four-cycle engine development in some cases. Photo: Husqvarna

gines, the gas/oil mix is dispersed into the air stream via the carburetor. This air/fuel mixture then travels from the carburetor to the crankcase of

(continued on page 26)

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USE READER SERVICE #37

EQUIPMENT NOTEBOOK

(continued from page 24)

the engine and from there, up to the top of the cylinder. The spark plug ignites the mixture and the resulting explosion forces the piston down the cylinder, giving the engine its power.

Two-stroke engines complete all four functions of this cycle in two strokes, meaning that two functions are completed with every stroke of the piston.

The first stroke of the

piston is called the induction and compression stroke. As the piston moves up the cylinder, it compresses the air/fuel mixture in the firing chamber (compression). It also closes the

exhaust port, minimizing any scavenging loss of fresh unburned mix, and closes the transfer ports as well, essentially sealing the firing chamber. At the same time, this upward motion of the piston opens the inlet port, allowing new fresh mix to enter the crankcase below (in-

duction). Once the spark plug ignites the compressed mixture, expansion of the combustion gases forces the piston down. Thus begins the second stroke, or power and exhaust stroke.

This downward motion of the piston imparts power to the crankshaft (power), and, at the same time, compresses the fresh air/fuel mixture in the crankcase. As the piston moves down the cylinder, it opens the exhaust port and transfer ports. The fresh mixture in the crankcase, which is being compressed, travels up to the top of the cylinder via the transfer ports. As it enters the firing chamber, it helps to expel the remaining gases from the previous stroke (exhaust). While the exhaust and transfer ports are open, the inlet port is closed.

Once the fresh mix reaches the top of the cylinder and the piston begins to move upward, the inlet port is once again opened. This creates a vacuum in the crankcase that brings in a fresh air/fuel mixture. And so begins the next upward stroke.

Following are some characteristics of two-stroke engines:

- Two strokes per operating cycle.
- One power stroke on every revolution of the crankshaft.
- No valves necessary.
- No camshaft necessary.

Ports and the position of the piston control flow of gases.

- Few components (only three major moving parts) resulting in minimal maintenance and a compact engine of simple construction.

(continued on page 28)

.....

Two-stroke engines complete all four functions of the operating cycle in two strokes.

.....



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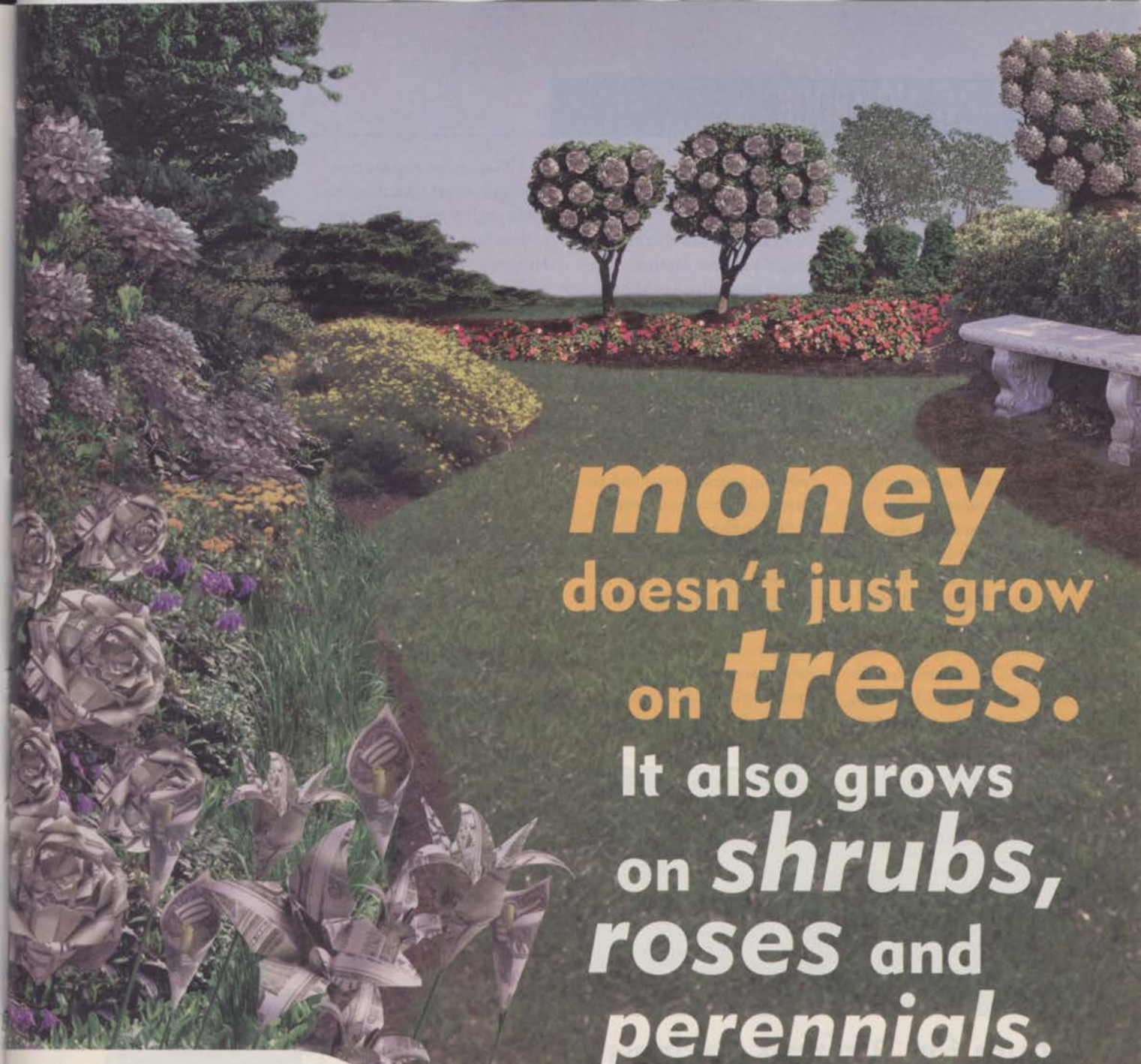
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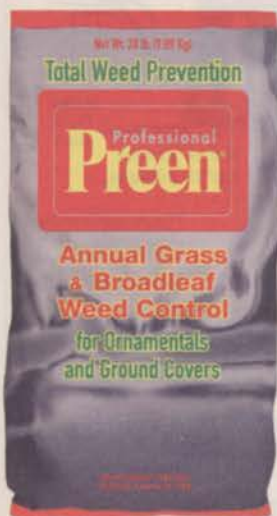
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EQUIPMENT NOTEBOOK

(continued from page 26)

• Engine lubrication is achieved through a mixture of gasoline and specially blended two-stroke engine oil. This gas/oil mixture is passed through the engine and constantly surrounds the moving parts in the cylinder (piston and crankshaft). The oil is burned with the gasoline in the fire chamber.

• Two-stroke engines do experience some scavenging losses – approximately 20 percent. This means that about 20 percent of the fresh air/fuel mixture coming from the crankcase is lost through the exhaust port before the piston moves up far enough to close this port. This reduces the efficiency of the engine. However, this effect is offset to an extent

by the fewer energy-consuming strokes compared to a four-stroke engine.

• Precisely tuned exhaust system prevents excessive scavenging losses that could be caused by exhaust backpressure in the firing chamber. However, if a two-stroke engine has a carbonized muffler, enough backpressure could be created to prevent burned gases from being completely expelled, thus reducing engine power and necessitating occasional cleaning of the muffler.

• Two-stroke engines are typically lighter than four-stroke engines due to the overall smaller engine size. However, because of their design, two-stroke engines require a smaller cylinder bore size to achieve the same horsepower.

• Two-stroke engines burn more gallons per hour than four-stroke engines and are also louder than four-stroke engines. However, two-stroke engines exhibit faster acceleration, require less general maintenance, and have less initial cost.

• Since the oil for engine lubrication is mixed with the gasoline, two-stroke engines can operate at any angle. However, two-stroke engines do run hotter than four-stroke engines. Many people do not realize that fuel is the most important coolant in two-stroke engines. Therefore, the fuel supply from the carburetor must be precisely calibrated to ensure that there is enough fuel to cool the engine, but not too much to reduce performance of the engine and/or increase emissions.

The general operating efficiency (horsepower-to-weight ratio) is better with two-stroke engines, yet four-stroke engines have their advantages as well. Both engine types operate on the same principle, but each engine uses a different route to achieve the end-result.

FOUR-STROKE ENGINES

Skip Auguston
customer service manager,
RedMax, Norcross, Ga.

Two-cycle engines are inherently "dirty." The exhaust gases and the new incoming fresh charge of fuel and air both spill out of two-cycle engines and add to the pollution of unburned hydrocarbons that come from other sources. These unburned fuels contain



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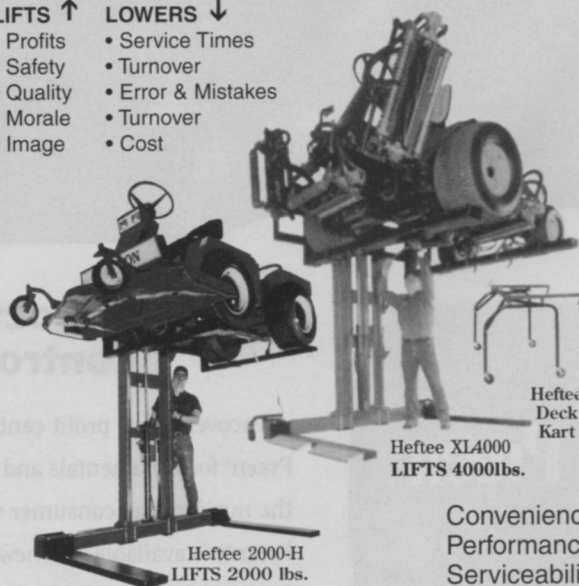
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lubricating oils that add to the pollution and can be seen as black, tar-like substances that collect on the outlet of the mufflers.

Several traditional four-cycle and two-cycle engine companies have been developing compact four-cycle engines for

hand-held products. It is well known that four-cycle engines produce fewer emissions than similar sized two-stroke engines, making them more environmentally friendly. Four-

New four-cycle engines have been made with a crankcase to keep ... oil from spilling out of the oil chamber.

cycle engines use straight gasoline. The problems of carrying several cans of gasoline for both kinds of units are eliminated. Fuel efficiency is also a plus with engines that run for almost twice the time of comparable two-cycle engines.

Four-cycle engines are also quieter than their two-cycle counterparts, and that reduces the stress on the operators of the units. Other advantages include lower maintenance costs because of

carbon deposits and residue in carburetors.

Regular four-cycle engines vent the crankcase through the valve chamber. Oil used to lubricate the valve drains back into the crankcase. Gases escape through a breather. These engines are limited to the amount of incline that they can be used on before lubrication is compromised. Engines used in inverted positions have special lubrication systems installed.

The new generation of four-cycle engines being developed for use on hand-held equipment must be able to be used in all positions. Several methods of containing the oil in the crankcase, ensuring that parts continue to be lubricated and venting the crankcase are being used by manufacturers. These

new systems, while different, allow the engines to operate in any position.

New four-cycle engines have been made with a crankcase that keeps the oil level below the vent entrance to keep oil from spilling out of the oil chamber, while holes in the crankshaft allow the gases to vent into the air box behind the air filter. Centrifugal force keeps the oil from entering the vent as the trimmer is turned upside. Also, new four-cycle engines only weigh about seven pounds, which is comparable to two-cycle engines.

Trimmers and other hand-held units using the new four-cycle engines should be available in the near future to help improve our air quality and reduce noise pollution. **LL**

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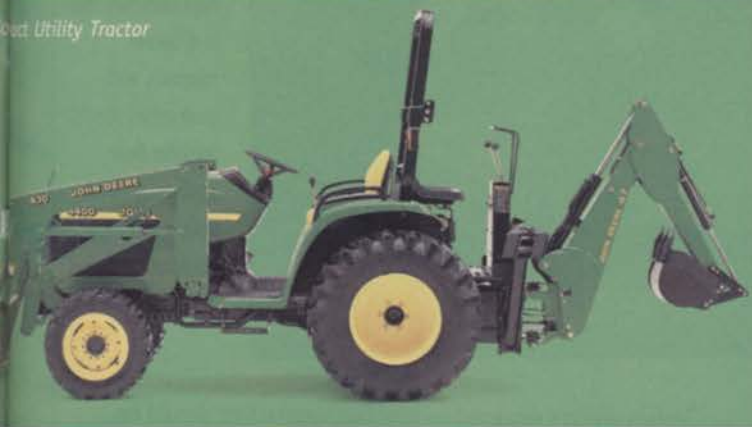
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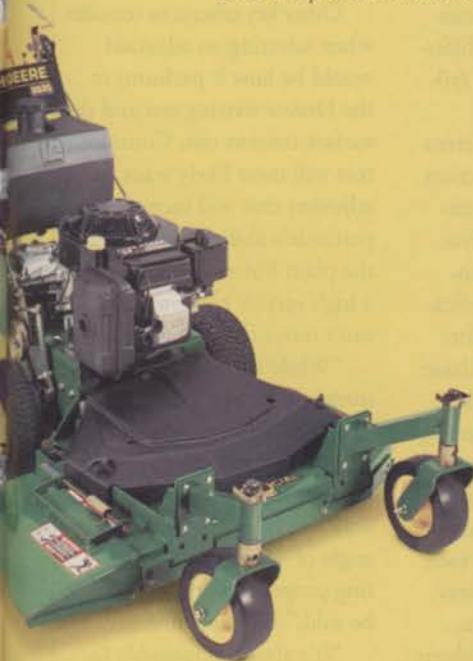
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USE READER SERVICE #45

ADDING ADJUVANTS

WHEN IT comes to a pesticide's performance, numerous factors play a role, such as weather, timing, intensity of the problem and so on.

Increasing product performance is a goal of all lawn care professionals, and many have found success using adjuvants, which have been introduced to the market in rapid fashion in the 1990s. In fact, the *Compendium of Herbicide Adjuvants* by Dr. George Kapusta included a total of 76 entries from 22 different companies in 1992. The 1998 version of Kapusta's book, however, features 411 adjuvants from 37 companies.

Val Ivy, a technical service representative for Terra Indus-

tries, Montgomery, Ala., attributed this increased amount to the increase in the number of contact postemergence herbicides on the market today, but said such a variety of products leaves contractors with little sense of which products work well, although a number of adjuvants are specified on a pesticide's label instructions.

In general, adjuvants are used with turf herbicides, but Ivy emphasized that contractors need to know the mode of action of the product they use to make sure it is combined with the proper adjuvant.



Different adjuvants function in different manners, and contractors should consider their application needs before making a purchase.

"Adjuvants are designed to improve the performance of the product they are used in combination with, and sometimes that can mean the difference between success and failure," Ivy added.

Ivy explained that different adjuvants function in different manners, and contractors should consider their application needs before making a purchase.

For example, a spreader or wetting agent is designed to increase the surface area coverage on the plant that each droplet of a spray solution covers.

"These products are measured by the contact angle the droplet forms on the leaf," Ivy noted. "Water forms about a 93-degree angle, but the addition of an adjuvant can lower that angle to less than 45 degrees and let that drop cover more plant.

But contractors should be aware that getting too low of an angle can lead to runoff."

Other key criteria to consider when selecting an adjuvant would be how it performs in the Draves wetting test and the surface tension test. Contractors will most likely want an adjuvant that will increase the pesticide's ability to penetrate the plant but won't have such a high surface tension that it can't move through the plant.

"While there are these measures and means to test the ability of a particular adjuvant, there aren't any common standards to indicate that a given adjuvant has to have a contact angle of 45 degrees or a wetting property of less than 20 to be sold," Ivy explained.

"It's almost impossible for the average lawn care contractor to keep up with all of the new adjuvants on the market," Ivy commented. "That's why it's so important that contractors deal with a reputable supplier who has data and technical knowledge to back up the claims about the product and can help contractors identify the best adjuvant to meet their needs." — Bob West

Common Adjuvants

- Anti-foaming Agents** — reduce foaming of spray mixtures that require vigorous agitation
- Buffers** — allow pesticides to be mixed with diluents or other pesticides of different acidity or alkalinity
- Compatibility Agents** — aid in combining pesticides effectively
- Emulsifiers** — allow petroleum-based pesticides (emulsifiable concentrates) to mix with water
- Foaming Agents** — reduce drift
- Invert Emulsifiers** — allow water-based pesticides to mix with petroleum carriers
- Penetrants** — allow the pesticide to get through the outer surface to the inside of the treated area
- Safeners** — reduce the toxicity of a pesticide formulation to the pesticide handler or to the treated surface
- Spreader** — allow pesticides to form a uniform coating layer over the treated surface
- Stickers** — allow pesticides to stay on the treated surface
- Surfactants** — surface acting ingredients
- Thickeners** — reduce drift by increasing droplet size
- Wetting Agents** — allow wettable powders to mix with water

Courtesy: Applying Pesticides Correctly, University of Nebraska-Lincoln

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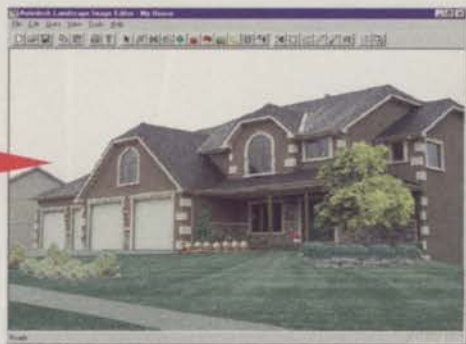
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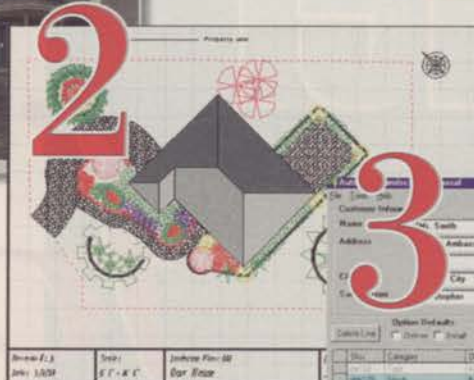
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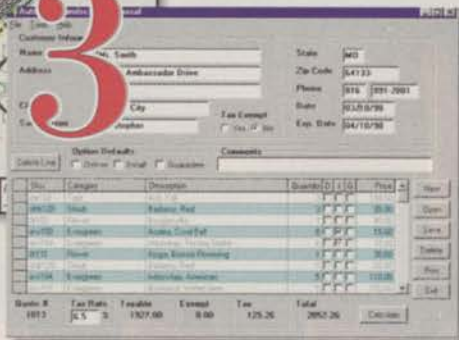


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Offering services such as complete soil testing and IPM-based lawn care has enabled One Step to differentiate itself from the competition. Photo: Welch & Frew Images

One Step Tree & Lawncare is living proof that following some simple philosophies can lead to long-term success.

By Bob West

Model

for
Succeeds



onventional wisdom among green industry contractors holds certain business philosophies in high regard: focus on customer service, develop long-term employees and excel at what you do best.

Bob Ottley, president, One Step Tree and Lawncare, N. Chili, N.Y., has turned these philosophies into the foundation for a successful and growing lawn care company. But the only reason Ottley's company has ended up where it is at today is because he once ignored these keys to success in favor of common pitfalls such as offering too many services, competing in price wars and ignoring customers service.

A FASHIONABLE INFLUENCE. Like so many others in the industry today, Ottley's green industry interests first developed as a youth when he started a neighborhood business cutting lawns. This led to a job with a local garden center, which was where he found his calling.

"I really enjoyed dealing with the public in the garden center," Ottley recalled. "I liked explaining how to care for plants, troubleshooting people's problems and the selling process."

Ottley was then hired as a garden shop manager for a local retail chain. Come the holiday season, however, the garden center area became the Christmas toy department and Ottley moved into a more general management position until the chain went bankrupt.

Ottley had gotten enough of a taste of responsibility that he decided that was the time to go out on his own, and One Step was founded in 1976 with one employee, a truck, a mower and a fertilizer spreader.

THE DO-IT-ALL DAYS. At the outset, Ottley wasn't too selective in terms of what work he pursued in order to keep dollars coming in the door.

"I did some landscape installation, some design, patios and decks, mowing and lawn care," he noted. "But lawn care, the process of growing healthy turf, was my true interest."

In the fall of 1976, ChemLawn had yet to reach Rochester, but Ottley was fortunate that his relatives from Kentucky did.

"When my relatives came to visit that year they asked me if I sprayed lawns, and I explained that I sprayed for weed control when necessary but not for fertilizer," he said. "I had never heard of spraying fertilizer, but they said it was very popular in Kentucky, so I researched it over the winter and bought a 200-gallon skid-mount spray unit for the spring of 1977 and started spraying lawns.

"A year later ChemLawn came into the market and if you weren't

One Step Tree & Lawncare Inc.

OWNER: Bob Ottley

HEADQUARTERS: N. Chili, N.Y.

FOUNDED: 1976

PRIMARY SERVICES: Lawn and tree care comprise almost all of the company's revenues, with 88 percent from lawn care and 12 from tree and shrub care. The customer mix is 75 percent residential customers and 25 percent commercial customers.

1998 REVENUES: \$1.85 million

1999 PROJECTION: \$2 million

1998 SERVICE CALLS: 980 to residential customers, 37 to commercial customers

AVERAGE SQUARE FOOTAGE TREATED: 9,500 square feet for residential customers and 126,000 square feet for commercial customers.

Executive Summary:

MISSION STATEMENT: One Step Tree and Lawncare's mission is to enhance landscapes through professional services using innovative people, products and equipment and to grow in the community where we live and work.

FUTURE CHALLENGES: Finding good, qualified employees and finding ways to keep them and motivate them and dealing with any new government regulations as they arise.

The Owner

BOB OTTLEY

BACKGROUND: Got his start in the green industry with a neighborhood lawn mowing job. Moved into retail with a local garden center and managing a retail chain store's garden center.

offering liquid lawn care you were in trouble," Ottley added.

In 1979, Ottley began what has turned into a 20-year-long involvement with the Professional Lawn Care Association of America that will include him serving as PLCAA's 1999 president.

"That was the year I attended my first

PLCAA conference and realized lawn care was a real business," Ottley said. "So I discontinued landscaping services that year and dropped maintenance the next year."

That move cost the company almost half of its \$150,000 of sales at the time, but today, Ottley looks back on this decision as one of the keys to the company's success.

"I was young and inexperienced when it came to managing a company at that time, and I was stretched too thin," he observed. "I couldn't focus on delivering such a diversity of services, so focusing just on lawn care was a positive move for me. Plus, we made up the dollars we lost in the first year by focusing on lawn care."

A YEAR-ROUND PROPOSITION. As the market progressed through the 1980s and competition intensified, Ottley saw price becoming the determining factor for many customers, particularly those new to professional lawn care, and decided that wasn't the market he was after. Instead, he chose to supplement his program with value-added services such as soil testing and an Integrated Pest Management approach in order to differentiate himself from the competition.

Doing so meant One Step needed technicians with greater knowledge and technical expertise and could not afford to lose such employees once it found them. So Ottley needed to become a year-round employer in a seasonal market that seldom lasted beyond Nov. 1 for lawn care.

"I also realized that if we were going to keep people and provide a superior service with IPM and soil testing, it would cost us more to do so," Ottley added. "The real key was that we were able to put through a 20 percent price increase to our customers in 1990 and they stuck with us."

At the time, One Step also expanded its service from a four-visit to a five-visit program, adding a combination fertilization/postemergence crabgrass control and surface insect control scouting visit.

"Now, we're definitely the most expensive company in the market by 20 to 40 percent, but we're still competitively priced for the value the customer receives," he commented, adding that the ease with which One Step converts prospects who have used competitive services before into new customers validates this approach of greater value at a higher price.

Today, the challenges associated with an IPM-based approach are far from conquered.

"Customers still don't fully understand IPM, even though we talk about it in all of our newsletters, leave behinds and other materials," Ottley admitted.

(continued on page 38)

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RAIN BIRD

(continued from page 36)

For his part, Ottley defines IPM as "a way of controlling turf problems through growing healthy plants first of all to build up a natural resistance and then knowing your thresholds as to what level of damage you can have on a given plant or area that's not detrimental to the long-term health of that plant. Then, the last resort is to select the proper control product that is targeted for the specific pest and only treat the infected area."

Ottley continues to emphasize this part of the company's service.

"It's crucial to be able to differentiate yourself from the competition, and this also lets us put the environmental issue forward," he noted.

In order to keep his technicians busy through the winter, Ottley expanded the company's services.

"We sell Christmas trees through December, we've begun offering winter prun-

(continued on page 40)

Trees & Shrubs, Too

Despite the problems over-diversifying meant for One Step Tree and Lawncare, N. Chili, N.Y., the company has responded to growth by expanding into tree and shrub services.

After some slow years of little growth in the division, recent growth has forced the company to restrict tree and shrub services to current lawn care customers only. Currently, tree and shrub services comprise 12 percent of the company's sales with a goal of 15 percent.

"I can't say why the work has picked up other than that our customers are more aware that we offer this service and we're establishing ourselves as experts," noted Bob Ottley, president, adding that the company treats trees up to 15 feet high.

Significant pest problems of late — aphids attacking maple trees in 1997 and a viburnum leaf beetle attacking the viburnum family of shrubs in 1998 — also helped boost the business.

But Ottley chose not to pursue new customers, largely due to the lack of qualified technicians. "In lawn care, our technicians are trained to offer Integrated Pest Management, and that takes a lot of time," Ottley related. "Even more training is required for tree and shrub services because there are so many plants, diseases and cultural problems to identify. You can't just move someone from lawn care to tree and shrub care."

The one area Ottley would like to see the division improve upon is its profitability.

"Tree and shrub is a funny business because the product cost isn't as high as for lawn care but the labor costs are higher," he commented. "Plus, since it's new for us, our tree and shrub routes aren't as tight, so it doesn't produce as many dollars as lawn care." — **Bob West**

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The Power of Cyanamid Pendimethalin

cover story

(continued from page 38)

ing and we bought a holiday decorating franchise," he said. "So we're keeping pretty busy even if we're not generating a great deal of income."

Once the holidays pass, One Step technicians begin preparing for the next season.

"We don't run our business on a continuing service agreement," pointed out Ottley. "Our customers sign up for one year at a time and have to be re-signed up each winter."

While this approach makes the company more susceptible to cancellations, Ottley said One Step maintains an annual customer retention rate of 84 to 85 percent and benefits from having to renew all of its customers each year.

"This approach holds our feet to the fire in terms of doing the job and gives us tremendous feedback when customers don't renew," he explained.

'If you don't have something to differentiate yourself from the rest of the market, it's next to impossible to win a price war.' – Bob Ottley

In addition, Ottley makes his technicians responsible for renewing their own residential customers instead of having a salesperson handle this process.

"I believe the customer likes talking directly to the person who will be on the lawn providing the service," he related. "That way, the technician knows the areas of concern for the customer."

The cumulative results of these moves by Ottley have resulted in the identification of the core One Step customer: "We look for more mature customers – more than 45 years old with above average income, and they've either used other lawn care services or they are very particular about their property, the environment, the products used

on their property and the way their service is carried out," related Ottley.

And while that is clearly a profile cut for a residential customer, One Step derives about 25 percent of its sales from commercial customers, with only a fraction of that amount coming as a subcontractor.

This commercial side of the business has evolved for the company since it hired a dedicated commercial salesperson eight years ago to establish a commercial department.

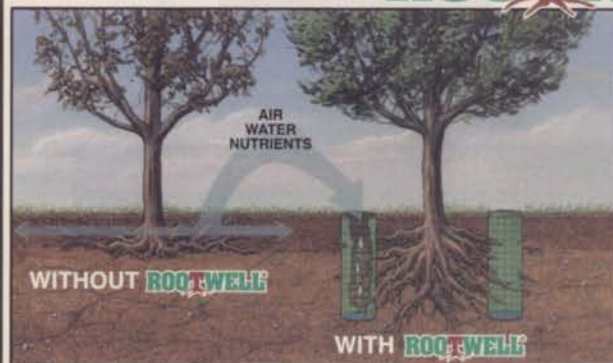
"We knew the opportunity for this work existed, and we thought truly servicing these accounts required a dedicated person who could find out who to talk to at each company and build a relationship with them," Ottley commented. "It's not like residential lawn care where you can make a sale by hanging signs on a door."

"We're happy with the balance we've got

(continued on page 153)

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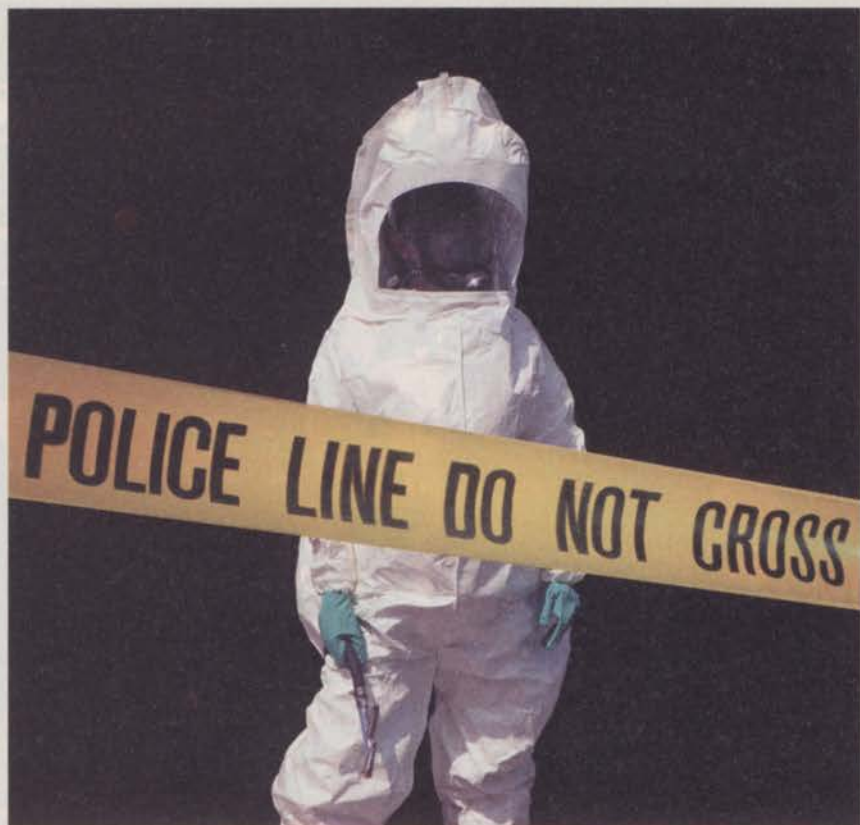
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In SHORT Supply

A thriving industry and growing retail demand will keep nursery stock availability low for at least one more year.

By Bob West

For contractors who do not order large enough quantities of nursery stock to merit immediate shipment, rewholesalers can be an option for getting materials sooner. Photo: Shemin Nurseries



Here's a question that most landscape installation or design/build contractors can already answer: What happens when an industry starts growing rapidly but the product it sells requires two or three years to be ready for use?

As has been widely observed across the country, demand for numerous nursery stock varieties has climbed steadily, faster, in fact, than growers can satisfy of late.

As a result, prices for many varieties have gone up in this seller's market, and contractors continue to wonder when availability will increase. Unfortunately, the outlook from various nursery stock growers and suppliers calls for continued shortages in some varieties throughout 1999 with supply catching up with demand the following year.


OUTLOOK IMPROVING. "We're coming off of a strong 1998 season and we see demand continuing to be strong in 1999," observed Frank DeRosa, director of purchasing, Shemin Nurseries, Danbury, Conn. "While there will be spot shortages this year, I think they will be more specific to certain varieties than an overall shortage."

"I see next year as the breaking point where supply will catch up with demand," related Andy Hull, nursery coordinator, McGinnis Farms, Atlanta, Ga. "Last year, we had a better supply of some varieties than we'll have this year, and vice versa. But all of this could change if there are any variations in what contractors and landscape architects are specifying on their designs."

In particular, DeRosa said supply of some shade trees will remain below demand levels, along with some ornamentals and deciduous shrubs. At the same time, some varieties that have been hard to come by of late should be more readily available in 1999.

"It looks like cherry trees will be in short supply this spring, although there should be more than we had last year," remarked DeRosa. "On the good side, we see the dogwood market loosening up a little bit through the smaller sizes, and we see rhododendrons staying more plentiful. Some hol-

(continued on page 46)



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USE READER SERVICE #50

nursery market report

(continued from page 44)

lies, particularly the upright ones, are more available in the 5- to 8-foot range, and the smaller birch trees should be more available this year."

Hull also noted that the weather hasn't helped growers augment their supply at all.

"It was pretty dry at times in the Southeast during the fall, so materials couldn't be dug up, which decreased the window for

Some contractors have taken a different tack to augment the plant materials available to them.

"Shade trees have certainly been in short supply the last few years, so we're seeing contractors purchasing the trees already coming into our yards earlier than normal so they know they'll have them," commented Mark Hixson, customer service and inside sales manager, Imperial Nurseries, Granby, Conn.

Hixson said that 85 percent of Imperial Nurseries' stock for the Northeast for 1999 has already been sold, which is ahead of 1998's pace, but bookings in other

markets are holding steady from last year. While contractors have loudly voiced their concerns about rising plant stock prices, growers and suppliers countered that prices

overall haven't varied much at all over the last few years.

"Yes, the prices will move up in areas where there is short supply, but the prices for products with more plentiful availability have gone down," commented DeRosa.

"We've had contractors complain to us about some of our prices going up, but then they ultimately come back to us because they can't find the same materials anywhere else," commented Hixson.

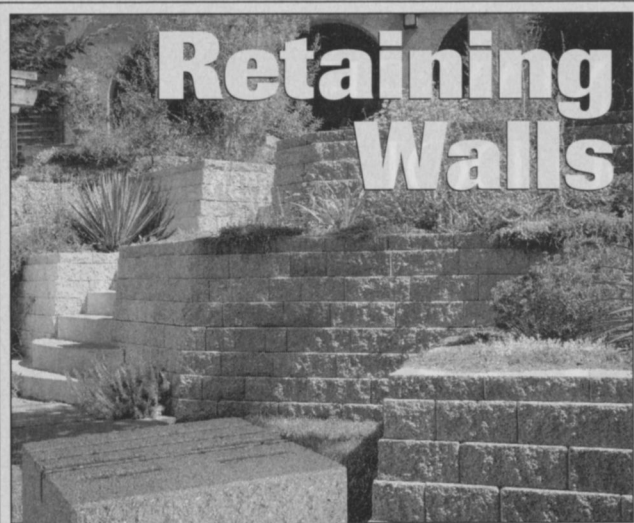
Some suppliers also noted, however, that landscape contractors aren't the only buyers creating greater demand for plant materials.

"We're trying to get more plants in the ground, but the population continues to grow and we see more people taking up gardening as a hobby," observed Hixson. "Plus, the mass merchandisers are trying to go beyond the average retail mix and offer a wider variety of materials, like local nurseries and garden centers do."

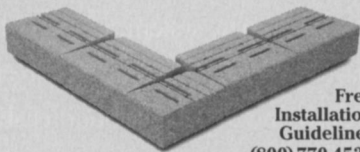
(continued on page 48)

Suppliers of nursery stock are widely confident they will have an increased supply beginning with the 2000 season.

shipping and keeping inventory of tree material," he pointed out. "This created a lot of installation delays for contractors who were waiting for these trees."

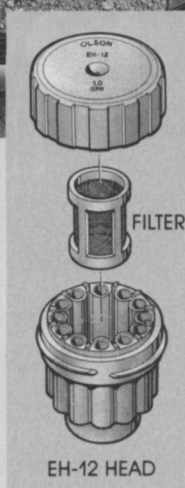
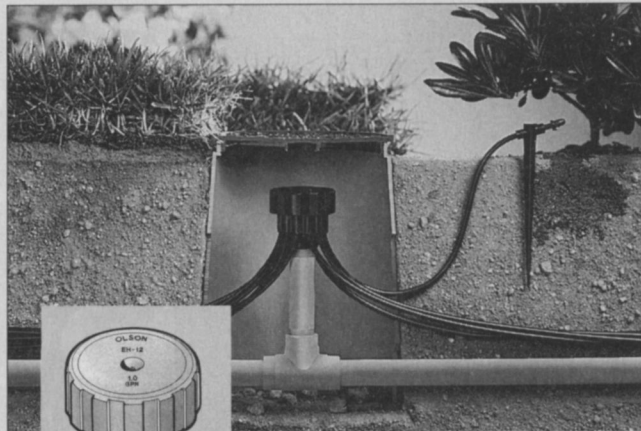


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(continued from page 46)

"Landscape contractors aren't raising their demand as much as these retail chain stores," agreed Dorothy Garrity, availability operations manager, Hines Nurseries, Irvine, Calif.

The fact that such large stores potentially represent such large orders makes them highly desirable customers for the growers

to cater to, further limiting plant availability to contractors.

"We're seeing more contractors starting to buy plant material from the mass merchandisers," Garrity recognized.

Ann Camp, president, Camp and Company Farms, Dacula, Ga., said she has also seen mass merchandisers work to expand their plant stock lineup, and this can mean trouble for anyone selling plants depending on how these stores market the plants.

"The prices these compa-

nies put on plants go a long way to setting the public's perception of the value of flowers in general," Camp stated, noting that her prices for annuals haven't changed in 15 years. "Some mass merchandisers have begun to use more realistic prices, but when they use plants as loss leaders that's what the public perceives they're actually worth."

OPEN TO OPTIONS. Shortages during 1997 and 1998 motivated some contractors to find creative solutions to plant materials shortages, but others are reluctant to shift from their initial design plans.

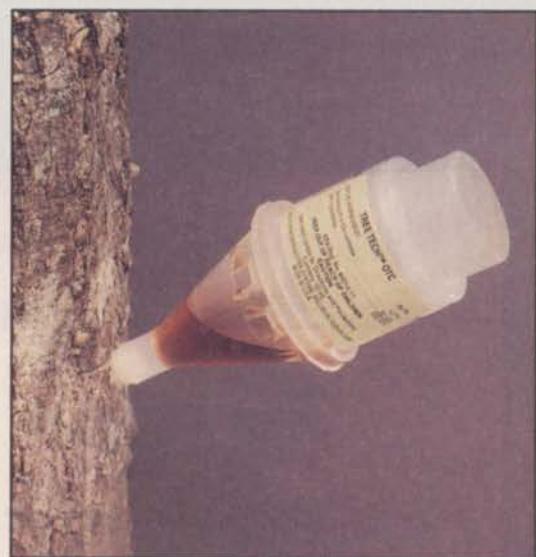
"Despite the shortages that exist, the good news is that there are probably equal plants to provide viable substitutions to offset the shortages," noted DeRosa, who said contractors can usually find a satisfactory substitute plant that may just flower in a different color than the original or be a little smaller. "I'm not sure that all of the

(continued on page 50)



Some growers refuse to sell some popular varieties until they are fully grown so they can continue offering a full range of plant materials. Photo: Shemin Nurseries

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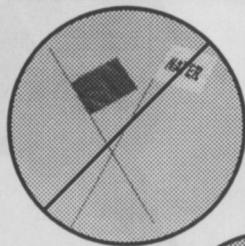


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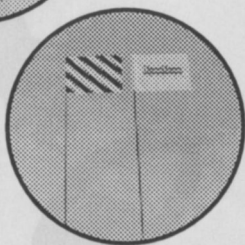
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nursery market report

(continued from page 48)

contractors recognize they have so many options, but I think it will be evident to them this spring."

"We try to create a menu of plant items that will offer the same look," agreed Hull.

All growers aren't necessarily willing to make younger varieties of plants available for installations, however.

"Look at 2-inch trees, for example," explained Hull. "A lot of contractors have been using 2-inch trees where they wanted 2½-inch specimens because the 2½-inch specimens weren't available. So some of the future crop of 2½-inch trees was utilized before growers wanted to sell them, which keeps them in short supply.

"Or there are a lot of hollies, for instance, that aren't available in bulk quantities because the nurseries want to grow them to a certain size so they can supply a variety of sizes to their customers," Hull continued.

2000 & BEYOND. Suppliers of nursery stock are widely confident availability will increase beginning with the 2000 season.

"No one has a good crystal ball that works, and growers have to be sensitive to what sells and what doesn't sell since they have a limited number of acres available to them," Hull said. "Nursery supply works in a cycle where there is a glut of product and growers have product they can't sell because

Having Connections

Rewholesalers or horticultural distribution centers aren't exactly new terms in the nursery industry, but they may never have been as important to landscape contractors as they can be these days.

These organizations serve as the link between growers nationwide and landscape contractors, while also providing products such as irrigation and landscape supplies.

As nursery stock availability continues to lag behind escalating demand, rewholesalers with their reach into growing markets all over the country can offer contractors cost-effective solutions that wouldn't be available to most contractors by themselves.

"We help level out the availability for contractors because of our ability to pull material from hundreds of growers," commented Frank DeRosa, director of purchasing, Shemin Nurseries, Danbury, Conn. "If there's a shortage of materials in one market that's okay because we're not limited to buying from growers in a 50- or 100-mile radius like many contractors are."

"Purchasing enough products from one location to warrant the grower shipping it out immediately can be a challenge for a lot of contractors, so they end up waiting weeks to get material," added Mark Hixson, customer service and inside sales manager, Imperial Nurseries, Granby, Conn.

"We're a form of outsourcing for the contractors," agreed Andy Hull, nursery coordinator, McGinnis Farms, Atlanta, Ga. "At the same time, we take the challenge of managing accounts receivable away from the growers and become a distributor for them."

Many growers have complained over the years that landscape contractors can be challenging customers to deal with because of a tendency to delay paying for products until after receiving their own payment for the job. Hixson said that while that tendency has improved considerably in recent years, nursery suppliers still have to protect their own businesses and contractors should understand this.

"Landscape contractors are our number one customer, but we really have to stay on top of their payments and we have to scrutinize any new customers because there are so many fly-by-night companies out there," he said. "We're just protecting our businesses." — **Bob West**

USE READER SERVICE #54

production is too high or demand drops off. So everyone cuts back on production, and then we end up with a gap between demand and supply a few years later."

"We see growers putting considerably more plants in the ground and more growers are clearing large blocks of land than we've seen in awhile," commented DeRosa.

The gamble growers take in ramping up production this way is that if the economy slows down or the industry's growth ceases unexpectedly, demand for these plants will also drop off and growers won't be able to recoup their investment.

"There is always the risk of having too much product in the ground, but I don't see demand dropping off at all," DeRosa added. "Plus, the landscape and nursery industries lag behind others for experiencing a recession because of the time involved in completing new installation projects."

In the meantime, contractors may have some options to improve their own access to nursery stock.

"Contractors should place orders early, and also consider having us contract grow materials for them," recommended Garrity. "But most contractors prefer to buy material just in time to stick it in the ground."

Contract growing allows contractors to place requests of specific plant varieties and quantities from a grower and guarantees that those plants will belong to that contractor once the plants reach the desired level. Garrity said while ornamental color can be ready a few months after it is planted, 1-gallon plants require one year of growth and 5-gallon varieties generally require two years.

Other contractors have turned to developing their own holding yard or nursery staging facility so they can purchase greater than normal quantities of plants when they find some they expect to use eventually. However, there are obvious risks inherent in this approach that contractors should be aware of before making such a move.

"There's a lot of overhead cost associated with managing a nursery holding yard, and there's also a lot of risk involved in buying plant material that could die before it is planted or when a job could still fall through," related DeRosa. **LL**

The author is Editor of Lawn & Landscape magazine.

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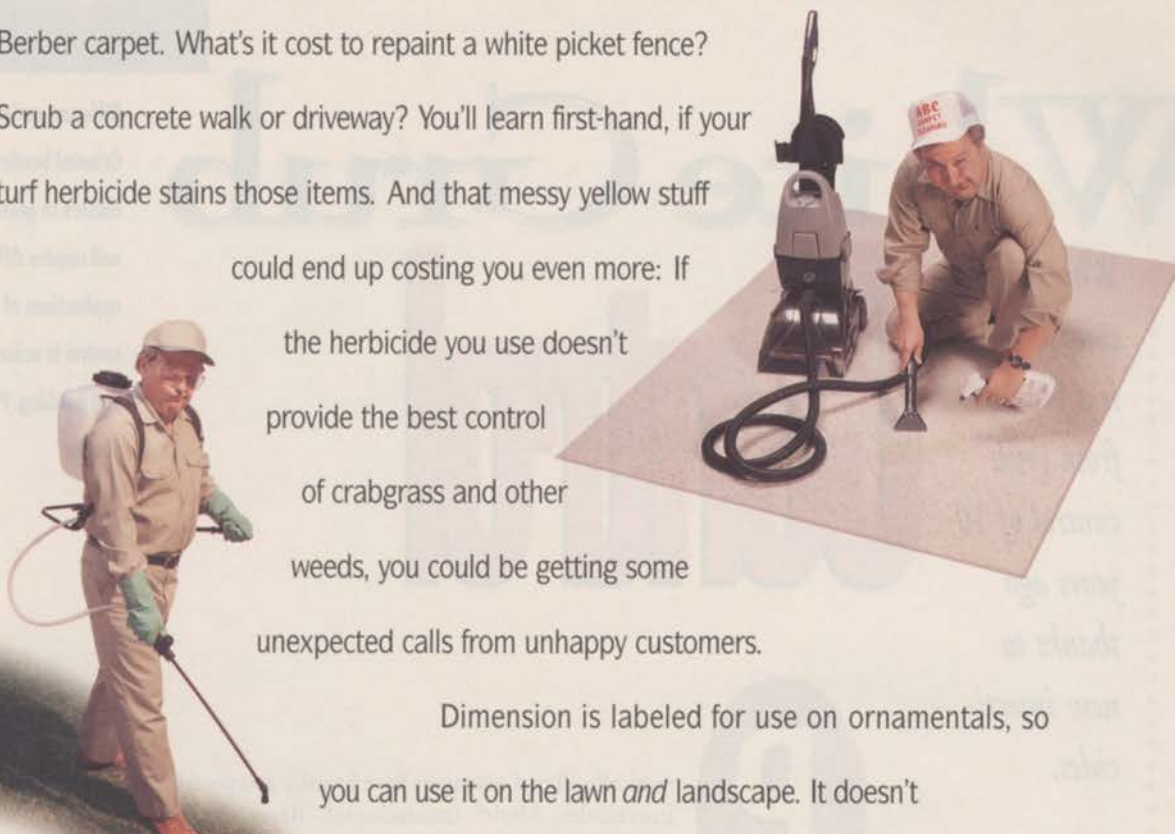
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USE READER SERVICE #57



White Grub

White grub control today is a far cry from grub control of 10 years ago thanks to new insecticides.

By David J. Shetlar

Control

Different varieties of grubs, from Oriental beetles to European chafer to green June beetles, will require differently timed applications of the insecticides for control in order to coincide with egg hatching. Photos: Dave Shetlar

P

ractically all turf managers have heartily accepted the new grub insecticides, Merit® (imidacloprid, Bayer Corporation) and MACH 2® (halofenozide, RohMid). Both of these new insecticides have long residual activity, greatly reduced toxicities and diverse effects on other insect pests. Unfortunately, as with all new products, the salesperson as well as the users claim they have had to adjust their expectations and use practices. Merit and MACH 2 are completely different in their actions on insects.

Merit acts by blocking the receptor sites in an insect's nervous system. The message is sent by the preceding nerve, but the next nerve doesn't

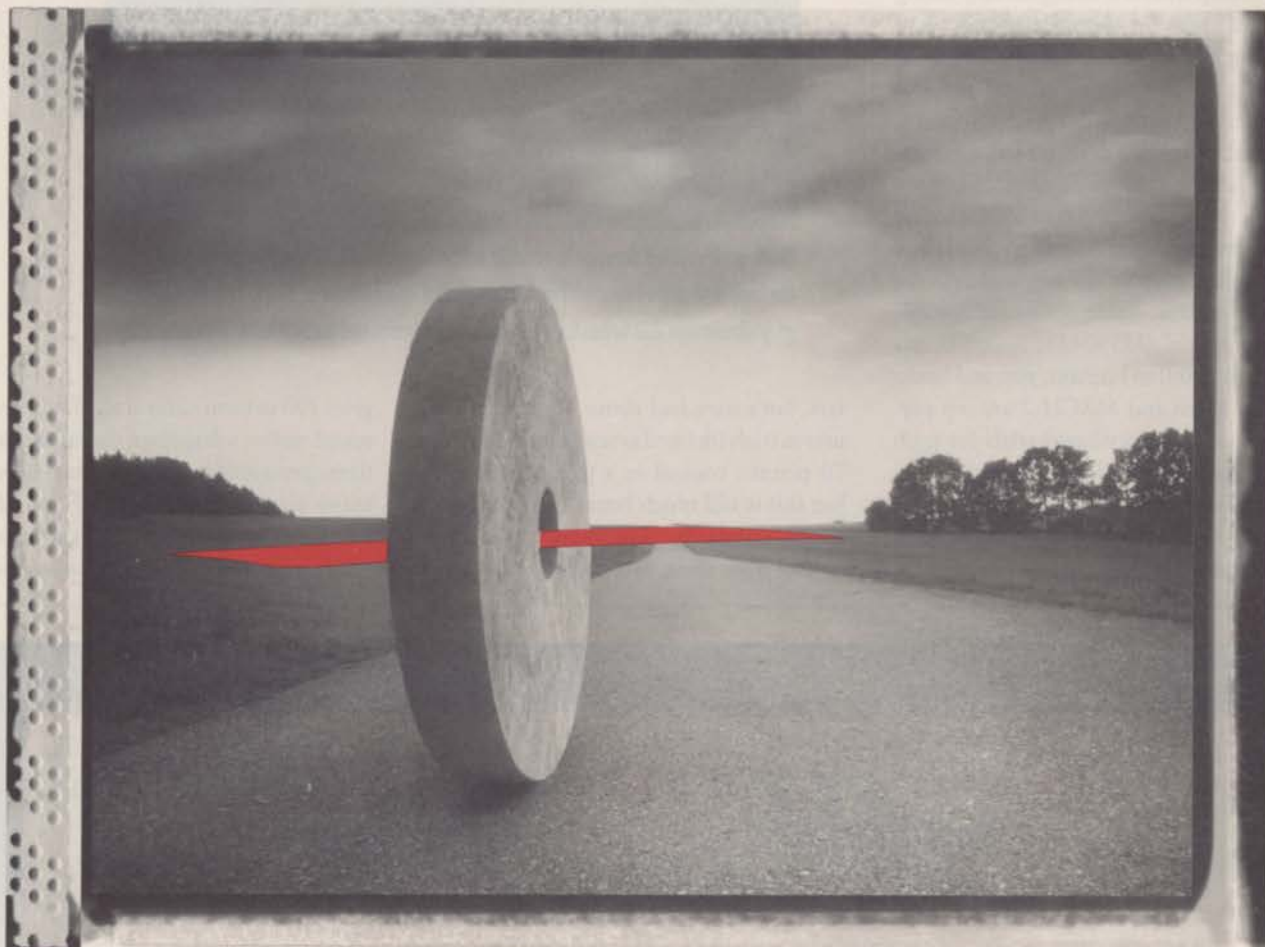
receive the message or it receives an incomplete message. Therefore, insects that have ingested or absorbed imidacloprid just stop what they are doing or stop normal behavior. The particular receptor site affected is much more common in insects than in vertebrate animals, including humans. This is why imidacloprid has much lower toxicity (LD50 of technical in rats = 450) than many of the currently available organophosphates and carbamates.

This stopping of normal insect behavior has the greatest effect on insects in the early stages of development. A first instar grub may be able to survive for two to three days without feeding while a third instar grub can last for months without feeding.

(continued on page 56)



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BEYOND THE EXPECTED

USE READER SERVICE #58

grub control

(continued from page 54)

Halofenozide is an insect molting accelerator. When an immature insect ingests or absorbs this chemical, it turns on the molting switch. The affected insect has no choice, it has to stop what it is doing (usually eating turf) and begin the complicated process of shedding its skin. If the insect is not at its normal state of readiness to undergo this molting, the result is death. Also, insects that are early in their development are more rapidly affected by molting accelerators. Like Merit, the best targets of MACH-2 are early instars of insects. Since vertebrates and many other animals do not undergo the molting process, halofenozide, is "practically non-toxic" (LD50 of technical in rats = 3850 to 5000) to humans, pets and birds.

Both Merit and MACH-2 are top performers in university-based trials for grub control (table 1). While both are producing an average of about 90 percent control of Japanese beetle and masked chafer grubs, neither pesticide has a perfect record. In



Much grub-related damage is actually caused by animals feeding on grubs beneath the turf, and some research has indicated that applications of Merit and MACH-2 may discourage this behavior even before the grubs are dead. Photo: David Smitley

fact, both have had about 10 percent failures in trials (defined as resulting in less than 70 percent control in a particular study), but this is still much better than our traditional "standards." The important message to take from these data is that no pesticide

gives 100 percent control all of the time. As stated earlier, salesperson claims and advertisements would have customers believe that many products are foolproof and always offers excellent control. Don't set expecta-

(continued on page 58)

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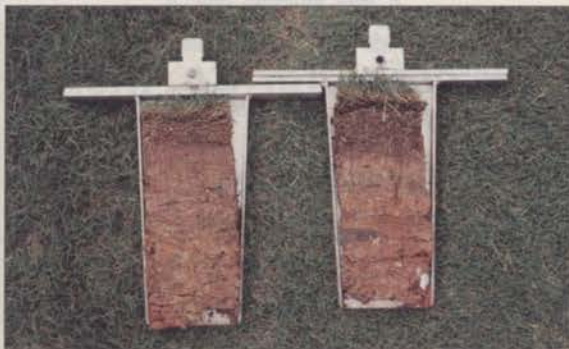


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grub control

(continued from page 56)

tions or the expectations of customers too high. There will always be some failures.

LONG-TERM POWER. There are some other significant differences between Merit and MACH-2. Imidacloprid, especially when applied in a liquid spray is fairly susceptible to photodegradation. If left on grass blade surfaces in full sun, significant loss of the active ingredient can occur. Most people are recommending irrigation within 24 hours of application, but the sooner the better. (Merit-containing granules don't seem to be as susceptible to this photodegradation.)

Halofenozide is apparently affected very little by direct sunlight. However, as with all grub insecticides, irrigation after the application will help move the active ingredient to the site where the grubs are feeding.

Another unique quality of Merit and MACH 2 is their relatively long residual activity once in the turf-soil-thatch inter-

(continued on page 60)

Ranked Efficacy of White Grub Insecticides - 1976-1991

% OF TESTS

INSECTICIDE	RATE LB.AI./A.	AVG. % CONTROL	# TESTS	RANGE % CONTROL	BELOW 70%
Imidacloprid (Merit)	0.3	93.0	42	58-100	10
Halofenozide (MACH2)	1.5	91.0	21	10-100	10
Isofenphos (Oftanol)	2.0	82.1	84	38-100	19
Bendiocarb (Ficam, Turcam)	3.0	80.9	27	0-100	15
Ethoprop (Mocap)	5.0	76.7	38	48-97	34
Trichlorfon (Dylox, Proxol)	8.0	76.3	81	0-98	22
Carbaryl (Sevin)	8.0	74.3	40	13-100	37
Diazinona,b	4.0	70.3	17	47-99	41
	5.5	74.8	41	25-100	29
Bt. japonensis 'buihui'c (M-Press)	8-13.0gal	64.2	11	6-94	55
H. bacteriophorad	0.5bill	57.7	3	15-92	67
Chlorpyrifos (Dursban)	4.0	54.6	3	2 0-96	59
S. glaserid	0.5bill	31.3	1	4 0-71	93
S. carpocapsaed	1.0bill	21.5		10 0-61	100

1 Data from Insecticide and Acaricide Tests & Arthropod Management Tests, Entomological Society of America (using masked chafers and Japanese beetle evaluations)

a/ Not for use on golf courses or sod farms.

b/ 5.5 lb.ai./a rate reduced to 4.0 on current labels.

c/ Development discontinued in spring, 1997.

d/ Most large manufacturing stopped in 1996-97.

compiled by D.J. Shetlar, Oct., 1998.

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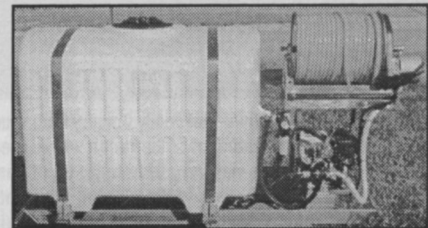
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USE READER SERVICE #28

grub control

(continued from page 58)

face. Both appear to have in excess of 100 days of effective residual, though researchers are suggesting that Merit is a bit better in its residual effectiveness. Therefore, manufacturers and most extension turf entomologists are recommending that Merit can be effectively used in May, June, and July through mid-August while MACH 2 should be applied in June, July and August.

Early evaluations of MACH 2 suggested that halofenozide has significant grub "curative" activity, but this is coming under some debate. Most researchers would now agree that neither Merit nor MACH 2 are real curatives in the sense that Dylox®/Proxol® (trichlorfon) or diazinon are. Merit and MACH 2 are best used as "preventive" applications or as "curatives" only when first and early second instar grubs are present.

Since Merit has been on the market for three years, some turf managers are beginning to question whether they should use the same product for another year without



Much grub-related damage is actually caused by animals feeding on grubs beneath the turf, and some research has indicated that applications of Merit and MACH-2 may discourage this behavior even before the grubs are dead. Photo: David Smitley

alternating to another grub control product. While alternation of products is never a bad idea, there is no evidence that imidacloprid is susceptible to enhanced microbial degradation. This phenomenon is still worrisome, especially for turf managers who

have been caught in problems with continuous usage of other products. Yet laboratory and field tests suggest that imidacloprid is not susceptible to enhanced microbial degradation. Such information is

(continued on page 62)

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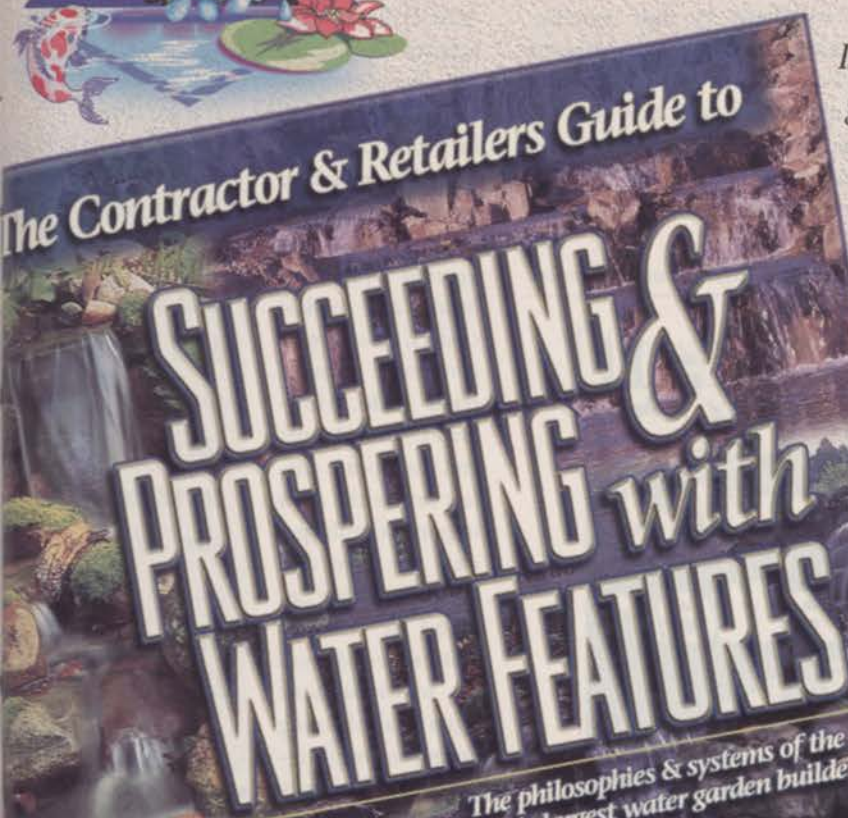
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USE READER SERVICE #69

grub control

(continued from page 60)

not yet available for MACH 2.

We also do not believe that resistance is a factor. Because of the mobility of grub adults and the patchy usage of Merit and MACH 2 in our urban habitats, most grub species are simply not under sufficient pressure to develop resistance.

Another significant result of the registration of Merit and MACH 2 has been a loss of grub insecticides. Crusade® (fonofos)

and Triumph® (isazo-phos) have both been voluntarily withdrawn by their manufacturers. In both cases, the manufacturers claimed sales would not justify the cost of continued registration and new data requirements. In some sense, this is rather unfortunate because Crusade and Triumph could be used as curatives against larger grub stages.

There are some significant differences

between Merit and MACH 2 and their activity against the full range of grub species that attack turf in North America. The data presented on page 60 is based on the results of tests against Japanese beetles and masked chafers, the two most commonly encountered grubs. However, Oriental beetles and European chafers can be the most important grub species for lawn care operators in New England or Atlantic Coast states. Many of the transition zone states are also battling green June beetle infestations. When targeting the first instar grubs, both Merit and MACH 2 do a satisfactory job, though MACH 2 appears to have less activity against both European chafers and Oriental beetles.

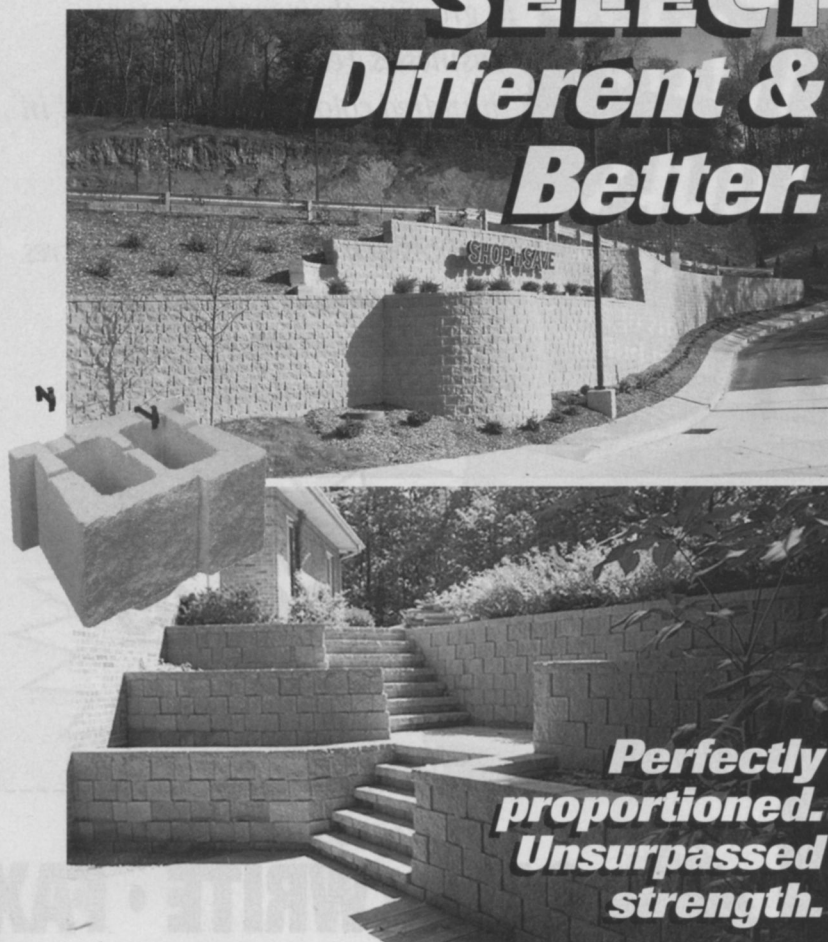
SITUATIONAL KNOWLEDGE. While laboratory tests suggest that MACH 2 is a bit less active on these two grubs, turf managers are telling a different story. Some claim no control of European chafers or Oriental beetles with either Merit or MACH 2. This may be the result of misunderstanding the activity of these new insecticides as well as assuming that European chafers and Oriental beetles are active at the same time that Japanese beetles are.

In many areas, European chafers and Oriental beetles may fly in early to mid-June while Japanese beetles fly in mid- to late July. If Merit or MACH 2 were applied "at the time of egg hatch" with the assumption that this would be in late July and early August, the Oriental beetle and European chafer grubs may already be in their second instar stages. For these two grub species, earlier applications may be much more effective than typical mid-season applications.

On the other hand, the green June beetle

As time goes on, we may also be able to determine if our use of traditional pesticides really did influence soil microbial populations, thereby increasing turf diseases ... We should be on the lookout for decreases.

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USE READER SERVICE #70

adults often fly in late July through August. Their larvae also feed on the turf surface or in the upper layers of the thatch. If Merit or MACH 2 were applied in June, the residues would probably be most concentrated in the lower layer of the thatch, not near the surface. In this case, the green June beetle grubs may simply miss the insecticide. Applications of Merit in late July and early August have proven much more effective controlling green June beetle grubs than earlier applications.

Finally, both Merit and MACH 2 have little effect on non-target invertebrates, especially earthworms, as well as microbial populations. Ecologically, this is good, but in some turf areas, earthworms are becoming a significant nuisance pest. Their castings, mounding of soil and removal of lower leaf blades can be a real headache for people who want smooth, dense turf. As time goes

on, we may also be able to determine if our use of traditional pesticides really did influence soil microbial populations, thereby increasing turf diseases. While I have doubts about this claimed phenomenon, contractors should be on the lookout for decreases in the expression of turf disease.

In summary, Merit and MACH 2 are major advances in our pesticides used for grub control. However, lawn care operators

must constantly rethink the way that they use grub insecticides and maintain realistic expectations about how effective any insecticide can be so that application effectiveness is maximized and customer satisfaction is delivered. **□**

The author is associate professor of landscape entomology at The Ohio State University, Columbus, Ohio.

Instars: The Process of Moulting

The grub itself goes through a process of development called moulting. When a grub moults, it actually sheds its skin in preparation for further development. The period of time in between each of the moults is called an instar.

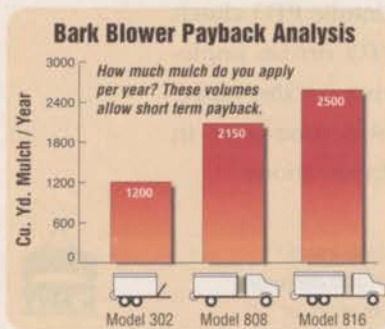
After the grub initially hatches from the egg, it is known as a first instar grub. After its first moult, it enters its second instar stage, and following its second moult it becomes a third instar grub. Each moult results in a grub that is larger than the previous instar. The third and final moult results in pupation, which develops into the adult scarab beetle.



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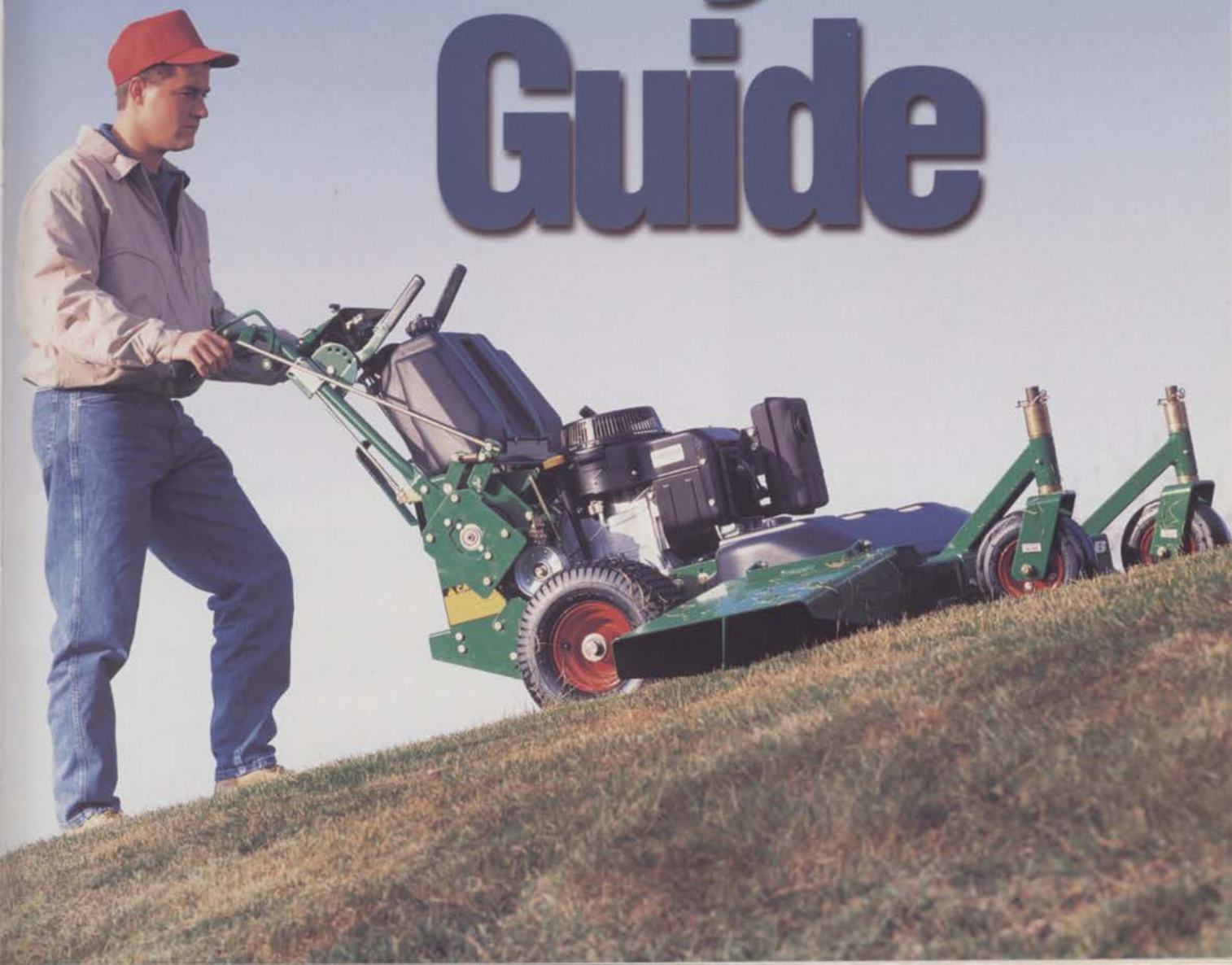


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Commercial Mowers

Buyers' Guide



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Table of Contents

The Alternative Advantage

Many landscape contractors forget that the key to obtaining a new mower is knowing their purchasing and leasing options. **4**

The Results Are In

A *Lawn & Landscape* survey of maintenance contractors indicated that productivity and the environment continue to drive contractors' preferences. **10**

The Buyers' Guide

A comprehensive listing of the manufacturers of mowing equipment, the machines they produce and the attachments available. **14**

The Unkindest Cuts

While using the right mowing machine is a key to on-the-job productivity, the condition of that mower's blade are crucial to turf health. **25**

Proper Mowing Heights

Cutting grass may seem simple, but successful contractors know that mowing requirements change based on the particular turfgrass to be mowed. **26**

*In what will be the first of four equipment buyers' guides from *Lawn & Landscape* this year, we take a look at the direction mower development is headed in and the products taking it there.*



Lawn & Landscape

EDITORIAL SUPPLEMENT

FOCUS:

Mowers



n usually no longer than one hour, a landscape contractor can walk into a dealership, pick out the equipment he or she wants, determine what kind of payment plan he or she would like to be on, fill out the necessary paperwork, get approved through a financial institution and load the equipment onto a truck to take it to his or her business for use the next morning.

Good dealers who know what their customers are looking for will get them through this process even quicker, generally in about 40 minutes, said Brian Burley, vice president, Sheffield Financial, Clemmons, N.C.

"A good dealer will pre-qualify a customer when he or she walks in the door," he explained. "The dealer will put down a ballpark figure for the purchase, such as approximately \$8,000 for a riding mower or \$4,000 for a walk-behind mower. Then, by the time the customer has picked out the equipment, the dealer will have approval from the financial company and continue the paperwork while someone else gets the equipment prepped."

However, while landscape contractors are eager to get their new equipment ready for use as soon as possible, they should take their time when deciding how to pay for it, which is an important step in the purchasing process, second only to picking out the equipment.

PAYMENT OPTIONS. Landscape contractors generally pay for equipment three different ways: with cash, through their local bank or through another financing company, according to George Ziegler, account manager, First Sierra Financial, Rocky River, Ohio.

Financing/leasing companies offer standard financing and leasing programs along with special deals sponsored by

Many landscape contractors forget that the key to obtaining a new mower is knowing the purchasing options.

The Alternative

Advant

mower manufacturers, distributors and dealers.

Some of the basic financing options through financing companies usually include 13.95 percent regulatory financing, programs where the customer doesn't need to start making payments until 30, 90 or 120 days after the date of purchase interest-free or a program Burley calls the "6-pack," a program that allows the customer to skip six months of payments throughout the life of the loan.

However, manufacturers' deals can be more worthwhile to the contractor because they are subsidized by the manufacturer, and in some cases, the distributor and dealer too. This means that in a program such as the first six months interest-free deferred payment plan manufacturers pay a percentage of the interest accruing during that time to give the customer a "deal" on the purchase. Other manufacturer programs usually include 9.9 percent financing or 4.9 percent financing, Burley said.

"Nothing's free, unfortunately," Burley said. "When it comes to subsidizing for manufacturers, we deal with them and them alone. With, for example, a 6 percent fee, the manufacturer decides the dealer/distributor percentage of that, if any, to subsidize. Some manufacturers are real aggressive and pay most of that cost. Dealers will never pay more than 2 or 2½ percent."

While there is an obvious benefit to the customer utilizing manufacturers' financing programs, the dealer benefits as well, said Rick Curlett, director of marketing for Exmark Manufacturing, Beatrice, Neb., because payment for the equipment purchase is issued to him or her within 24 hours.

No matter what programs are available, dealers have the right to choose which payment options to offer their customers. Large percentages, but not

the majority of dealerships, still offer cash-only options, Burley said.

"Regardless of its size, the best kind of dealership for manufacturers, distributors and the end-users of the equipment is the one that offers some form of retail finance," Burley pointed out. "Some dealers are intimidated by retail finance. They say, 'I'm here to sell equipment, not financing.' But if a dealer has more options, he'll have a better chance of overcoming objections by the customer to purchase the equipment."

The only way landscape contractors can be informed about the programs available to them is by calling the financing company, getting a list of the payment options available on whatever brand of equipment they are interested in and then by choosing a dealership that offers the option that best suits their business, said Zen Kulpa, director of sales and marketing, Yazoo/Kees Power Equipment, Jackson, Miss.

Planning when to buy a mower is also important, Burley said, particularly if a contractor wants to avoid manufacturer price increases, which usually occur on July 1 or Jan. 1.

PROS AND CONS. Figuring out the upsides and downsides of the different payment options to fit a particular landscape contractor and his or her business is not hard, Ziegler said.

While

landscape contractors are eager to get their new equipment ready for use as soon as possible, they should take their time when deciding how to pay for it.

Although some landscape contractors continue to pay for equipment in cash, a vast majority of equipment sales, about 75 percent, Curlett explained, are done as some form of credit purchase.

"As a contractor, you have to ask yourself what's best for your business at the current time," he said.

"You have to recognize the flexibility of cash. If you have some money and choose to finance an equipment purchase, you're not only using the equipment from the day you buy it, but you still have extra money on hand. If you pay cash, you don't have that extra money."

However, it is the dealer's job to closely examine their customers' needs, the type of equipment they are interested in and how they are going to pay for it, said Mike Roglen, general manager, Kubota of Cincinnati, Cincinnati, Ohio.

"Everybody needs and deserves good service and a fair price," Roglen declared. "If a contractor comes in and says he needs the best cash price for three pieces of equipment, I don't need to complicate the issue by offering him other options. That's his choice and I'm not here to change his mind. Most customers have an idea of what they want when they come in. It's all about what's important to them and their business."

For the maintenance company that focuses on mowing, buying equipment is a tough decision, Roglen said.

"Since the mower is being fully utilized for at least eight hours each day, the contractor will be ready to purchase a new one on average every two to three years," he explained. "If the contractor uses straight financing, he or she will end up owing more than the machine's worth."

age

Mowers

"If you're financing a \$7,000 mower over four years, the final purchase price of it will be \$9,000 because of the \$2,000 in interest that accumulated over the four years," Roglen stressed. "Financing is geared to the multi-service landscaper who does irrigation and maintenance. For smaller businesses, the best options are paying cash and taking advantage of manufacturer deals."

A popular manufacturer deal is the first six months interest-free deferred payment plan, said Rick Wilder, commercial sales manager, Jerry Pate Turf Supply, Pensacola, Fla.

"That plan, or a six-months-on/six-months-off type payment plan, works great for seasonal contractors because they usually only have eight to nine months of actual revenue coming in," Wilder remarked. "The 'No Pay Until May' program is also popular because the customer can take the piece of equipment in the fall and start using it, but he or she won't have to begin paying for it until May."

Roglen said approximately 65 to 70 percent of the contractors who use a six-month deferred payment program pay cash for the full equipment purchase at the end of that six months without any interest accruing.

Sometimes, what type of financing program a contractor chooses depends on how they qualify with the financing company. Approximately 75 percent of the customers at Sheffield Financial get immediate approval for financing, Burley said.

If the dealer is not comfortable explaining the financing programs to their customers, he or she can refer them to the financial institution.

"We can walk the customer through the program on the phone while they're at the dealer's office," Burley noted. "Some dealers make their customers sign a contract without filling out the necessary information until after the customer leaves the store, but that's rare. Today, every customer wants to know everything up front. A good dealer will usually work through the financing with the customer, but we are always there to walk them through it. We do a lot of handholding when it comes to explaining our programs."

Buying large amounts of equipment at the spur of the moment is a common practice for customers when there are so many financing programs to choose from that make paying for equip-

ment sound easy, Burley warned. Compared to retail financing, leasing can be a better option, especially when a contractor is looking at more expensive

equipment, such as an \$8,000 zero-turning radius lawnmower. The monthly payment is always lower in a lease agreement than in a retail financing agreement, said Mike Roglen, general manager, Kubota of Cincinnati, Cincinnati, Ohio.

Typical finance vs. lease purchase

(purchase of \$6,000 mower for 36 months at 13.95%)

	FINANCE	LEASE	DIFFERENCE
Advance Payment	0	\$378.40	\$378.40
Monthly Payment	\$204.92	\$189.20	\$15.72
Residual (due for purchase)	0	\$600	\$600
Total of Payments	\$7,377.12	\$7,411.20	\$34.08

Sheffield Financial, Clemmons, N.C.

Zeigler advised. "When you own the equipment, you can only write off 80 percent of its cost."

A lease, however, is usually based on 500 hours per year of equipment use. The average mowing company runs its mowers approximately 700 to 800 hours, Roglen said.

"The additional use adds up when you're paying a \$10 to \$15 charge per extra hour of use over the lease period agreement number," he added.

There are additional downsides to leasing, especially for companies that focus on mowing, Roglen explained.

"Landscape contractors tend to run the equipment all over the place," he said. "If you have a company that just cuts grass, the downside risk is the extra cost after you've returned the equipment with more than your average wear and tear. You put a security deposit down on a car but not on a mower, so the leasing company will want me to go back to the customer and get the money to repair the equipment when it's returned in poor condition." — Nicole Wisniewski

THE LEASING DIFFERENCE

"Leasing a lawnmower takes, initially, the lowest cost out of a contractor's pocket," Roglen stated.

With a lease there are also certain tax advantages because a contractor doesn't actually own the equipment, said George Ziegler, account manager, First Sierra Financial, Rocky River, Ohio. "So, you can write off 100 percent of the expense until you own the machine, which is usually after about three years."

know, it doesn't take but a minute for him or her to call the financing company and get it."

Impulse buying usually leads to problems for the landscape contractor, Burley said, because contractors are buying before they have the business to justify the purchase.

"They follow along on a path of smooth growth and then all of a sudden lose a couple of big accounts, and this just after purchasing

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Mowers

\$10,000 to \$15,000 in equipment," Burley explained. "Many landscapers have filed bankruptcy because they've ended up in this predicament."

According to Burley, three years ago, 10 to 15 landscape contractors were filing bankruptcy each year. Today, he said that number has increased to 150 or more. The contractors get to keep the equipment in the end, but the court decides the new worth of it, which is usually 50 percent less than the actual cost.

"Sure, the contractor gets to keep the equipment at a cheaper price," Burley stated. "But bankruptcy ruins them for the next seven to 10 years because no financing company will lend money to contractors who have bankruptcy on their credit report. Contractors should talk to their financial institution first and see what we can do before readily filing bankruptcy."

Paying more each month for an equipment purchase instead of less is actually the best bet, Burley said. It reduces the interest accrued, length of the

financing lease and, in the end, the final purchase price of the equipment (see sidebar on p. M6).

There are also advantages and disadvantages between using a local bank vs. a financing company when searching for equipment payment options, Ziegler said.

"Local banks tend to ask many questions about the equipment before they give you a loan, but you get a better interest rate, about 9 percent," Ziegler explained. "A leasing company won't get you a better rate - it's usually between 12 and 15 percent - but it won't ask questions when it comes to equipment purchases. The contractor's main goal when making an equipment purchase should always center around getting the best interest rate out there."


ASK THE RIGHT QUESTIONS. Although dealers usually inform contractors of their options, it doesn't hurt for them to ask a lot of questions, Wilder said.

"I think contractors would buy equipment more often if they learned a little bit more about it," he pointed out.

Roglen said an equipment purchase is based on the customer's needs.

"I know it's a cliché, but a dealer sells the need, not the specific financing program," he explained. "A dealer needs to take the proper time to get to know his or her customers. You can't determine the value of a customer the first time you meet him or her. It takes time to build a good relationship."

Contractors should not forget to ask what payment options are available, Curlett said, even if they think they have heard them all.

"It's as important to fit the right payment options with your customers," he stated, "as it is to fit the right products with them." 

The author is assistant editor of Lawn & Landscape magazine.



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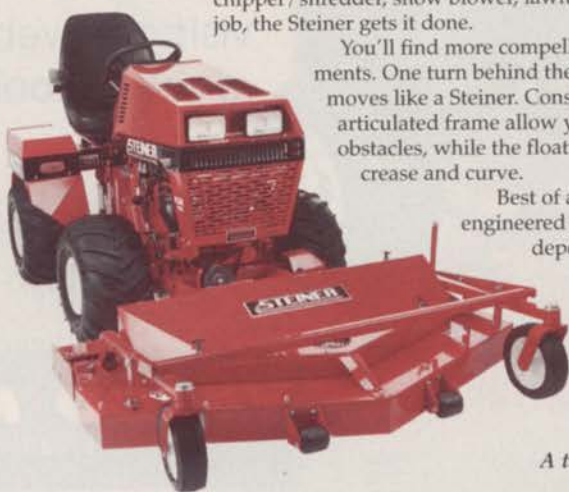
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FOCUS:

Mowers

The Results

are In

A recent survey indicates some shifts in the mowing industry.



As the green industry continues to grow, a survey of lawn maintenance professionals showed that contractors' attitudes toward mowing services and the equipment they use for this work are holding fairly consistent.

IS MOWING GROWING? The respondents' businesses earned an average of \$491,490 in 1998, with an average of 55.8 percent of their overall sales coming directly from mowing services. And it's no surprise with mowing being at the heart of the landscape maintenance industry that more than 52 percent of

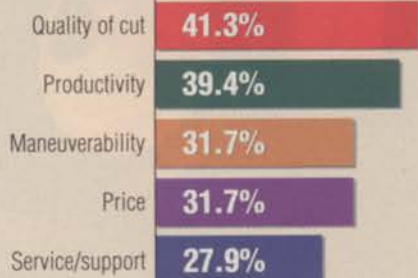
respondents ranked mowing in the top one-third of their services offered in terms of its importance to income and growth.

Although the numbers weren't overwhelming, the survey would seem to indicate that the industry-wide emphasis on grasscycling in order to reduce wasted landfill space is having

some effect on contractors. While more than 38 percent of respondents indicated they still primarily collected clippings in 1998, this is down from the 43.2 percent who collected clippings in 1997. More than 40 percent of the respondents to this year's survey said they primarily use side discharge mowers with 21.3 percent indicating they relied mostly on dedicated mulching mowers. Of the contractors who continue to collect clippings, the number who dump them in landfills also slid slightly in 1998 from 1997 (22.2 percent from 25.3 percent) and more contractors are turning to composting yard waste as an alternative.

The average acreage mowed on residential properties rose for the second consecutive year. Respondents indicated they mowed an average of 69.5 acres per week on single-family properties and 131.2 acres per week on multi-family properties, which would represent increases of 31 percent and 34 percent, respectively.

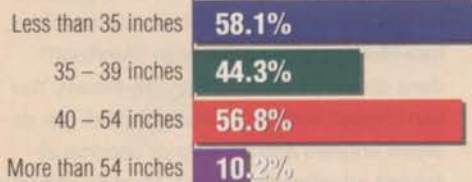
What four factors have the greatest impact on your mower purchasing decisions?



Lawn & Landscape reader survey

What percentage of mowing contractors operate at least one mower in the following categories?

Walk-behind



Riding



Lawn & Landscape reader survey

Man and Machine



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business is
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small or just
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Mowers

The significant drop off in acres mowed on commercial sites from 1997 to 1998 (100.3 in 1997 to 69.8 in 1998) would seem to indicate a significant portion of responding contractors are focused on the residential market, which isn't believed to be indicative of the market overall.

Other information gathered held relatively

consistent from previous years, however, with more than 95 percent of the respondents operating between one and five mowing crews and almost 86 percent of those crews consisting of three or fewer people.

The fact that the responding contractors are focused primarily on the residential market was

further supported by the reduced number of mowers they reported operating – an average of about nearly five walk-behind mowers and two riding mowers per firm – since it is highly unlikely that mower sales would be down as contractors' businesses continue to thrive.

A significantly lower amount of respondents indicated they change mowers' engines – 44 percent compared to 64 percent in 1997, which could again be attributed to smaller companies responding to the survey.

The first quarter of the year and "year-round" continue to be the most popular times of the year for contractors to plan their mower purchases (a combined 68.1 percent of respondents noted either of these time frames). And the first two quarters of the year continue to be the popular time for making the product purchase (68.2 percent).

When it comes to this decision-making process, certain factors continue to be most influential for contractors: quality of cut (41.3 percent); productivity (39.4 percent); maneuverability and price (31.7 percent); and service/support (27.9 percent). While price is always among the most impactful variables when it comes to making any product purchase, the improved mower technology brought to market in recent years (zero-turning radius capabilities and mulching deck performance, are two examples) combined with increased competitive pressures drive contractors to oftentimes invest more dollars in a machine that promises greater long-term rewards.

This priority on productivity was again obvious when contractors were asked what features will be included on the next mower they purchase. For walk-behind mowers, more than 54 percent will purchase a machine of deck size between 40 and 54 inches, more than 67 percent will purchase a machine with mulching capabilities, and the presence of hydrostatic drive is clearly becoming more important, as 72.2 percent said their next walk-behind mower would include this drive system, compared to 58 percent in 1997.

Purchase plans for riding mowers held fairly consistent with 1997 results, with increases being seen in the popularity of hydrostatic drives again (up almost 5 percent to 91.2 percent in 1998) and gas-powered engines (up 8 percent to 73.6 in 1998). Riding mowers with decks greater than 44 inches wide continue to dominate the market (favored by more than 75 percent of respondents).

The author is Assistant Editor of Lawn & Landscape magazine.

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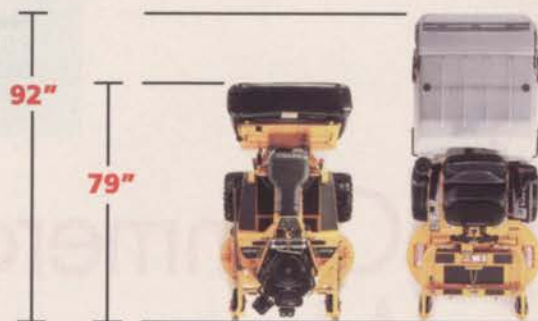


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ShortCut™ BAC-VAC™	✓	7 bushels	140 lbs	2460 sq ft	✓	✓	✓	Improves
Walker GHS		7.3 bushels	116 lbs	1668 sq ft				Forget it!

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Mowers

A

s part of the inaugural Commercial Mower Buyer's Guide, *Lawn & Landscape* is providing an overview of the products many mower manufacturers are currently offering professional contractors.

Included in this guide is a listing of companies that participated, along with each organization's contact information. Also following is a compilation of each manufacturer's walk-behind mowers, riding mowers, attachments and accessories.

COMPANY LISTINGS

Accelerator Industries

3031 67th Ave. SE
Mercer Island, WA 98040
800/984-9410

American Honda Motor Co.

4475 River Green Parkway
Duluth, GA 30096
770/497-6000

Black Rock Mfg.

1153 Industrial Blvd.
Louisville, KY 40219
800/314-8984

Bush Hog

2501 Griffin Ave.
Selma, AL 36701
334/874-3237

Dixie Chopper

6302 E. County Rd. 100 North
Coatesville, IN 46121
800/233-7596

Dixon Industries Inc.

Airport Industrial Park
Coffeyville, KS 67337
800/264-6075

Encore Mfg. Co. Inc.

P.O. Box 888
2415 Ashland Ave.
Beatrice, NE 68310
402/228-4255

Excel Industries, Inc.

P.O. Box 7000
Hesston, KS 67062
800/395-4757

Exmark Mfg. Co. Inc.

P.O. Box 808
Beatrice, NE 68310
402/223-6335

Ferris Industries

5375 N. Main St.
Munnsville, NY 13409
800/933-6175

Giant-Vac Mfg.

P.O. Box 195
South Windham, CT
860/423-7741

The Grasshopper Company

P.O. Box 637
Moundridge, KS 67107
316/345-8621

Gravelly

655 W. Ryan St.
Brillion, WI 54110
920/756-2141

Great Dane Power Equipment

305 S. New Albany St.
Sellersburg, IN 47122
704/846-6617

John Deere Commercial & Consumer Equipment Division

4401 Bland Rd.
Raleigh, NC 27609
800/537-8233

JRCO

P.O. Box 41304
Minneapolis, MN 55441
800/966-8442

Kubota Tractor Corp.

3401 Del Amo Blvd.
Torrance, CA 90503
714/557-3370

LESCO Inc.

20005 Lake Rd.
Rocky River, OH 44116
800/321-5325

MTD Pro

P.O. Box 361131
Cleveland, OH 44136
877/MTD PRO1

Quinstar

P.O. Box 424
Quinter, KS 67752
913/754-3355

Rich Mfg. Inc.

P.O. Box 145
Thorntown, IN 46071
765/436-2744

Scag Power Equipment

P.O. Box 152
Mayville, WI 53050
920/387-0100

Snapper Inc.

535 Macon Rd.
McDonough, GA 30253
888/SNAPPER

Shivers Mfg.

613 W. English
Corydon, IA 50060
515/872-2544

Steiner Turf Equipment

P.O. Box 504
Dalton, OH 44618
330/828-0200

Bobcat/Bunton/Ransomes

1721 Packard Ave.
Racine, WI 53403
888/299-TURF

Toro

8100 Lyndale Ave.
Bloomington, MN 55420
612/897-1799

TRU-CUT

3221 San Fernando Rd.
Los Angeles, CA 90065
323/258-4135

Walker Mfg. Co.

5925 E. Harmony Rd.
Fort Collins, CO 80528
970/221-5614

Woods Equipment Co.

P.O. Box 1000
Oregon, IL 61061
800/319-6637

Wright Manufacturing

18761 N. Frederick Ave.
Gaithersburg, MD 20879
301/330-0086

Yazoo/Kees Power

P.O. Box 4449
Jackson, MO 39296
800/723-9496 x. 337

Commercial
Mowers

Buyers' Guide

American Honda Motor Co.

DECK SIZE:	GAS OR DIESEL:	HYDROSTATIC VS. GEAR-DRIVE	MULCHING CAPABILITIES	LIQUID OR AIR-COOLED ENGINE:
21 inch	Gas	Hydrostatic/BBC	Yes	Air-cooled
21 inch	Gas	Gear/BBC	Yes	Air-cooled
21, 36, 48 inch	Gas	Gear	Yes	Air-cooled
21 inch	Gas	Push	Yes	Air-cooled
36, 48, 52, 60 inch	Gas	Hydrostatic	Yes	Air-cooled

Black Rock Manufacturing

32, 36 inch	Gas	Gear	Yes	Air-cooled
48, 52, 61 inch	Gas	Both	Yes	Air-cooled

Bobcat Textron Turfcare and Specialty Products

32, 36, 48, 52, 61 inch	Gas	Variable	Yes	Air-cooled
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Bunton Textron Turfcare and Specialty Products

32, 36, 48, 52, 61 inch	Gas	Both	Yes	Air-cooled
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Encore Mfg. Co. Inc.

32, 36, 48, 52, 60 inch	Gas	Both	Yes	Air-cooled
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Exmark Mfg. Co. Inc.

21, 32, 36, 48, 52 inch	Gas	Gear	Yes	Air-cooled
36, 48, 52, 60 inch	Gas	Hydrostatic	Yes	Air-cooled

Ferris Industries

36, 48, 52 inch	Gas	Belt Drive	Yes	Air-cooled
36, 48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled

Giant Vac Manufacturing


32 inch	Gas	Gear	Yes	Air-cooled
48 inch	Gas	Gear/Hydrostatic	Yes	Air-cooled

Gravelly

21, 36, 40, 50, 60 inch	Gas	Gear	Yes	Air-cooled
36, 40, 50, 60 inch	Gas	Hydrostatic	Yes	Air-cooled

Great Dane Power Equipment

36, 48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled
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WALK-BEHIND MODELS

John Deere

36, 48, 54 inch	Gas	Hydrostatic	Yes	Air-cooled
36, 48, 54 inch	Gas	Gear	Yes	Air-cooled

Lesco Inc.

32, 36, 48, 52 inch	Gas	Gear	Yes	Air-cooled
36, 48, 52, 54, 60 inch	Gas	Hydrostatic	Yes	Air-cooled

MTD Pro

48, 54, 58 inch float	Gas	Hydrostatic	Yes	Air-cooled
36, 48, 52 inch fixed	Gas	Hydrostatic	Yes	Air-cooled
48, 52 inch fixed	Gas	Gear	Yes	Air-cooled
32, 36 inch	Gas	Gear	Yes	Air-cooled

Rich Manufacturing Inc.

48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled
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Scag Power Equipment

32, 36, 48, 52, 61, 72 inch	Gas	Gear	Yes	Air-cooled
36, 48, 52, 61, 72 inch	Gas	Hydrostatic	Yes	Air-cooled

Snapper Inc.

36, 48 inch	Gas	Both	Yes	Air-cooled
52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled

Toro


Fixed 36, 48 inch	Gas	Gear	Recycler	Air-cooled
Floating SFS Deck	Gas	Hydrostatic	Recycler	Air-cooled
Floating SFS Deck	Gas	Gear	Recycler	Air-cooled
21 inch	Gas	Push	Recycler	Air-cooled
21 inch	Gas	Trans	Recycler	Air-cooled

Tru-Cut

21 inch	Gas	Push	Yes	Air-cooled
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Yazoo/Kees Power

22, 24, 26, 32, 36, 48 inch	Gas	Gear	Yes	Air-cooled
36, 48 inch	Gas	Hydrostatic	Yes	Air-cooled

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Introductory price for model Y550, effective to March 31, 1999. Freight and setup extra. Some dealers may sell for less.

Introducing the Farm King Triplex mower -
the gang mowing system with a new level of efficiency in more ways than speed.
There's no better or faster way to trim a turf. There's no machine that will last longer,
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Three models - 13', 16', and 19' cutting widths all for Cat. 1 hitches.



Farm King single model 3 pt. Hitch mowers set the standard in design efficiency. With their four height adjustable, free-swiveling pneumatic wheels, alloy hardened blades and the uniquely powerful vacuum created by the baffle deck, these mowers really are the best in their category. Choose from four sizes from 48" to 84" in rear or side discharge models.

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PH. 204-822-4467 Fax 204-822-6348

Call for the name of distributor nearest you

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Black Rock Manufacturing

DECK SIZE:	GAS OR DIESEL:	HYDROSTATIC VS. GEAR-DRIVE	MULCHING CAPABILITIES	LIQUID OR AIR-COOLED ENGINE:
48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled

Bobcat Textron Turfcare and Specialty Products

42, 61 inch	Gas	Hydrostatic	Yes	Air-cooled
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Bunton Textron Turfcare and Specialty Products

72 inch	Gas	Hydrostatic	Yes	Liquid-cooled
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Bush Hog

48, 54, 60 inch	Gas	Hydrostatic	No	Air-cooled
48, 54, 60 inch	Gas	Hydrostatic	No	Liquid-cooled

Dixie Chopper

42, 50, 60, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
60, 72 inch	Diesel	Hydrostatic	Yes	Liquid-cooled

Dixon Industries Inc.

42, 48, 50, 60 inch	Gas	Hydrostatic	Yes	Air-cooled
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Encore Mfg. Co. Inc.

42, 48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled
42, 48, 52, 61 inch	Gas	Hydrostatic	Yes	Liquid-cooled

Excel Industries

40, 48, 51, 54, 60, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
60, 72 inch	Diesel	Hydrostatic	Yes	Liquid-cooled
60, 72, 96, 146 inch	Diesel or Gas	Hydrostatic	Yes	Liquid-cooled

Exmark Mfg. Co. Inc.


44, 52, 60, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
52, 60 inch	Gas	Hydrostatic	Yes	Liquid-cooled

Ferris Industries

52, 61, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
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The Grasshopper Company

44, 48, 52, 61, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
44, 48, 52, 61, 72 inch	Gas	Hydrostatic	Yes	Liquid-cooled
44, 48, 52, 61, 72 inch	Diesel	Hydrostatic	Yes	Liquid-cooled

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RIDING MODELS

Gravelly

40, 50, 60 inch	Gas	Gear	Yes	Air-cooled
40, 48, 50, 60 inch	Gas	Hydrostatic	Yes	Air-cooled
50, 60 inch	Gas	Hydrostatic	Yes	Liquid-cooled
50, 60, 72 inch	Diesel	Hydrostatic	Yes	Liquid-cooled

Great Dane Power Equipment

48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled
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John Deere

38 inch	Gas	Gear	No	Air-cooled
38, 42, 46, 48, 54 inch	Gas	Hydrostatic	Yes	Air-cooled
54, 60, 72 inch	Gas	Hydrostatic	No	Liquid-cooled
54, 60, 72 inch	Diesel	Hydrostatic	No	Liquid-cooled

Kubota Tractor Corp.

54, 60, 72 inch	Diesel	Hydrostatic	Kit available	Liquid-cooled
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Lesco Inc.

54, 60 inch	Gas	Hydrostatic	No	Air-cooled
60, 72 inch	Diesel	Hydrostatic	No	Liquid-cooled

MTD Pro

54, 60 inch	Gas	Hydrostatic	Yes	Air-cooled
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Quinstar

36, 42, 50, 60 inch	Gas	Hydrostatic	Yes	Air-cooled
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Ransomes Textron Turfcare & Specialty Products

60, 63, 72 inch	Both	Hydrostatic	Yes	Both
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Rich Manufacturing Inc.

48, 52, 61 inch	Gas	Hydrostatic	—	Air-cooled
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Scag Power Equipment

48, 52, 61, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
61, 72 inch	Diesel	Hydrostatic	No	Air-cooled
52, 61 inch	Gas	Hydrostatic	No	Air-cooled
52, 61 inch	Gas	Hydrostatic	No	Liquid-cooled

Snapper Inc.

52, 61 inch (out-front)	Both	Hydrostatic	Yes	Both
73 inch (out-front)	Both	Hydrostatic	No	Both
52, 61 inch (mid-mount)	Gas	Hydrostatic	Yes	Air-cooled

Shivers Mfg.

48, 60 inch (out front)	Gas	Hydrostatic	Yes	Air-cooled
52, 60 inch (mid-mount)	Gas	Hydrostatic	Yes	Air-cooled

Steiner Turf Equipment

48, 60, 72 inch	Gas	Hydrostatic	Yes	Air-cooled
48, 60, 72 inch	Diesel	Hydrostatic	Yes	Liquid-cooled
48, 60, 72 inch	Gas	Hydrostatic	Yes	Liquid-cooled

Toro

44, 52, 62, 72 inch SFS	Gas	Hydrostatic	Recycler	Gas
48, 60 inch	Gas	Hydrostatic	Recycler	Gas

Walker Manufacturing Co.

36 to 54 inch	Gas	Dual Hydrostatic	Yes	Air-cooled
42 to 62 inch	Diesel	Dual Hydrostatic	Yes	Liquid-cooled
42 to 62 inch	Gas	Dual Hydrostatic	Yes	Liquid-cooled
42 to 62 inch	Gas	Dual Hydrostatic	Yes	Air-cooled

Woods Equipment Co.

48 inch	Gas	Hydrostatic	—	Air-cooled
61 inch	Both Available	Hydrostatic	—	Both Available

Wright Manufacturing

48, 52, 61 inch	Gas	Hydrostatic	Yes	Air-cooled
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Yazoo/Kees Power

50, 52, 61, 62 inch	Gas	Hydrostatic	Yes	Air-cooled
72 inch	Diesel	Hydrostatic	Yes	Liquid-cooled

EDITOR'S NOTE:

Lawn & Landscape attempted to contact and include every appropriate manufacturer of mowing equipment. A company's inclusion or exclusion in this guide should not be viewed as a comment on the quality of its products.

ATTACHMENTS & ACCESSORIES

Accelerator Industries

walk-behind mower grass catchers

American Honda Motor Co.

54-inch sweeper, 2-stage 38-inch snow-blower, sully

Bush Hog

ROPS front blade grass catcher

Dixon Industries

grass blower, dethatcher, grass catcher cart, snow blade, wheel weights/chains

Encore Mfg. Co. Inc.

grass catchers, mulch kits

Excel Industries

edgers, snow throwers, catchers, snow blades, v-blades

Ferris Industries

broom, debris blower, dozer blade, 2-stage snowblower

Giant-Vac Manufacturing

mulch kit, sully, grass catcher

The Grasshopper Company

AERA-vator, dozer blades, rotary brooms, snowthrower, tine rake dethatcher, V-snowplow, Quik-D-Tatch Vac collection systems, remote vac, ROPS, sunshade canopy, winter enclosure

JRCO

tine rake dethatcher, broadcast seeder-spreader for walk-behind and riding units, leaf blade plow, transporter tray for walk-behinds

Kubota Tractor Corp.

rotary mower, mulching kit, grass catcher, flail mower, front blade, snow blower, rotary sweeper

MTD Pro

baggers, mulch, standing sulkies

Quinstar

snow blower, snow blade, grass collection system

Rich Manufacturing Inc.

All chassis convert from a hydro walk-behind to a zero-turn rider. All deck and chassis are interchangeable. Attachments are 5-bushel paragon catcher and Trac Vac Lawn Vacuum

Scag Power Equipment

grass catchers, riding sulkies and mulching and miscellaneous accessories

Snapper Inc.

grass catcher, snowthrower, rotary broom, debris blower, snow blade

Steiner Turf Equipment

side discharge rotary for 48, 60, 72 inch; rear discharge rotary for 60 inch; mulching for 60 inch; 74 and 84 inch triplex reels

Textron Turf Care and Specialty Products

brooms, sweeper/blowers, snow blowers, sully, ROPS

Toro

recycler mulching kits, baggers (soft and hard), heavy duty air filter, deluxe suspension seat, mulching plates

TRU-CUT

steel catchers, mulching plate, side discharge and bag

Walker Manufacturing Co.

snowblower (2 sizes), rotary broom, dozer blade, dethatcher, debris blower, coulter blade edger, boom sprayer

Woods Equipment Co.

dozer blade, sweepster broom, snowthrower, cab enclosure, 15 and 25 cubic foot grass collection systems, mulching kits, side discharge deck

Wright Manufacturing

grass gobbler grass catcher

Yazoo/Kees power

grass catcher, sully, mulching kit

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Tine Rake Dethatcher

Call for nearest dealer
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Jrco

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more information
about
mowers

www.lawnandlandscape.com

Bad Blades Make Unkindest Cut



Mowing grass with dull, unbalanced or bent blades is like shaving with a bad razor – you're going to do damage.

But while a cut on you will heal without complications, the cut by a bad blade on turf opens up a world of problems. Dull blades will catch and rip, rather than cleanly cut, a turf leaf, resulting in a brown spot on the tip. In addition, the torn area is more open to disease infection.

Mowing with problem blades is also hard on the machine, and no one needs more downtime.

Proper attention to blades is critical for optimum turf appearance and vigor. Here are some general guidelines to keep you on the "cutting edge" of good mowing:

- **Straightness.** The blade should be checked regularly to ensure it has not been bent in use or transport. To check, raise the mower deck and mark the blade tip's position inside the housing. Then, rotate the blade until

the opposite end is at the same position and compare it to the mark. If the difference is greater than 1/8-inch, the blade is bent beyond reasonable tolerance and should be replaced.

- **Sharpness.** When you notice the blade is dull or nicked, it should be sharpened or replaced as soon as possible with an electric sharpener, a electric grinder or a hand file.

When sharpening, only the angled side should be ground down to about a 30-degree angle.

- **Balance.** Check the blade for balance by positioning the blade on a balancer, or put a nail through the center hole of the blade and position the blade parallel to the ground. If the blade does not move, then it is balanced. If one side goes down, grind some metal off that side until the blade is better balanced.

LL

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your catcher?*
TRY AN ACCELERATOR



- Light weight - approx. 18 lbs
- 1 year warranty
- Tough perforated aluminum construction
- Hinged back door/easy dumping system
- Great air flow - fully loads to 4.15 cubic feet
- Balanced handles for easy carrying
- Fit most major walk-behind mower brands

For more information call:
Accelerator Industries
1-800-984-9410

Also available for the 21" Honda &
John Deere models

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INTRODUCING THE 1999
COUNTRY CLIPPER®
MID MOUNT WITH
REVOLUTIONARY FLIP UP DECK



Operator comfort, ease of maintenance and durability is a priority with this workhorse. 10 MPH forward speed, 23" drive tires, single point one hand cutting adjustment from 1-1/2" to a full 5", a new rounded 7 ga. trim side heavy duty reinforced deck, up to 25 HP engines and now, the tilt up deck for easier maintenance.

For more information contact:

COUNTRY CLIPPER®
613 West English
Corydon, IA 50060
(800) 344-8237

USE READER SERVICE #161

Proper Cutting Heights Keep Turf **Lean & Mean**



One of the most important aspects of turf maintenance is proper mowing. Regardless of who's doing the cutting, it must be done right or the turf will suffer.

Below are characteristics of the most common turf species and how they are affected by mowing practices.

Kentucky Bluegrass is a sod-forming species with underground stems called rhizomes that give it the ability to recover from mowing too closely. Scalped bluegrass can look bald, can become weedy and is open to disease and insect problems such as billbugs, grubs and sod webworms.

Perennial Ryegrass is a bunch grass – each plant grows in clumps and produces side shoots called tillers to fill in turf areas. Turf areas that are scalped often lose individual plants resulting weed and disease problems.


Fine fescues are bunch grasses generally used in shady conditions. They produce more extensive tillers than tall fescue or perennial ryegrass. Scalping these grasses in shade areas will result in overall turf loss.

Tall fescues are bunch grasses. Each plant grows in clumps and produces tillers to fill in turf areas. Frequently scalped turf injures individual plants, resulting in weediness. Weakened areas can be more prone to brown patch or pythium diseases and more susceptible to drought stress. It is best mowed taller, thus taking advantage of its deep rooting habit.

Bermudagrass is fine-leaved with above ground runners called stolens. It has an extensive root system where sod is formed. When using a rotary mower, raise the deck one notch every six weeks until the mower is at the highest setting in fall to keep a green leaf at the end of the stolon.

Zoysiagrass is a sod-forming species that develops from underground rhizomes and above ground stolens. Scalping it may expose its heavy thatch area, making it slower to recover while promoting weeds and disease.

Centipedegrass regenerates by stolens, and, if scalped, its slow growth habit makes it slow to recover, inviting weed and spittlebug infestation.

St. Augustinegrass grows by above ground stolens and is shade tolerant, but abhors freezing temperatures. Scalping causes areas to open up to weeds and promotes leaf spot or patch diseases in its weakened state. – **Zenon Lis** 

The author is an agronomist with Burlingham Seed, Forest Grove, Ore.

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Variable Approaches

Improvements for sprayheads and rotors continue to focus on flexibility for contractors.

By Bob West

The world of sprinkler design won't be mistaken for computer software development where new ideas come along every few years that change the way everyone does business.

As most irrigation manufacturers readily admit, a healthy number of their competitors offer products similar to those they produce. Because of such similarities in product offerings, manufacturers continually search for ways to improve their products' performance, extend the life of their products or improve the way they service their customers.

It is in this light – servicing the needs of the

customer – that many irrigation manufacturers are reexamining the products they offer in search of areas for improvement.

NOZZLE KNOWLEDGE. There may be no greater segment of the irrigation product market that has generated as much feedback as the nozzles through which irrigation is delivered.

As a result, just about every manufacturer of sprinkler products has added nozzle trees and variable arc nozzles to its lineup of late.

The key to a variable arc nozzle is its versatility in that it can be easily adjusted to spray an arc anywhere from 10 or 15 degrees to 360 degrees, whereas fixed spray nozzles can only spray one specific pattern, explained Karen Holloway, product manager for contractor sprayheads, Rain Bird Sales, Azusa, Calif.

"With fixed arc nozzles, contractors have to carry a lot of different nozzles around, especially for system maintenance," Holloway added. "Variable arc nozzles let the contractor simplify that inventory to one 15-foot variable nozzle instead of a dozen 15-foot nozzles for different arc settings."

"If a contractor needs to change a sprayhead's arc setting with a fixed nozzle, then a

(continued on page 96)



Variable arc nozzles offer contractors increased flexibility, but the trade-off is that these nozzles cannot offer the same uniformity of spray across the arc. Photo: Hunter Industries

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sprinklers

(continued from page 93)

new nozzle needs to go in the sprayhead," noted Jeff Carowitz, marketing manager, Hunter Industries, San Marcos, Calif. "With an adjustable nozzle, the same nozzle can be used for just about any arc setting."

"Contractors want flexibility and convenience," observed Dirk Lenie, residential/commercial marketing manager, Toro

Irrigation, Riverside, Calif. "They want to reduce how many nozzles they stock, but as we see more odd shapes in the landscape contractors need more variety from the nozzles they use."

Some manufacturers are offering the variable arc nozzles preinstalled on sprayheads.

(continued on page 98)

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Are all precipitation rates the same? Absolutely not. Landscape irrigation systems and individual sprinklers themselves have widely varying precipitation rates.

The rates typically vary from:

- *Low*—less than ½ inch per hour (13 mm) and below
- *Medium*—½-1 inch per hour (13-25 mm)
- *High*—more than 1 inch per hour (25mm) and above

Matched Precipitation Rates. A zone or system in which all of the heads have similar precipitation rates is said to have "matched precipitation rates."

Systems that have matched precipitation rates reduce wet and dry spots and excessive run times, which lead to high water consumption and increased costs. Knowing that sprinkler spacing, flow rates and arcs of coverage affect precipitation rates, a general rule of thumb is: as the spray arc doubles, so should the flow.

90° Arc	= 1 gpm (0.23 m ³ /hr; 3.8 l/m)
180° Arc	= 2 gpm (0.45m ³ /hr; 7.6 l/min)
360° Arc	= 4 gpm (0.91 m ³ /hr; 15.1 l/min)

The flow rate of half-circle heads must be two times the flow rate of the quarter-circle heads. That way, the same amount of water is applied to each quarter circle area and precipitation is therefore matched.

— *Courtesy of Hunter Industries*

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sprinklers

(continued from page 96)

"Preinstallation saves the contractor time and money," Holloway noted. "These have proven popular with projects like tract home developments that tend to be more price sensitive because they save nozzling time."

Plus, contractors continue to be frustrated by the organizational headache of stocking so many different fixed arc nozzles for possible replacement needs.

"When contractors lose nozzles then they lose money," observed Chip Kah, president, K-Rain, Riviera Beach, Fla. "Using variable arc nozzles lets them reduce the number of different products they have to stock, which is also a benefit for distributors."

"High-end contractors still tend to use more plastic fixed arc nozzles or mill cut brass nozzles because they offer better performance and water saving characteristics," added Gary Hilton, prod-

(continued on page 100)

Maximum Precipitation Rates

Soil Texture

Coarse, sandy

Coarse, sandy

over compact subsoil

Uniform, light sandy loam

Light, sandy loam over

compact subsoil

Uniform silt loams

Silt loams over

compact subsoil

Heavy clay or clay loam

Maximum Precipitation Rates: Inches Per Hour

Soil Texture	0-5% SLOPE		5-8% SLOPE		8-12% SLOPE		12%+ SLOPE	
	Cover Bare	Cover Bare	Cover Bare	Cover Bare	Cover Bare	Cover Bare	Cover Bare	Cover Bare
Coarse, sandy	2.00	2.00	2.00	1.50	1.50	1.00	1.00	1.50
Coarse, sandy over compact subsoil	1.75	1.50	1.25	1.00	1.00	0.75	0.75	0.40
Uniform, light sandy loam	1.75	1.00	1.25	0.80	1.00	0.60	0.75	0.40
Light, sandy loam over compact subsoil	1.25	0.75	1.00	0.50	0.75	0.40	0.50	0.30
Uniform silt loams	1.00	0.50	0.80	0.40	0.60	0.30	0.40	0.20
Silt loams over compact subsoil	0.60	0.30	0.50	0.25	0.40	0.15	0.30	0.10
Heavy clay or clay loam	0.20	0.15	0.15	0.10	0.12	0.08	0.10	0.06

The maximum PR values listed are as suggested by the U.S. Department of Agriculture.

The values are averages and may vary with respect to actual soil condition and condition of ground cover.

Courtesy: Irritrol Systems

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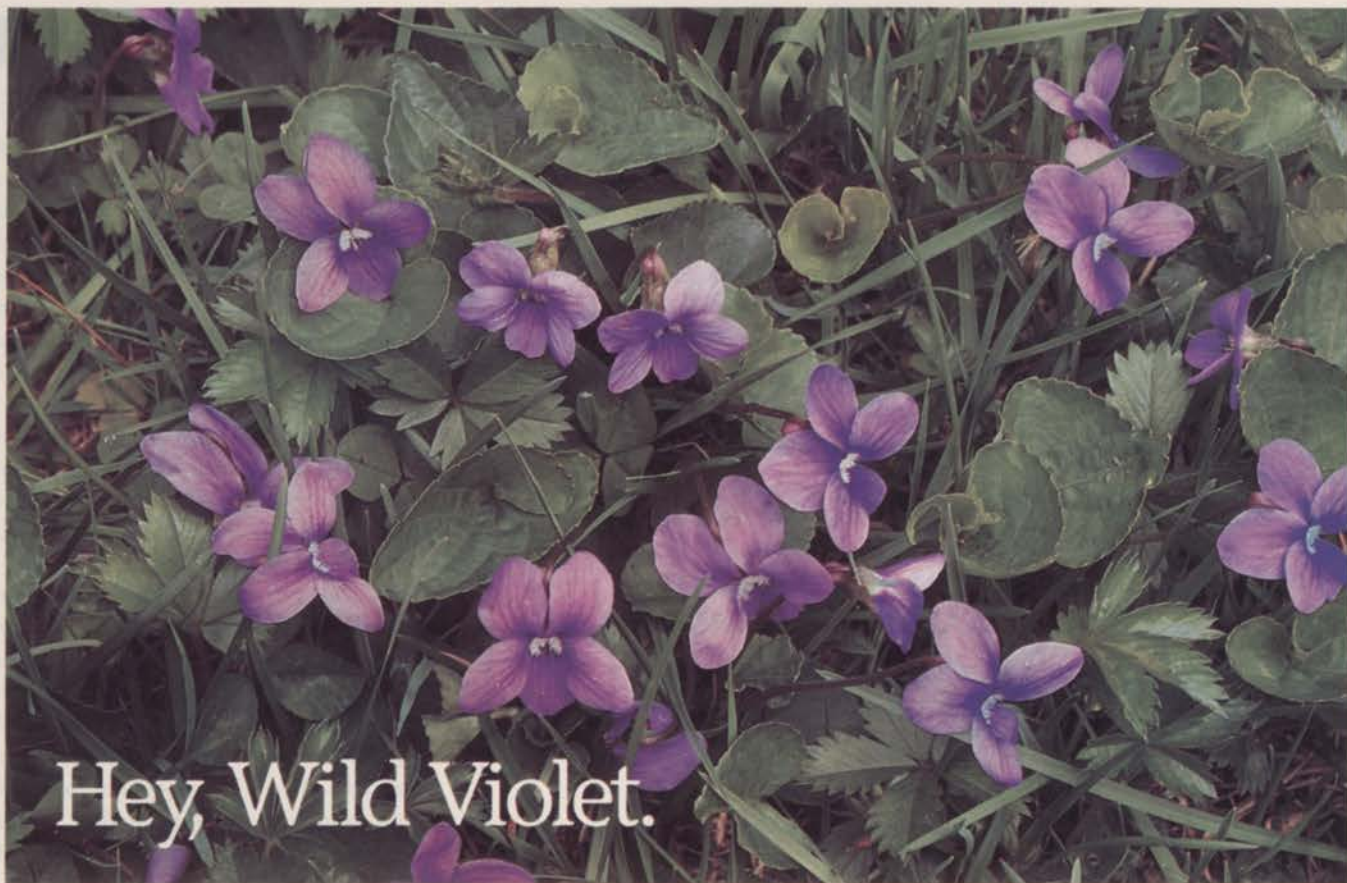
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(continued from page 98)

uct manager, Weather-matic, Dallas, Texas. "Dealing with variable arc nozzles is really a double-edged sword in that way, but their performance has really been improving in the last few years."

"The trade off with adjustable nozzles is that they don't water as well," added Lenie. "They won't have as good a distribution

pattern and they can't be as consistent across the breadth of the spray arc compared to fixed spray nozzles. Fixed sprays are simply designed to deliver better irrigation and there's more precision molding in their manufacturing process."

"Manufacturers are trying to improve the application rates so even if contractors

don't have matched precipitation rates with different adjustable nozzles, the rates are at least in the same ballpark," agreed Laura Lopez, category manager for sprayheads, Irritrol Systems, Riverside, Calif., adding that changing the arc setting for some sprayheads may also change the flow rate, thereby creating the potential for over or underwatering.

One area in which manufacturers are trying to shift the irrigation paradigm somewhat is by increasing the applications of pop-up sprayheads in low-volume irrigation situations via microspray nozzles.

"New microspray nozzles let contractors combine the advantages of low-volume irrigation with the benefits of buried pop-up sprayheads so they don't have to worry about tubing or other maintenance problems some low-volume systems can create," noted Lenie. "The low-volume nozzles fit on standard, fully retracting pop-up sprayheads and are designed for use with landscape beds, ornamental and shrubs."

"Some contractors tend to be leery of low-volume systems because of the tubing involved and the fact that a specifier's plans call for a drip system, but that one system could include a number of plants with different irrigation requirements," commented Lopez. "The low-volume nozzles can deliver water at rates as low as 10 gallons per hour in a 3- to 4-foot radius in a spray pattern with zero trajectory that will hit below the plant's foliage."

MIX AND MATCH. Despite manufacturers efforts to increase the versatility of pop-up sprayheads, the market continues to gradually move toward using more short- and mid-range rotors in place of the sprayheads.

"Using rotors allows a contractor to put more sprinklers on one line and cover greater area," Carowitz noted. "Rotors are also more efficient because sprayheads apply water too quickly at times and waste water via runoff."

While rotors will cost more than sprayheads on a per-unit basis, Carowitz explained that contractors need to examine the overall costs of the entire system with rotors replacing sprayheads.

"Since rotors have a greater coverage area than sprayheads, contractors can install fewer zones and less pipe, which translates into less

(continued on page 102)

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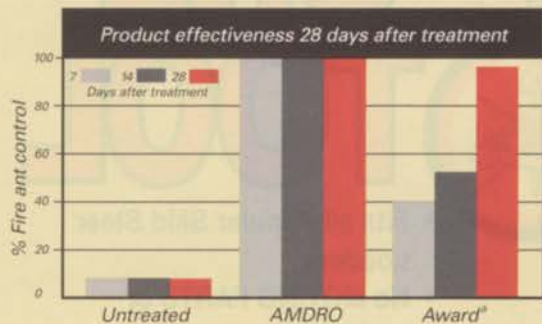
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sprinklers

(continued from page 100)

labor and significant savings," he pointed out.

Kah was in such agreement with Carowitz about the value of rotors that he predicted the shift from sprayheads to rotors will be

seeing a trend in the housing market toward houses with smaller yards, which will translate into more low-cost irrigation systems," Kah commented. "So part of this trend will be driven from a cost standpoint as contractors have to keep systems as simple and easy to install as possible."

Increased nozzle selection has also been a trend for rotors.

"Obviously, arc variation doesn't take place in the nozzle for rotors but in the rotor itself," noted Christine Pappas, rotors product manager, Rain Bird, Azusa, Calif. "But we are seeing more rotors sold with nozzles pre-installed as a convenience factor.

"The number of nozzles available for rotors has also increased," she continued. "Now, there can be as many as 12 or 16 nozzles available for a rotor, depending on the manufacturer. And this is important

because we're trying to serve a wide range of customers who are dealing with a variety of applications from low-angle applications to pressure compensating needs."

Other manufacturers have noted the addition of greater pop-up heights for rotors – as high as 12 inches – for applications that place the sprinklers close to shrubs.

"Contractors should get away from having sprinklers on shrub risers because performance isn't as good as with rotors designed for those applications," related Lenie.

One other improvement for some rotors has been the addition of "memory arc" capabilities that enable the rotor to automatically return to its setting if a vandal twists it or it is bumped off course.

"This feature will save contractors call-backs where they would otherwise have to reset the rotor's arc," added Kah. **LL**

The author is Editor of Lawn & Landscape magazine.

'High-end contractors still tend to use more plastic fixed arc nozzles or mill cut brass nozzles because they offer better performance and water saving characteristics.'

– Gary Hilton, Weather-matic

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School of Management Schedule

Sunday, February 14

9:00 a.m.	Tournament of Champions Golf Outing
5:00 - 6:30 p.m.	Opening Session "Leaving A Legacy: Developing Your Company's Entrepreneurial Spirit" <i>Jim Paluch, JP Horizons, Painesville, Ohio</i>
6:30 - 8:00 p.m.	Welcome Reception

Monday, February 15, 1999

8:00 - 9:00 a.m.	Breakfast Workshop "Structuring Your Company For Success" <i>Jack Mattingly</i>
9:00 - 10:30 a.m.	General Session "The Green Industry and The New Millenium" <i>Moderator: Cindy Code</i> <i>Speakers: Bruce Wilson, Environmental Care, Inc.</i> <i>Chris Davitt TruGreen-ChemLawn</i> <i>Bill Murdy, LandCare USA</i> <i>Scott Brickman, The Brickman Group</i>
10:30 - 10:45 a.m.	Refreshment Break
10:45 a.m. - 12:00 p.m.	M1 Hiring, Firing and Everything In Between: A Legal Perspective M2 10 Ways To Be Successful In The Landscape Industry M3 Tax & Succession Planning
12:00 - 1:30 p.m.	Sponsor Product Showcase Lunch
1:45 - 2:45 p.m.	M4 Attracting and Keeping Good Employees M5 Identifying New Profit Opportunities M6 Financial Management For Your Company M7 Talking To Your Customer About Chemicals
2:45 - 3:00 p.m.	Refreshment Break
3:00 - 4:00 p.m.	M8 Marketing Strategies That Make The Phone Ring M9 Effective Leadership: What's Your Style? M10 10 Ways To Be Successful In The Landscape Industry (R)
4:00 - 5:00 p.m.	M11 How Regulations Impact Your Business M12 Managing Growth Effectively M13 Successful Sales Strategies: Turning "No" Into "Yes"
5:15 - 6:30 p.m.	Networking Cocktail Reception

Tuesday, February 16, 1999

8:00 - 9:00 a.m.	Breakfast Workshop "State of the Industry Report" <i>Moderators: Cindy Code and Bob West, Lawn & Landscape magazine</i>
9:15 - 10:30 a.m.	T1 Expanding Your Service Offerings To Customers T2 Winning Customer Service Strategies T3 Identifying New Profit Opportunities (R)
10:30 - 10:45 a.m.	Refreshment Break
10:45 - 12:00 p.m.	T4 Defeating The Obstacles Between You and \$1 Million T5 Protecting Your Investment: Risk Management Strategies T6 Building A Budget
12:00 - 1:30 p.m.	School of Management Lunch Series "Solving The Labor Crisis: A Panel Discussion" <i>Moderator: Bob West, Lawn & Landscape magazine</i>
1:45 - 2:45 p.m.	T7 Emerging Technologies T8 Creating A Corporate Image T9 Maximizing Your Margins in Design/Build
2:45 - 3:00 p.m.	Refreshment Break
3:00 - 5:00 p.m.	General Session "Financially Speaking: Strategies for Staying Ahead of the Competition" <i>Frank Ross, Ross-Payne Associates, Barrington, Illinois</i>

(R) = Repeat Session

Opening Session

Sunday, February 14
5:00 - 6:30 p.m.

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Jim Paluch

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- Inject positive energy into your decision making process.
- Draw a blueprint of how to turn ideas and concepts into reality.
- Motivate your employees to achieve more.
- Accurately measure your personal and company goals.
- Create a "can do" team attitude within your company.
- Regain the fire that made you a winner.

Speaker: Jim Paluch, JP Horizons, Painesville, Ohio

Sponsored by Kawasaki

Monday, February 15, 1999



Schedule Highlights

8:00 - 9:00 a.m. Breakfast Workshop

"Service Systems That Make Your Company More Profitable"

Learn strategies to make sure your company's operational systems are up-to-speed and ready to meet the challenges of a growing business. Take home valuable information on:

- How to identify and correct weak areas in your operations chain.
- How to properly train employees to follow existing systems.
- How to implement new systems.
- How to improve your balance sheet through better organization.

Speaker: Jack Mattingly, Woodstock, Georgia

12:00 - 1:30 p.m. Sponsor Product Showcase Lunch

Attendees can take a walk through a "live" exhibit hall without leaving your chair as you take in a preview of the latest product, equipment and service offerings available to the lawn and landscape contracting industry from the official sponsor partners of the 1999 Lawn & Landscape School of Management.

Sponsored by Woods
Equipment Company

1:45 - 2:45 p.m. Educational Sessions

M4 Attracting and Keeping Good Employees

Discover where to look for quality people and how to "sell" your company to potential employees and learn how to develop compensation packages, job descriptions and career opportunities that make potential hires want to join your team and existing employees tear up their resumes.

Speaker: Jean Seawright,
Seawright & Associates,
Winter Park, Florida

General Session

9:00 - 10:30 a.m.

General Session

"The Green Industry and The New Millenium"

Take a look at the future of your business in this dynamic School of Management General Session while you listen to the leaders of the United States' four largest lawn and landscape contracting firms discuss where the industry is headed as we approach the millenium. Find out what drives these multi-million dollar operations, how they went about getting to the top and, more importantly, how they plan on staying there.



Scott Brickman



Bill Murdy



Chris Davitt



Bruce Wilson

Moderator: Cindy Code
Panelists:

Bill Murdy, LandCare USA

Chris Davitt,
TruGreen-ChemLawn

Bruce Wilson,
Environmental Care, Inc.

Scott Brickman,
The Brickman Group

Sponsored by Toro Sitework Systems

10:45 a.m. - 12:00 p.m. Educational Sessions

M1 Hiring, Firing and Everything In Between: A Legal Perspective

The legal challenges that come with the hiring and dismissal processes, and the multitude of related issues such as sexual harassment, drug testing and discrimination, have small business owners looking for answers.

Speaker: Jean Seawright, Seawright & Associates, Winter Park, Florida

M2 10 Ways To Be Successful In The Landscape Industry

Take home a laundry list of tips and strategies designed to help you deliver higher quality work, great customer service, set and measure goals, learn to be versatile and how to enhance your communication skills.

Speaker: David Minor, Minor's Landscape Services, A TruGreen-ChemLawn Co., Ft. Worth, Texas

M3 Tax & Succession Planning

Discover year-end tax planning strategies that will help you keep more of the money you earn for investment in your company's future and learn tips for making sure your family and your employees are on solid financial ground after you retire.

Speaker: Robert West, Sr., West & Co., Cleveland, Ohio

M5 Identifying New Profit Opportunities

This valuable session will show you creative, innovative methods to unearth new business opportunities and turn previously unknown accounts into profitable, long-term customers for your company.

Speaker: Roger Braswell, Southern Tree & Landscape Companies, A LandCare USA Co., Charlotte, N.C.

M6 Financial Management For Your Company

Learn the keys to successful financial statement and cash flow analysis, financial projections, forecasting and budgeting, investment portfolio performance analysis and obtaining financial backing for growth.

Speaker: Robert West, West & Co., Cleveland, Ohio

M7 Talking To Your Customers About Chemicals

In this must-attend session hear tips on how to discuss chemical usage with customers and how to present scientific information in a fashion that is understandable and reduces their apprehension.

Speaker: Dr. Mark Coffelt, AgrEvo, Kansas City, Missouri

3:00 - 4:00 p.m. Educational Sessions

M8 Marketing Strategies That Make The Phone Ring

This information-packed session will review proven marketing strategies on how to "target" market your service offerings to meet specific customer groups and receive a bigger bang for your marketing dollar.

Speaker: Bud Brewer, Massey's Green Up, Maitland, Florida

M9 Effective Leadership: What's Your Style?

Every company needs an effective leader to guide it on the road to success. In this informative session you'll learn the different styles of leadership and discover what style is best suited for you and your company.

Speaker: Bill Hoopes, Scotts LawnService, Marysville, Ohio

M10 10 Ways To Be Successful In The Landscape Industry

For session description, see Session M2
Speaker: David Minor, Minor's Landscape Services, A TruGreen-ChemLawn Co., Ft. Worth, Texas

4:00 - 5:00 p.m. Educational Sessions

M11 How Regulations Impact Your Business

Get caught up on the latest regulatory issues impacting the green industry and find out how you should prepare your company, your employees and your customers to respond.

Speaker: Gary Clayton, All Green Corporation, Marietta, Georgia

M12 Keeping Your Eye On The Ball: Managing Business Growth

Every landscape contractor or lawn care professional has been faced with the question of whether or not to expand their operation in hopes of capturing additional market share. Discover how to judge if your market and your company are ready to support such a move, and what systems are needed to make it happen.

Speaker: Jack Mattingly, Woodstock, Georgia

M13 Successful Sales Strategies: Turning A "No" Into A "Yes"

Learn the steps to creating an effective sales plan and how to refine existing plans to meet the demands of today's consumers. Discover how to focus on the key issues that generate positive sales leads and how to get your sales staff to be creative and successful in getting the customer to sign on the dotted line.

Speaker: Ed Wandtke, Wandtke & Associates, Columbus, Ohio

Reception

5:15 - 6:30 p.m. Networking Cocktail Reception

Join with your fellow School of Management attendees for some power networking as you enjoy your favorite beverages and snacks. Renew old acquaintances and make valuable new contacts as you share experiences with lawn and landscape contractors from across the country.

Sponsored by RedMax

Tuesday, February 16, 1999

Schedule Highlights

8:00 - 9:00 a.m.

Breakfast Workshop "State of the Industry Report"

Looking for the latest information on the where the lawn and landscape industry is headed? If so, then spend an hour getting the latest data on what's happening in the areas of labor, wages, prices, competition, profitability and consolidation. You'll also review the annual *Lawn & Landscape* Top 100 List of the highest revenue producing lawn and landscape companies in North America, the green industry's most comprehensive rankings.

Speakers: Cindy Code and Bob West, Lawn & Landscape magazine

9:15 - 10:30 a.m. Concurrent Educational Sessions

T1 Expanding Your Service Offerings To Customers

Looking for ways to expand the market for your services is a goal every lawn and landscape contractor shares. In this informative session, discover proven strategies on how to effectively market your add-on services to customers, how to strengthen the customer/company bond and how to increase your market share in the process.

Speaker: Phil Fogarty, Scotts LawnService, Euclid, Ohio

T2 Winning Customer Service Strategies

Review practical customer service strategies that you can take back and immediately implement in your company. Discover systems that will allow you to measure your customer service efforts and make you a star with customers, energize your employees and increase revenue.

Speaker: June Van Klaveren, Compelling Communications, Manchester, Missouri

T3 Identifying New Profit Opportunities

For session description, see Session M5

Tuesday Educational Sessions Continued On Page 6



10:45 - 12:00 p.m.
Concurrent Educational Sessions

T4 Defeating The Obstacles Between You and \$1 Million

It's the magical number every business owner shoots for when first starting out - reaching \$1 million in revenue. Take home useful tips on how to plan effectively, how to budget your time and resources so that you can place your company in position to crack the seven figure mark and then some.

Speaker: Richard Bare, Arbor-Nomics, Atlanta, Georgia

T5 Protecting Your Investment: Risk Management Strategies

One slip is all it takes to put your company in the hot seat with an unwanted lawsuit or workman's compensation claim. Learn tips on how to avoid common service mistakes that trigger lawsuits and how you can protect your company, employees and customers.

Speaker: Ed Van Istendal, B. & D.A. Weisburger Insurance, White Plains, N.Y.

T6 Building A Budget That Works

One of the most important aspects of operating a successful landscape contracting or lawn care business is setting and following accurate budgets. In this session, you'll walk through the budgeting process from start to finish and learn how to develop a budget that allows your company to be responsive to opportunities and responsible to the bottom line.

Speaker: Ed Wandtke, Wandtke & Associates, Columbus, Ohio

1:45 - 2:45 p.m.
Concurrent Educational Sessions

T7 Emerging Technologies

In this information-packed session, hear how these new technologies will impact the way you conduct your operations, as well as how they will impact your employees and customers. Learn how to maximize new technologies to improve the efficiency and effectiveness of your service and how to make that reflect positively on your profit statement.

Speaker: Barry Troutman, Environmental Care, Inc., Orlando, Florida

12:00 - 1:30 p.m.

School of Management Lunch Session

"Surviving The Labor Crisis"

Join us for this special Lawn & Landscape School of Management session where you'll hear from a panel of owners and managers who have dealt with the ups and downs of the labor crisis in their businesses. Hear what strategies they've taken to make the recruitment process more effective, how they've handled the strong influx of Hispanic workers into the industry and how they've gone about improving employee retention numbers and expanding career opportunities. Come ready to hear what is being done to solve the current labor crisis and to ask your important questions on a topic that has a far-reaching impact on the industry.

Moderator: Bob West, Lawn & Landscape magazine

Sponsored by AgrEvo

T8 Creating A Corporate Image

Image is everything. Discover useful tips on how to "brand" your services and shape your company's image with customers and employees alike, and present an image that says, "Yes, I am a professional. How can I help you?"

Speaker: Bud Brewer, Massey's Green Up, Maitland, Florida

T9 Maximizing Margins In Design/Build

Without a good fix on what it will cost in labor, materials and time, a contractor will struggle to make a profit on their work. Learn proven formulas for maximizing your margins in design/build and how to properly analyze a job's costs before placing a bid.

Speaker: Joe Skelton, Lifescapes, A TruGreen-ChemLawn Co., Atlanta, Ga.

Closing Session

"Financially Speaking: Strategies for Staying Ahead of the Competition"

In this powerful session, discover how to analyze your current business financial systems and identify problem areas that restrict your ability to make decisions and seize opportunities. Learn how to implement financial systems that turn the average into the above average and how to unearth

3:00 - 5:00 p.m.

strategies for improving your return-on-investment. Discover how to analyze your competition financially and see how you stack up against them and, more importantly, how to stay ahead of them.

Speaker: Frank Ross, Ross-Payne Associates, Barrington, Illinois



Sponsored by Shindaiwa

Come Early To Save and Have Fun!



Make plans to come to Atlanta on Saturday, February 13, and save on your travel expenses while you enjoy the many exciting attractions this world-class city has to offer. By coming a day early you'll save money on your airfare and you'll be able to participate in the School

of Management Tournament of Champions Golf Outing or spend the day exploring Atlanta. To take advantage of the special airfares to Atlanta on Continental and Delta Airlines, contact the School of Management's Travel Coordinator Robin Stancik at 440/845-4922.

Registration Info

Full Conference Registration

\$195

Includes choice of breakout sessions, general sessions, Monday and Tuesday lunches, Monday and Tuesday continental breakfasts, refreshment breaks, Sunday Welcome Reception and all conference materials.

Group Discount Registration

\$160

For companies registering three or more attendees; includes full conference registration package.

One-Day Registration

\$110

Includes choice of breakout sessions, general session, continental breakfast, lunch, refreshment breaks and conference materials.

Lawn & Landscape Tournament of Champions Golf Outing

\$75

Sunday, February 14, 1999

Includes greens fees, cart, lunch, prizes and transportation

Cancellation/Substitution/Refund Policy


All cancellations must be made in writing. A full refund will be accepted if postmarked by February 1, 1999. Those received after February 1, 1999 are subject to a \$50 cancellation fee. No refund less than seven days before conference. For the golf tournament advance payment is required and no cancellations after February 10, 1999. *No on-site refunds.* Attendees can notify Lawn & Landscape at any time that another individual will attend the conference or social events in their place.

Confirmations

All registrations postmarked by February 1, 1999 will be acknowledged by mail. Registrations received after that date should be picked up at the Lawn & Landscape School of Management Registration Desk at the Marriott Gwinnett Place Hotel starting Sunday, February 14, 1999 at 1 p.m.

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Hotel Information

A

block of rooms has been reserved for Lawn & Landscape School of Management attendees at the Marriott Gwinnett Place Hotel.

Conveniently located in Atlanta's rapidly growing perimeter area, the Marriott Gwinnett Place is an ideal host for the Lawn & Landscape School of Management. The hotel is easily accessible from all major interstates serving the Atlanta area and a short shuttle ride from Atlanta's Hartsfield International Airport.

Attendees should make their reservations directly with the hotel on or before **January 24, 1999**, to receive the special conference room rate of **\$99** per night (single/double, plus tax). Please identify yourself as an attendee of the Lawn & Landscape School of Management to receive the special rate. For reservations, call the Marriott Gwinnett Place at **800/228-9290** or **770/923-1775**.

Discount Travel Information

Lawn & Landscape has arranged for special discount airfare on Continental Airlines, the official airlines of the 1999 Lawn & Landscape School of Management. To take advantage of the discount rates, please contact Lawn & Landscape's Travel Coordinator Robin Stancik at 440/845-4922 and mention the Lawn & Landscape School of Management conference. To qualify for the discount airfare rates, reservations **must** be made through Robin Stancik.

Airport Transportation

The Marriott Gwinnett Place is located approximately 25 miles from Atlanta's Hartsfield International Airport. It is advised that attendees take the airport shuttle to the hotel to avoid costly taxi fare. For shuttle reservations, contact AAA Express at 404/767-2000. Round trip fare is \$32. The shuttle service leaves from outside the baggage claim area of the terminal.

Registration Information

By Mail or FAX:

Complete this form and mail or fax it to Lawn & Landscape School of Management, 4012 Bridge Ave., Cleveland, OH 44113, 216/961-0364 (fax). A check payable to Lawn & Landscape School of Management or credit card authorization (VISA, MasterCard and American Express) must accompany the registration form. Check must be drawn in U.S. dollars and drawn on a U.S. Bank. There will be a \$25 fee for returned checks or rejected credit cards.

By Phone:

Call Lawn & Landscape School of Management at 800/456-0707 between 9:00 a.m. and 5:00 p.m. EST through February 12, 1999. You can charge your registration to VISA, MasterCard or American Express.

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Registration Form

(Please print or type. Form may be photocopied for additional registrants)

First Name _____ Last Name _____
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School of Management Attendee Check List

- Completed Registration Form
- Included Method Of Payment
- Circled Breakout Sessions You Plan On Attending
- Made Hotel Reservations At Marriott Gwinnett Place
- Registered For Golf Outing
- Called For Discount Travel Information

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Full Conference Registration	\$195		
Group Discount Registration	\$160 <small>(3 or more)</small>		
One Day Registration	\$110		
Golf Outing	\$75		
Extra Ticket To Sunday Welcome Reception	\$20		
Extra Ticket To Monday or Tuesday Lunch	\$20		

Total

School of Management Educational Session Selection (Please circle session selections)

M1	M2	M3	M4	M5	M6	M7	M8
M9	M10	M11	M12	M13			
T1	T2	T3	T4	T5			
T6	T7	T8	T9				



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The Multi-Purpose Machine

Compact utility vehicles are not replacing skid-steer loaders, but they are giving contractors a mechanized way to manipulate tight areas and replace lost labor.

By Nicole Wisniewski

L

ike most landscape companies today, Clyde Haase's business, Haase Landscape, Spokane, Wash., has spent many peak seasons short of labor.

While patiently searching for much-needed employees last summer, Haase stumbled upon the perfect replacement for a worker, a wheel barrel and a shovel: the compact utility loader.

"I knew it was a pricey piece of equipment," Haase said of the approximately \$16,000 to \$20,000 machine. "But the more I looked at it, the more I realized it would probably save me money in the long run because of its benefits."

While Haase wouldn't give up his full-size skid-steer loader for what some people are calling a "mini" version, he said it is an asset to his equipment fleet because it does



Landscape contractors are calling the compact utility loader an asset to their equipment fleet because it can squeeze into small spaces. Photo: Leon Manufacturing's Ramrod Division

what a full-size machine cannot do: squeeze into small spaces and turn the operator into a laborer within seconds.

Currently, Toro Sitework Systems, Kanga Loaders USA and Leon Manufacturing's Ramrod Division dominate the sales of the compact utility loader market, but this market is growing in popularity as manufacturers continue to produce similar machines and more landscape contractors consider it their next machine purchase of preference.

skid steers

NAME-CALLING. "It's not a skid-steer," said Pat Cappucci, marketing manager, Toro Sitework Systems, Minneapolis, Minn., of the compact utility loader. "The wheels turn and the machine skids, but that's not properly classifying it based on lift capacity, operating capacity, tip-up capacity and, primarily, hydraulic capacity."

The operating capacity of a full-size skid-steer loader is typically one-half of its tip-up capacity, Cappucci said. It is made for lifting 2,000- to 2,500-pound pallets of sod and high caliper trees and it is built to do this quickly.

"Anything can haul dirt," said Lee Callaway, marketing manager, Case Corp., Racine, Wis. "The question is, 'How fast do you need it hauled?' A good skid-steer loader should be strong enough to hold a 4- to 6-inch caliper tree in its tree spade at full reach and still have quality lift capacity while moving at speeds up to 11 miles per hour."

Even the smaller skid-steers with lift

capacities around 885 to 900 pounds vs. the 3,000- to 3,650-pound lift capacity of the full-size skid steer are built to do some pretty serious lifting, said Peter Mabee, product and marketing manager, Thomas Equipment Ltd., New Brunswick, Canada.

Generally, compact utility loaders have a width of somewhere between 32 and 41 inches and a maximum lift capacity of approximately 550 pounds.

"They can squeeze into some areas that the full-size skid-steer loader can't, and they can still accept all of the attachments of the larger machines," Mabee pointed out.

AN EXPERIMENT IN HYDRAULICS. The compact utility loader, Cappucci said, was designed to run hydraulic attachments and to increase the productivity of a work crew.

Some compact utility loaders operate on

The compact utility loader was not designed to be a skid-steer loader. It was designed to run hydraulic attachments and to increase the productivity of a landscape crew.

a "controlled" dual-hydraulic system, Cappucci pointed out, for the maximum application of usable power.

"If the machine has two hydraulic pumps, you can control the amount of hydraulic flow and where it's going," Cappucci said. "If you don't need the extra power for the hydraulic attachment, then you should be able to direct more power toward the wheels so the machine moves faster."

The compact utility loader, essentially, becomes a "power unit" for the driver, said Don Reed, marketing manager, Leon Manufacturing's Ramrod Division, Yorkton, Saskatchewan, Canada.

"At first, the machine was looked at as a toy," Reed explained. "Contractors would

(continued on page 114)

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skid steers

(continued from page 112)

say, "That's nice, but I've got my Bob-Cat." But spaces got smaller and contractors wanted a machine to replace manual labor."

MECHANIZED LABOR. Let the compact utility loader do the backbreaking work for you, said Alan Porter, president, Kanga Loaders USA, Bixby, Okla.

"The primary functions of a compact loader virtually eliminate wheelbarrows, shovels and rakes," Porter said.

It takes the place of workers using their own back strength to dig holes, trench, auger and level, agreed Wesley Hadsell, owner, HadcoServices, Bartlesville, Okla.

"I haven't had a back injury at my company since I bought my first one three years ago," Hadsell remarked. "I used to have one to two back injuries annually."

The compact utility loader has also shortened the time required for jobs previously done manually, Hadsell enthused.

"The machine replaces three laborers,"

For Rent

For landscape contractors who cannot afford a compact utility loader just yet or cannot warrant the purchase because of the lack of time they think they will use it, renting is always an option.

Many equipment rental companies have noticed the popularity of the machine, while at the same time taking note of its price tag, said Jack Bloss, owner, Bloss Sales and Rental, Tulsa, Okla.

"It's basically a new machine because people don't know all about it yet, and it's definitely

he enthused. "It can dig a hole in three minutes, instead of the 30 to 40 minutes it used to take three of my laborers."

As opposed to the person working a full-size skid-steer, who is seated in a cabin-like

new to equipment renters," Bloss said.

Ninety percent of the people Bloss rents to are landscape contractors. He bought the compact utility loader in March and has since rented it 55 times.

While the machine itself, depending on the amount of attachments sold with it, costs between \$16,000 and \$20,000, Bloss can rent the basic machine with a bucket for \$140 every 24 hours or the full package, including auger, for up to \$200 every 24 hours.

"Most of our rentals are one- to two-day rentals," Bloss noted. "I think it's been a successful addition to the equipment we rent thus far and I think it will continue to do well. As labor gets harder and harder to find, there will be a greater need for machinery to do the work."

—Nicole Wisniewski

cage compartment, the one who operates a compact utility loader is always one step away from assisting with or moving to another job, Hadsell added.

(continued on page 116)

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skid steers

(continued from page 114)

"My laborers are never more than 3 feet away from their work when they use this machine," he said. "The operator of a large skid-steer is stuck in the machine directing traffic because it is difficult for him or her to crawl in and out frequently."

Because a worker is standing on the back of a compact utility loader, he or she also has full visibility, Cappucci added.

"You're in reverse about 60 percent of the time, especially when trenching and leveling, so you need visibility," he noted.

The stand-on concept, first introduced on compact loaders in 1981, according to Porter, has become an industry norm with mowers now using the same feature.

"The concept allows for greater machine operator productivity as he or she can dismount and help with manual tasks quickly," Porter explained.

IRREPLACEABLE. Although the compact utility loader is much slower than the full-size



The stand-on concept was first introduced on compact utility loaders in 1981, and has become an industry norm with mowers now using the same feature. Photo: Toro Sitework Systems

skid-steer loader, moving at approximately 3.75 miles per hour opposed to the 11 miles per hour of the full-size machine, its greatest advantage is its size.

"I use it to install hardscapes and get into sidewalk areas," Haase pointed out. "And it doesn't tear up the site on its way there."

Even though there are obvious advantages to owning both a skid-steer loader and a compact utility loader, some contractors cannot purchase both machines because of cash flow concerns associated with these machines' price tags.

Henry Holcombe, co-owner, H&H Landscaping, Candler, N.C., purchased his

company's first compact utility loader last July in place of a full-size skid-steer loader.

Most landscape contractors say, ideally, they would have a compact utility loader and a skid-steer loader in their equipment fleet. Haase and Hadsell have both machines and, if given the choice, said they couldn't choose one over the other.

"The machines don't replace each other," Hadsell said. "I'm fortunate to have both. Some contractors can only afford one. They are each worth their weight in gold." **LL**

The author is Assistant Editor of *Lawn & Landscape* magazine.



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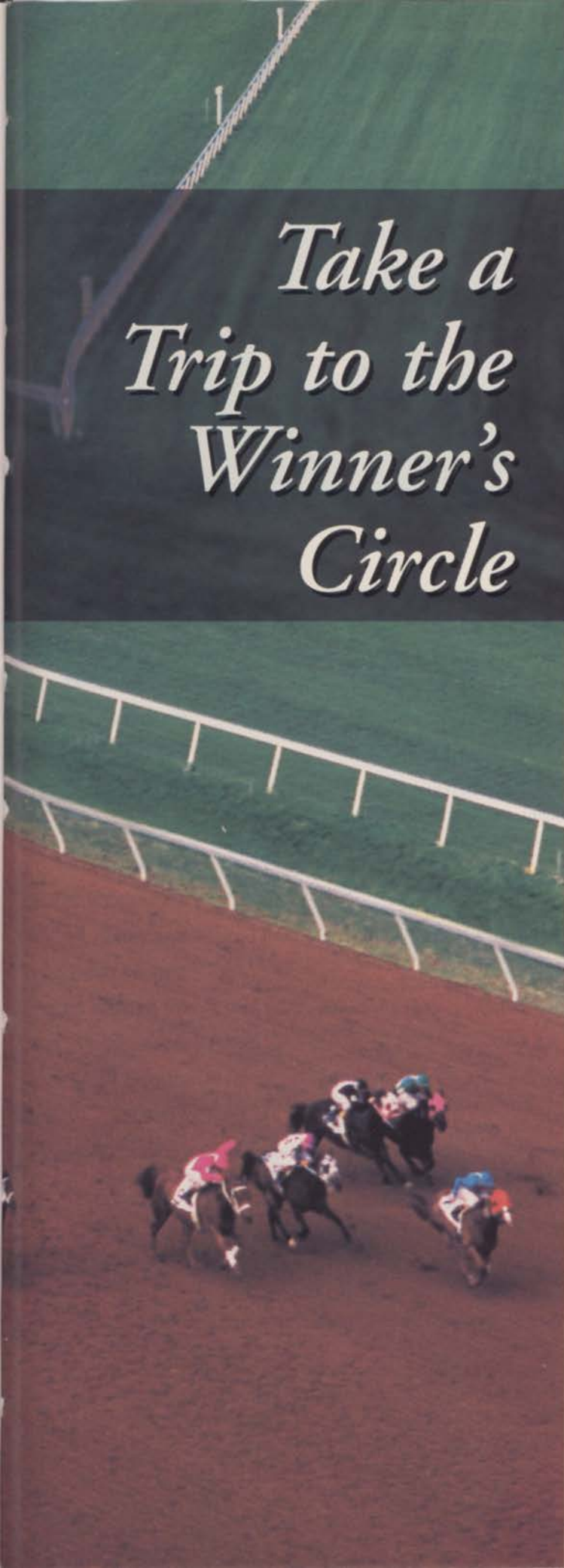
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USE READER SERVICE #10

On Solid Ground

Preparing a level base is the most crucial part of installing a retaining wall.

By Nicole Wisniewski



(Above) By taking the proper steps when preparing the retaining wall base, contractors can ensure a level, long-lasting wall.

Photo: Anchor Diamond

(Below) When a base trench is not deep enough, the retaining wall is not protected from erosion and scouring. Photo: Versa-Lok

T

here is $\frac{3}{8}$ -inch of mortar between each course of block in a basement wall, pointed out Jim Gruendemann, training coordinator, Versa-Lok Retaining Wall Systems, Oakdale, Minn.

"That's why when it comes to preparing the base for a retaining wall, landscape contractors are better than masonry workers," Gruendemann explained. "If the base of their basement wall isn't level, masons can correct any errors made in leveling the base along the way as the wall increases in height because of this mortar joint. When landscape contractors build retaining walls, they don't have the option of correcting these mistakes because retaining walls don't have mortar joints. So, landscape contractors have to be as accurate as possible when preparing a retaining wall base."

Ironically, however, when it comes to installing a retaining wall, landscape contractors generally rush through base preparation because it is so time consuming. Gruendemann noted that as much as 70 percent of the time it takes to install a retaining wall, depending on its height, should be spent on getting the base course down and level.

"If you don't take the time to get the base course level, the retaining wall will look terrible," Gruendemann advised. "Problems in the base course don't go away as you build the wall. Instead, inconsistencies get magnified as the wall gets taller."

By taking the extra time to make sure the base is at an adequate trench depth, compacted enough and level, landscape contractors can ensure their customers will get a strong, long-lasting, maintenance-free retaining wall.

(continued on page 120)



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retaining walls

(continued from page 118)

TRENCH DEPTH. When excavating, contractors generally forget to dig an adequate trench depth for the particular height of the wall they are building, said Blaine French, regional sales manager, Keystone Retaining Wall Systems, Minneapolis, Minn.

"When there is inadequate trench depth, the wall doesn't have a lot of protection from erosion and scouring and, eventually, the base will be exposed," French warned.

The general rule, he explained, is to bury 1 inch of block for every 8 inches of wall height plus 4 to 6 inches of road-based material, such as crushed aggregate, and 1 inch or less of sand on the very top of the base to assist in the leveling process of the retaining wall blocks.

"So, for a 6-foot wall, you need 9 inches of block buried plus 6 inches of road-based material plus 1 more inch of sand," French stated. "Some contractors forget about the 4 to 6 inches of road-based material needed."

After figuring out the trench depth and



If the crushed aggregate used for a retaining wall base is not compacted properly, it can settle over time causing an uneven wall. Photo: Versa-Lok

beginning the excavation, French emphasized the importance of making sure the hole is free of loose organic material, such as soil, before and during the preparation of the base because organic material can settle over time, causing leveling problems after the wall has been installed.

COMPACTION. The 4 to 6 inches of road-based material in a retaining wall base can also settle if it is not compacted enough in the initial preparation.

"A wall could be dead level when it is installed and within one year the consolidation of the road-based material could result in an uneven wall," French pointed out.

Although, according to French, 75 percent of landscape contractors use vibratory plate compactors to make sure their base is compact, Stephen Jones, president, Pavé Tech, Bloomington, Minn., recommended vibratory trench rollers and reversible plate rammers because they are faster and apply a

(continued on page 122)

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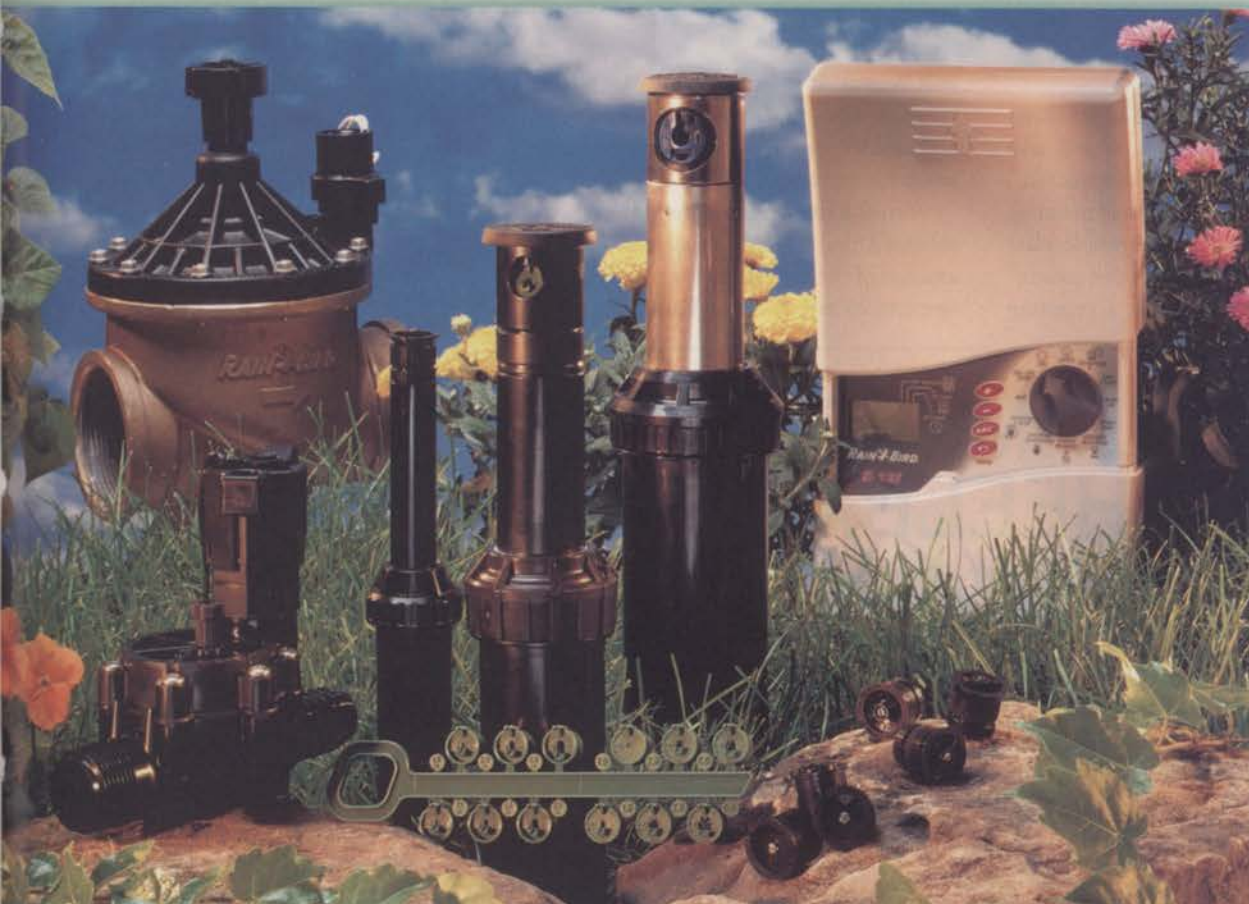


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USE READER SERVICE #86

(continued from page 120)

greater amount of force.

"For 3 to 4 inches of road-based material, a vibratory plate compactor will take four to six passes to get it all compacted," Jones remarked. "For 12 inches of material, vibratory trench rollers or reversible plate rammers can do the job in just two passes."

The ideal compaction for a retaining

wall base is 95 percent standard proctor, Gruendemann said, meaning the material will be at 95 percent of its maximum density when compacted.

A trick to making sure the stone is consolidated into a dense mass is to cut the amount of the material being compacted at one time in half, said Dan Kaczmarek, sales

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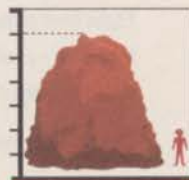
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• Keystone Retaining Wall Systems, Minneapolis, Minn., 612/897-1040 or www.keystonewalls.com.

• Paveloc Industries, Marengo, Ill., 800/590-2772.

• Pave Tech, Bloomington, Minn., 800/728-3832.

• Versa-Lok Retaining Wall Systems, Oakdale, Minn., 800/770-4525 or www.versalok.com.

representative, Paveloc, Marengo, Ill.

"Rather than trying to compact all 8 inches of a specific base, start with 4 inches, then compact the second 4 inches on top of it," Kaczmarek recommended. "It's very hard to measure the tightness or compaction of aggregate. Generally, it takes some field experience to know that the material is compacted enough. Cutting the material in half can solve some of those problems."

LEVEL IT OUT. Most landscape contractors, Gruendemann said, "eyeball" the evenness of the retaining wall they are installing.

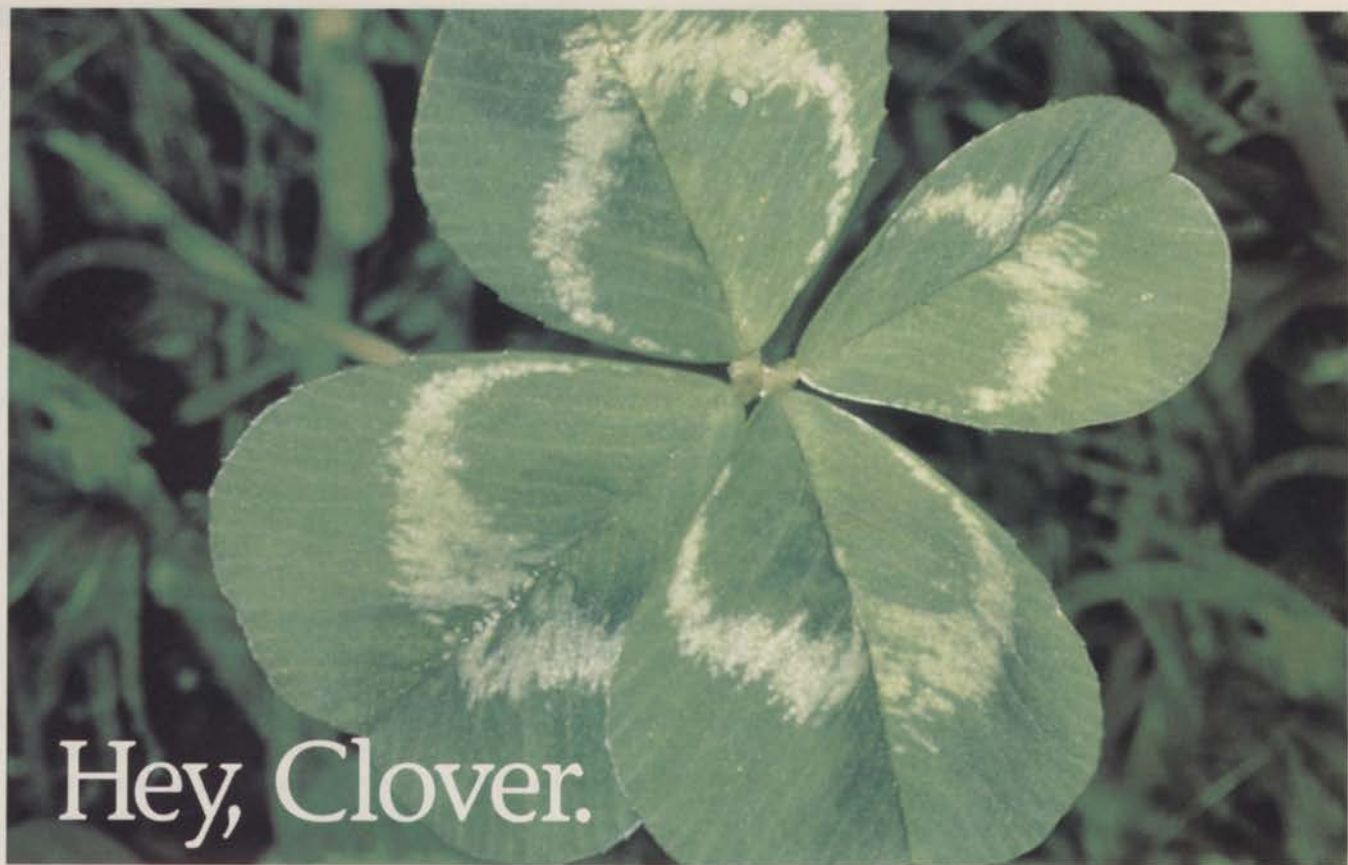
"For contractors who have an eye for it, that's OK," Gruendemann commented. "But it's not the most accurate method."

One way Gruendemann recommended fixing the problem is by using metal screed rails. (Using wood is not advised due to the bowing and warping that can happen over time, causing inconsistencies in the leveling process.) Gruendemann suggested using 10-foot-long pieces of tubular steel, leveling the base at the top of the rails.

"A lot of contractors feel that it takes too long to use screed rails," he said. "It's a perceived hassle, but in actuality it makes the process go a lot faster and it ensures a level wall."

The 1 inch of sand placed on top of the compacted road-based material can also aid in the leveling process, French said.

(continued on page 124)



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retaining walls

(continued from page 122)

"Compacted road-based material becomes very hard, like concrete, and develops irregularities," he commented. "This

make the material very difficult to level on top of. By adding sand on top of the compacted material, you have the extra room to tap the wall blocks down when you're trying to level them out."

Once the base is in and level, most retaining wall products are simple to install, Kaczmarek said.

From the point of excavation, trench depth and compaction play a big part in the leveling process, Gruendemann pointed out.

(continued on page 126)

'Problems in the base course don't go away as you build the wall. Inconsistencies get magnified as the wall gets taller.' –

Gruendemann

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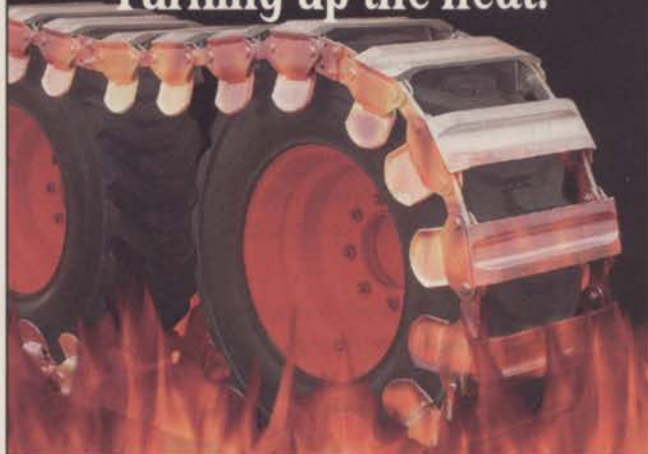
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(continued on page 126)

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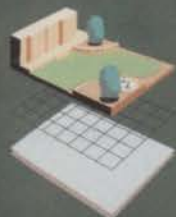


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USE READER SERVICE #55

retaining walls

(continued from page 124)

Each step in the base preparation process is important to the other, he said, because, essentially, the base is the foundation for the entire retaining wall above it.

"It's not rocket science," Gruendemann said, "but you do have to be precise to get it done right."

The author is Assistant Editor of *Lawn & Landscape* magazine. **LL**

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(continued from page 124)

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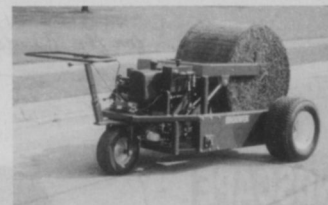
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Quality is a vital concept in any organization, but many times it is just a topic that comes up in meetings and conversations.

How often is a serious change actually implemented in order to better the quality and services of a company?

Implementing a good quality program goes beyond setting up a few checks and balances. It needs to be a total philosophy in an organization. For many businesses today, this philosophy is better known as Total Quality Management.

In the past few years, this concept has been popping up in the landscaping industry and making a difference in several organizations. DeSantis Landscapes is one such company that implemented TQM to become a stronger and more successful company.

"When I first heard about the philosophy, I knew it fit us. It is similar to our own philosophies," explained Tony DeSantis, president of DeSantis Landscapes, Salem, Ore. "It was the idea of involving people. We focus on top quality in services and treating people with respect."

Explaining the ideas behind TQM is not as easy as just offering a simple definition. It is a complex philosophy with many different meanings and ideas. It also symbolizes something different to every organization subscribing to its principles. In its simplest terms, TQM is a method of leading and enabling employees to continually improve what they do and how they do it in order to provide clients exactly what they want in a manner that pleases them beyond their expectations while the company's cost decreases.

BASICS BEHIND THE CONCEPT. The beginnings of TQM can be traced to the work of Dr. W. Edwards Deming, who developed his System of Profound Knowledge as a compre-

(continued on page 130)

Using the principles of Total Quality Management, companies have become more productive, efficient and successful.

By Angela Dyer



Total Quality Management's philosophy

focuses on taking customer service to the highest level by leading and enabling employees to constantly improve what they do on a daily basis. Photo: L&L Staff

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USE READER SERVICE #33

(continued from page 128)

hensive theory for management. Deming's teachings of his management philosophy in Japan, starting in 1950, created a transformation in Japanese business resulting in the "Japanese industrial miracle." After his teachings flourished overseas, they were accepted in U.S. industries as well.

According to Deming's book, *The New Economics*, a manager of people needs to understand that all people are different. He or she needs to understand that an individual's performance is governed largely by the system that he or she works in, which is the responsibility of the management. Deming further outlines his ideas on this necessary transformation in his 14 Points for Management (see sidebar, p. 132).

These ideas began infiltrating the lawn and landscape industry at the 1992 Associated Landscape Contractors of America's Crystal Ball Committee meeting. The committee members spent time studying the ideas behind TQM so it could taken to the

organizations and used to make landscape firms more successful.

According to the Crystal Ball Report, TQM "involves managing one's business in a manner that ensures that each step of the process of selling a job to a client, preparing to do that job, doing the work and following up afterward is done with total quality in order to please the client and to continually reduce waste of time, material and effort."

From these discussions and findings, Tom Lied, CEO of Lied's Landscape Design and Development, Sussex, Wis., decided to explore this philosophy as a viable option for his organization.

"TQM is a management philosophy that we stand for so it was a way to put a name to it," Lied explained.

MAKING THE SWITCH. Studying TQM is one matter, but actually going ahead with imple-

menting the ideas in the workplace is another.

"We had been reading a lot about TQM," Kurt Kluznik, president of Yardmaster Inc., Painesville, Ohio, remarked. "We thought it would be a more efficient way to decrease cost and increase customer service."

For everyone who knows about TQM, there are that many descriptions of it and that many ways to implement it. Many companies have completely different approaches depending on what each feels comfortable with.

"We never followed a book or the terminology. We just got strong into teambuilding - having meetings, sharing concerns, trying to get everyone involved," DeSantis said. "Our major focus was in employee empowerment. Empowerment is our strength."

Even though everyone has different ideas

(continued on page 132)



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total quality management

(continued from page 130)

about how to get started with TQM, there are a few important things to do first and foremost. According to James McCrory, a creative technology consultant who specializes in business improvement projects, it is necessary to establish the purpose of the effort. Articulate and clarify why the organization needs to do it. It is important to ask, what does quality mean to us? What is the reason we're trying to do this?

Harry Bell, president and CEO of Quality Resources International, a quality consulting and training organization, Hudson, Ohio, also suggested where to start when making the switch.

"Only the owner or senior management has the resources to make TQM work," Bell observed. "You have to be impatient to get results, but patient to let people work and get it right. If you're not committed, there is only a matter of time before TQM fails."

For Lied, implementation echoed some of Bell's tips. Lied used a step-by-step pro-

cess taken from the Crystal Ball Report.

"First, there needs to be management buy-in. Next, you need to start a process by which you start doing these things that are successful, and others will see this and ask questions. Top management can unroll the principles from here," Lied explained.

Lied added that once implementation is underway, it is necessary to step back and put someone in charge. That person should establish a process for everyone to follow.

IMPLEMENTATION. Obviously, there are several step-by-step programs that can guide an organization to a TQM philosophy. Each company needs to establish the best way for it to put the TQM principles to work. What follows is a list of seven steps as described by James McCrory based on the book *Implementing TQM in Small and Medium-Sized Organizations* by Richard M. Hodgetts.

1. *Develop a quality focus by creating a vision and/or mission statement.*

Dr. W. Edwards Deming

1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive, stay in business and to provide jobs.
2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities and take on leadership for change.
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system of production and service to improve quality and productivity and thus constantly decrease costs.

6. Institute training on the job.

7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul as well as supervision of production workers.

8. Drive out fear so that everyone may work effectively for the company.

9. Break down barriers between departments. People in research, design, sales and production must work as a team to foresee problems of production and in use that may be encountered with the product or service.

10. Eliminate slogans, exhortations and targets for the work force asking for zero defects and new levels of productivity. Such exhorta-

tions only create adversarial relationships as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the work force.

- Eliminate work standards (quotas) on the factory floor. Substitute leadership.

- Eliminate management by objective. Eliminate management by numbers, numerical goals. Substitute leadership.

11. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from sheer numbers to quality.

12. Remove barriers that rob people in management and in engineering of their right to pride of workmanship. This means abolishment of the annual or merit rating and of management by objective.

13. Institute a vigorous program of education and self-improvement.

14. Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job.

total quality management

It is important to develop an individual understanding of what "quality" means in a specific company. If quality doesn't have a concrete meaning, then the company isn't ready to move to step two.

2. *Identify customer needs.*

Surveying internal and external customer needs is a key step. What problems are out there that can be solved by improving quality? This grounds a company's efforts firmly in reality and allows it to deal with real-world needs and problems.

3. *Design an organizational structure that helps implement a quality-driven strategy.*

According to Hodgetts, the most important step is to find a person who can lead the TQM effort and make it a success.

4. *Train the associates in the necessary tools and techniques.*

A good way to reduce wasted efforts is to train workers in effective problem identification so they don't waste time solving the "wrong problem."

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5. Give and get feedback from both internal and external customers.

Feedback from employees will show how management is perceived, while feedback from customers will tell the manager what they like and dislike about a new company philosophy.

6. Develop an effective recognition and reward system.

Identify meaningful rewards for a specific organization, and make sure everyone has a chance to participate and qualify for rewards.

7. Create the necessary climate for maintaining continuous improvement efforts.

This is the final and most powerful key where real gains are made. This allows the company to continually improve and enables the development of many other competitive advantages.

PITFALLS AND CHALLENGES. Although these seven steps may seem easy enough, there are



plenty of hurdles that get in the way of creating a TQM environment.

According to Lied, one of the hardest parts of implementing TQM is establishing the priorities and working towards them.

"One of the hardest things for the champions to do is walk the talk," Lied added. "The hardest thing to do initially is to separate the mental concept of what quality is. Only the customers know that."


Another challenge seems to be the time that is necessary in making TQM work. "I would say there is a lot of work involving meetings and diagramming. A lot of employees' input and involvement is needed, and this makes it time consuming," Kluznik noted. "This is a hard concept to understand so the hardest part is producing tangible results. It's a lot different than training someone on new equipment. This is a never-ending process."

Kluznik's sentiments were echoed by Bell when he described the number one pitfall he sees happen to many organizations. "Not only is it the lack of involvement, but don't expect implementation to be overnight," Bell remarked. "It's more evolutionary than revolutionary."

ADAPTING TO THE CHANGE. One key principle that individuals who have implemented TQM programs note repeatedly is that employee involvement is critical to TQM success. Sometimes it can be difficult to convince employees that a major shift in the whole company's thinking and philosophy is for the good of the organization. Change is not often perceived as good, so different organizations have different ways to present the concept.



"Getting it past some people who were pretty narrow in their thinking was difficult," DeSantis explained, adding that the

(continued on page 136)



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(continued from page 134)

concept wasn't formally presented. "We are presenting it all of the time when there is turnover and new people come in. We have to teach them that we're a company that is going to succeed together."

At Yardmaster, TQM was presented to managers and they were responsible for training their own teams. "I think it was positive and I don't think it's a controversial approach," Kluznik said. "But it might be a little confusing because it's a difficult concept to grasp."

Reactions to the concept can obviously vary and for Ken DeSantis, a maintenance supervisor at DeSantis Landscapes, TQM has been beneficial.

"Actually, my reactions were open. I had come from the Air Force Reserves and they had been going through TQM, so I was excited to see us adopting the policies," Ken DeSantis explained. "Now, my voice has a place where it's heard. If I have an idea I know it will at least be considered. Through

the whole period, I felt that I had more say and ownership."

Similarly, Jud Griggs, manager of landscape design and development for Lied's, has also gained responsibilities under the TQM principles.

"It's more of now understanding my authority and responsibility and knowing when I can make decisions," said Griggs. "It's not everything from the top down anymore. I also give my staff more responsibility. I try to be there as a resource instead of a dictator."

Another benefit to the philosophy is that the managers are given more time for planning and overseeing the organization while the other employees are given more autonomy in the daily activities.

"Now, I spend most of my time with long-range planning and general overseeing," Tony DeSantis said. "I sometimes miss the opera-

tional things that I used to do more of, but there are payoffs both ways."

Kluznik also mentioned similar changes took place with his job responsibilities. "The number of people who report to me has been reduced. I don't have as many daily responsibilities as before," he related.

After management and the employees have learned to make the necessary adaptations, the benefits can be worth the effort. In order to make the implementation a success there is one last rule to keep in mind during the entire process.

"One important thing is that TQM has to be important to the specific company," Bell explained. "The company needs to make the philosophy as big as it needs to be. Make sure that every step of the way, TQM is adding value." **LL**

The author is Assistant Editor of Lawn & Landscape magazine.





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Atlanta 1999

Working Smart



At the Lawn & Landscape School of Management, Ed Wandtke explored the principles and styles of leadership.

By Angela Dyer

ork smart instead of hard. This was at the heart of Ed Wandtke's lecture at the 1998 *Lawn & Landscape School of Management*. His message focused on management styles and how to make a company more efficient while motivating the employees. He also didn't forget to touch on that important factor of how to profit while applying his ideas in the workplace.

For Wandtke, a green industry consultant with Mollica and Associates, Westerville, Ohio, information comes from his many years in the industry. "You're profitability is a direct function of your management style. I've been in the business for 24 years. I've analyzed companies. I've watched. I've listened. I've asked questions. Then I go in and study them some more," he explained.

MANAGEMENT STYLES. When wanting to lead, the hardest thing to figure out, according to Wandtke, is how not to be addicted to the business. The key is making money while not being busy. Managers try not to be busy by organizing their schedules and making "to do" lists. They end up working on problems that come up throughout the day and interfere with their original schedule, which means nothing on the "to do" list was completed. Wandtke calls these people firemen.

"They watch the fire and wait for the bell to ring. Then they run to

that location and solve the problem," Wandtke said. "My father figured out that as a fireman you've got to get the other people to do that. So when it comes down to organization you've got to be careful. You better get organized."

In this quest for organization, it is important not to work long and hard. "If you find you're working too long maybe you've got to find out how to get smarter. That can be through education," Wandtke noted. "The more you go, the more you learn. The more you read, the more you learn. The more you talk to people, the more you learn."

As a part of being organized, it is important to set goals for the employees as well. For example, are the workers so organized that they know what is expected of them, or do they only work when management is in the office? It is necessary to get them excited about being at work, which means managers have to know their personalities and know what gets them excited.

"While you were gone, maybe someone brought in coffee and donuts to make the day start up differently. But if someone brought it in when you're not there, then they already had a different attitude about you being gone," Wandtke explained.

One of the challenges in overcoming a problem like this is how to get people to think and act differently. It's important to do things that the employees don't expect. Do things that are good and positive, and that encourage creativity.

"Maybe you can't motivate all of the people, but you've got to find the ones that you can and put the right motivation in there. Know your people. How well do you know their personality? When you put this all together it spells loyalty," Wandtke noted.

In addition to motivating, a sign of good leadership is to teach by example. However, problems can occur when a manager spends too much time showing a skill and too little time letting the employees actually do it. "If your employees do a job right but never repeat it, they will have forgotten it," Wandtke said.

Also, as a leader, getting employees involved is critical to a company's success. "Get the ideas rolling. Get people contributing. Get them to participate," he continued. "You know there is never a bad idea. We may not use them all today, but we've got to get it on the table so we can consider it."

CUSTOMER SERVICE. "One of the things people ask me to do is tell them when to diversify. I say never," Wandtke said.

He explained that even though there may be customers



When wanting to lead, the hardest thing to figure out, according to Wandtke, is how not to be addicted to the business.



have to listen, listen, listen. A manager who retains his customers attends to his customers' needs and communicates," he added.

When a manager makes a promise to a customer about what their property will look like, those promises need to come true. This is also true for promising that the work will be done under a certain timetable. "Have you gone back to see if you're really delivering what you promised?" Wandtke asked.

"I have a client who quit her old job and started up a lawn care business. She doesn't advertise. If you look at her properties, they stand out because someone is always looking at her properties to see what they look like."

TURNING A PROFIT. According to Wandtke, one of the problems in this business is making money. He finds employees making more than the owner, who has all the risk and probably founded the business, but only pays himself after everyone else.

He defines an entrepreneur as the type of person who discovers at the end of the year they only made \$20,000. "You've taken all of the risk and all of the employees gain out of this. Then when they see all of the frustration you're going through they want to leave and they do. They become a competitor. This person who left wants to do one thing well, and that is where they start their business."

The manager who runs a profitable business is the manager who figured out how to empower his employees to make more money, which thereby allows him or her to make more also," Wandtke asserted.



The author is Assistant Editor of Lawn & Landscape magazine.

It's Show Time

The annual GIE and Irrigation Association shows continue to grow in scope and attendance.

By Bob West

Of it's winter, then it's time for the steady diet of green industry trade shows and conventions to be highlighted by the Green Industry Expo and the International Irrigation Show, and both shows appeared to be proof of a thriving green industry with their record-setting attendance figures.

The GIE Show, the joint effort of the Associated Landscape Contractors of America, the Professional Lawn Care Association of America and the Professional Grounds Management Society, drew a collective 5,500 attendees to Nashville, Tenn., this year. Meanwhile, the Irrigation Association's annual show broke its 1996 attendance record by more than 25 percent when it brought almost 7,000 attendees to San Diego.

While the three associations working together on the GIE Show each offer a variety of educational sessions to their members, the trade show also continues to grow and the always popular outdoor equipment demonstration has

Bill Murdy, LandCare USA, Ron Schmoyer, ISS, Bruce Wilson, Environmental Care, Craig Ruppert, then of TruGreen-ChemLawn, and Scott Brickman, The Brickman Group, discussed consolidation in the industry.

Photos: L&L Staff



ALCA Launches Educational Foundation

In addition to enjoying its largest Landscape & Grounds Maintenance Conference as part of the 1998 Green Industry Expo in Nashville, Tenn., the Associated Landscape Contractors of America also introduced its Educational Foundation.

The Foundation, which was created to fund college scholarships for students studying landscape-related fields, was created with the support of 10 individual or corporate donors of \$25,000 each. In total, the Foundation has already raised approximately \$400,000.

"This vision of the fund is a concrete dedication to the future leaders of our industry, born out of the entrepreneurial spirit pervading ALCA," noted Chris Kujawa, chairman of ALCA's education committee.

The scholarships will be awarded each year as part of ALCA's Student Career Days event. — **Bob West**

Deere Boosts Evergreen Foundation

The Evergreen Foundation, formerly known as the Professional Lawn Care Association of America's Education & Research Foundation, received a \$25,000 donation from John Deere that will go to support the Foundation's work on projects that will encourage the development of greenways and help knit a national greenway system.

"The national greenways vision provides an appropriate mission for our industry," noted Greg Doherty, manager of division support for the John Deere Worldwide Commercial & Consumer Equipment Division. "It gives us an opportunity to work closely with environmental advocates to contribute something valuable to communities across the country – wildlife habitat and trails for walking and bicycling. It fosters an appreciation of green space."

The intent of the Foundation is that once projects are approved then participating green industry associations will ask their members in that geographical area to support the project through volunteering time and services and donating equipment and materials.

Any groups or persons interested in supporting the Evergreen Foundation can contact Betsy Demoret at 770/977-5222. — **Bob West**

(Left) Chris Kujawa speaks at an ALCA press conference held to introduce the ALCA Educational Foundation. Photo: L&L Staff



Record attendance of 2,200 attendees and 83 exhibiting companies at the outdoor demonstration area, held before the trade show, gave contractors the opportunity to test equipment out first hand. Photo: L&L Staff

drawn record attendance each of the past two years since it was moved to the day before the show.

In addition, this year's GIE Show included the first Green Team Day, which featured a series of presentations oriented specifically to technicians and the front-line professionals in the industry. These

presentations focused on areas such as fleet management, equipment selection and increasing productivity.

The 1999 International Irrigation Show will mark the IA's 50th anniversary and will be held Nov. 7-9, in Orlando, Fla., while the 1999 GIE Show will be held Nov. 12-16 in Baltimore, Md. **LL**



Show attendees had the opportunity to visit with 287 exhibitors on the sold-out show floor, such as Walker Mfg.'s Bob Walker, after Sam Farison, GIE president-elect, (left) and Dale Elkins, GIE president,

(right) completed the ribbon cutting ceremony to open the trade show. Photos: L&L Staff

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 - Spring, mid-summer and fall applications can be made
- Circle 210 on reader service card**

Monrovia 1999 Plant Introductions

- Audubon Habitat Collection plants to attract birds and butterflies
 - Heat zone designations included on its labels
 - Shrubs include Sunrise Variegated Abelia, Pink Splendor Mirror Plant and Diabolo Ninebark
 - Pink Spice Cranesbill Geranium perennial is available
 - New citrus include Variegated Calamondin Mandarin Orange and Cocktail Grapefruit
 - Bamboo available will be Dwarf Whitestripe Bamboo
 - Also available will be fragrant garden, tropical garden and shade garden varieties
- Circle 214 on reader service card**

Encore Front Cut Prowler Mower

- Wide-area, zero-turning radius
 - Has a dual path hydrostatic drive
 - Powered by either a 20-hp water-cooled Kawasaki or 22-hp air-cooled Kohler engine
 - Option of single or dual tail wheels
 - Has a new blade cutter/housing design
 - Cutting height ranges from 1 to 5 inches with single lever adjustment
- Circle 209 on reader service card**

Great Dane Chariot Jr.

- A compact zero-turning radius riding mower
 - Features a low center of gravity and seat height
 - Forward speed ranges to 10 mph
 - Available in 48- and 52-inch cutter decks
 - Has a 23-inch Turf Master drive wheel
 - Powered by a 17-, 19-, 21- or 23-hp twin cylinder Kawasaki engine
- Circle 211 on reader service card**

Ryan® Aerators

- Walk-behind family includes Lawnaire IV, Lawnaire V and Lawnaire 28
- Self-propelled
- 19-inch aerating swath on



the Lawnaire IV, 26.5-inch aerating swath on the Lawnaire V and 28 inches of aerating swath on the Lawnaire 28

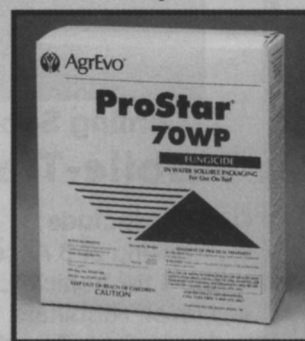
- Lawnaire IV and V come equipped with .75-inch diameter tines
 - Lawnaire IV is powered by a 3.5-hp Briggs and Stratton engine, Lawnaire V has a 4-hp Honda engine and Lawnaire 28 has an 8-hp Kawasaki engine
- Circle 213 on reader service card**

Ryobi 4-cycle engine brushcutter

- Weighs 14.4 pounds
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 - Accepts TrimmerPlus® attachments
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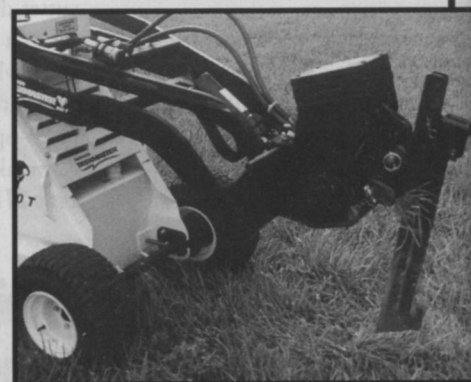
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PRODUCT PROFILE

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For Earth Irrigation & Landscaping, McAllen, Texas, three irrigation crews and four landscape crews are kept busy installing new projects throughout the Rio Grande Valley.

Tim Gindele, landscape site engineer for the company, said that it designs about three large

commercial installation jobs and five to 10 residential jobs a week. A big factor in the company's ability to create so many designs is its use of computer design software.

But in addition to time savings generated off of the three computer-aided design stations the company uses, what really matters to Gindele is the software's ability to provide instant and accurate material take-offs right from a design.

"We can put designs on paper sooner and get accurate take-offs in a snap now," he emphasized. "That was the target for us because you can't have a crew get to the job and find out that it doesn't have the right materials for the job."

The answer for Earth Irriga-

tion & Landscaping has been the software package RainCAD from Software Republic, Houston, Texas. "RainCAD lets us design complex irrigation systems with multiple water sources, meters or pumps and a large, integrated system with multiple controllers in one continuous drawing," Gindele noted. "That's essential for computing the system's hydraulics, which the software does as well, so you know you have a functioning system."

The material take-offs are done from the software's irrigation and landscape material databases, which are standard with the program. "All we had to do was go through the databases and set our prices, then when something is placed on

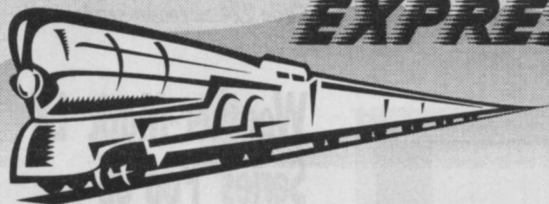
the drawing we click on 'materials take-off' and it's done," Gindele shared. "The same is true for area take-offs for mulch or ground cover, and it performs labor calculations."

Every landscape and irrigation system design the company produces comes off of the computer now, which Gindele estimated requires a 30- to 45-day learning curve. "The software is particularly helpful when we're working with a landscape architect and the design will be revised four or five times," he added. "A total revision probably only takes four hours compared to an entire week if it's done on paper. — Bob West

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Oasis Irrigation Systems, Inc. of Atlanta, GA, is accepting resumes and inquiries for positions within our organization. We are looking for career minded people to fill immediate positions in the following areas:

- Operations Manager
- Sales/Manager
- Service Technician
- Installation Foreperson
- Equipment Operator

We offer excellent pay and benefits. Relocation expenses considered. Come be a part of our family. Phone 770/913-9033, Fax 770-913-0180.

LANDSCAPE MAINTENANCE MANAGER

Upper scale landscape firm seeking Maintenance Manager with a minimum of 3-5 years prior experience and possess Horticulture Degree. Responsibilities will include Customer Relations, time/quality of maintenance crews via Supervisors, Prospective new customer sales/estimating. Must be self-motivated, well organized and the ability to oversee others. Salary commensurate with prior work experience. Excellent benefits. If interested in working with quality company, please fax/send resume with salary history to:

James Michael, Inc.
c/o Bill Stewart-General Manager
25650 N. Gilmer Rd.
Mundelein, IL 60060
Tel. 847/438-8144
Fax: 847/438-8395

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IRRIGATION OPPORTUNITIES AVAILABLE

The Green Plan, Inc., a full service landscape maintenance and irrigation service company located at the base of the Colorado Rocky Mountains, is expanding its irrigation division. Positions include excellent compensation and full benefits. Immediate openings available. Please fax resume or forward to address below.

IRRIGATION DIVISION MANAGER

Position includes scheduling, hiring and training of service technicians. Must be experienced in all phases of service of commercial irrigation systems and have excellent troubleshooting skills. 2-4 years of management experience is preferred.

IRRIGATION SERVICE TECHNICIAN

Position includes troubleshooting, repair and service of commercial irrigation systems. Must be experienced in repair of commercial and large open space irrigation systems. 2 years of service experience is preferred.

THE GREEN PLAN, INC.

P.O. Box 17338
Boulder, Colorado 80308
303/938-8230 Phone
303/938-8137 Fax

LANDSCAPE/IRRIGATION FOREMAN

Fast paced design-build firm needs Landscape/Irrigation Foreman to install high-end residential projects. Year round employment, salary plus bonus and benefits. Minimum 3 years in-field experience. Must have references, be self-motivated and well organized. Charlotte, NC 704/598-2266.

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Hands on installation and supervision of sprinklers systems and landscape installation. Clean driving record. 3 years supervision and installation experience with references. Neat appearance, loyal, honest, ethical individuals. Design/sales experience a plus. Must be willing to continue education and licensing provided by the company. 18 year old company located in McKinney, Texas, looking for key people. Room for advancement and growth. We will pay for the right individuals. Mail your resume to LMI, P.O. Box 736, Allen, TX 75013. Fax your resume to 972/562-6265. Call our office with questions 972/562-8873. E-mail us at lmi@airmail.net

SALES MANAGER

Growing company seeking sales manager with a horticulture background. Benefits, paid holidays and vacation. Send resume to: Lawn Tech Inc., 755 Moore Road, Avon Lake, OH 44012.

IRRIGATION TECHNICIAN

Repair specialist needed for 18-year old company located in McKinney, Texas. Three years experience with references. Clean driving record. Installation experience a plus. Neat appearance, loyal, honest, ethical, individuals. Must be willing to further education and licensing at company expense. We pay above industry standards for the right individuals. Mail your resume to LMI, P.O. Box 736, Allen, TX 75013. E-mail: lmi@airmail.net. Call our office with questions 972/562-8873. Fax 972/562-6265.

LANDSCAPE OPPORTUNITIES

Our continued growth has us searching for top quality people to join our team in the following positions:

- Landscape Maintenance Manager
- Landscape Designer/Sales
- Customer Service Manager
- Landscape Foremen
- Irrigation Manager

Self-motivation and experience required. Please fax or mail resume with recent salary history to:

LAKEVIEW LAWN & LANDSCAPE

4477 County Road 1
Canandaigua, New York 14424
Phone: 716/394-6701
Fax: 716-394-0962

DEPARTMENT MANAGER - CONSTRUCTION AND MAINTENANCE

Full-service design-build firm located in Northeast New Jersey seeks dynamic self-starter to oversee landscape department and sell and manage construction projects. Require a growth-oriented, team player with three to five years landscape sales/management/production experience. Excellent leadership, organizational and communications skills a must. A degree in Horticulture or Landscape/Grounds Management desired. Responsibilities include estimating; sales; scheduling and supervising crews; purchasing and inventory; and budget and profit control. Excellent career opportunity with growing, progressive company with outstanding 20-year service record. Competitive salary and benefits. Send or fax resume to Jacobsen Landscape Design and Construction, 41 Birch Street, Midland Park, NJ 07432. 201/444-4334. Attention: Personnel Department.

LANDSCAPE SALES

South Florida full-service landscape company has immediate opening for a highly motivated sales professional. Applicant must have minimum 3 years experience in the landscape industry, strong interpersonal, communications and organizational skills. Salary plus commission, medical and dental. Growth opportunity. Fax resume to Carolyn 561/997-0971 or call 800-718-9619. Drug Free Workplace. EOE

LANDSCAPE FOREMAN

Professional, full service landscape company, located on Florida's West Coast, seeks experienced landscape foreman. Looking for someone with good leadership ability that can efficiently run a crew and equipment. Should also possess good communication skills. Must be dependable. Salary negotiable. Fax or mail resume to: HNI, 2150 Alternate 19, Palm Harbor, FL 34683. Fax 727/787-9824.

LANDSCAPE MAINTENANCE REGIONAL MANAGER

We are seeking an individual who possesses strong leadership, communication, and grounds maintenance skills. We are setting up a regional office in the southeastern part of the United States to manage several large grounds maintenance contracts throughout the south. Applicant should have technical and practical knowledge of equipment, materials, plants, irrigation practices, arbor care, and pest control. Computer literacy a plus. Salary based upon experience and accreditations. Mail resume to Maintenance Engineers, 970 West Broadway #452, Jackson, Wyoming 83001. Or FAX resume to 307/733-8324.

LANDSCAPE CONSTRUCTION MANAGER

Grant's Landscape Services, Inc. a well-established industry leader in the Eugene, Oregon area has management positions open in our landscape construction division. Duties would include estimating, project supervision, customer relations, some purchasing and possible other management duties. Compensation at top of industry norms. Appropriate education/experience required. Please mail or fax resume to: P.O. Box 221, Springfield, OR 97477; Fax 541/726-9183.

ROCKY MOUNTAIN PARADISE

Join us in Boulder, Colorado, the #1 rated city in the West. L.I.D. Landscapes is an award winning, full-service design/build, irrigation and maintenance firm. We seek four special people to fill key roles which will help us continue our 20 years of success and reach our goals for growth in 1999. Immediate openings are available for:

- Maintenance Department Manager
5-10 years of management experience;
- Irrigation Department Manager
5-10 years of design, installation and service experience
- Residential Maintenance Account Mgr.
2-5 years of field and office experience
- Landscape Architect/Project Manager
2-5 years of design/build experience

Each position requires applicable education and professional credentials. L.I.D. provides competitive compensation and maintains a team-oriented atmosphere that nurtures our individual and collective success. To learn more, call Philip G. Loughman, President, 303/440-7833 or fax your resume to 303/440-6041 and we'll call you!

ESTIMATOR/DEPARTMENT HEAD

All Phase Landscaping is searching for a career-oriented individual to manage our estimating department for construction and maintenance departments. APL is a fast growing Denver Colorado company with \$7 million in revenue. APL is a commercial landscape company working with developers, property managers and bid table projects. We need a self-starter with experience in estimating projects between \$50,000 to \$5 million. Computer experience a must, CAD helpful. Come join a winning team. Salary commensurate with experience. Send resume to:

ALL PHASE LANDSCAPE

Richard Wilbert
1301 S. Pierce Street
Lakewood, CO 80232

CLASSIFIEDS

cover story

(continued from page 40)

GENERAL MANAGER

Well-established lawn care company located in Montgomery County, Maryland is seeking a general manager to oversee company operations and coordinate with owner. Qualified applicants should be self-motivated and experienced, and able to perform well in sales and customer and personnel management. Benefits and salary based on experience. Send resume to 14404 Falling Leaf Dr., Darnestown, Maryland 20878.

LANDSCAPE/SPRINKLER CREW LEADERS/CREW MEMBERS

Work in the Booming Pacific Northwest Soundview Landscape & Sprinkler Co. is a design/build landscape contractor seeking experienced Landscape/Sprinkler Crew Leaders and Crew Members. Crew Leaders must have three (3) years experience as a Crew Leader and six (6) years of landscape/sprinkler installation experience. Crew members must have two (2) years experience in sprinkler/landscape construction, or landscape maintenance. We offer dental/medical coverage. Salary based on experience. Mail, fax, or e-mail resume and salary history to:

2327 Mountain View Ave. W.

Tacoma, WA 98466

Fax: (253) 565-8070

E-mail: <info@soundviewls.com

POSITIONS AVAILABLE

Sixteen year old environmental contracting company in Denver metro area continues to expand. We seek to fill the following positions between January 1, 1999 and March 1, 1999.

Landscape Superintendent

Must be able to handle large commercial project ranging from \$250K to \$3M including plant material installation, grading, seeding, sodding, subsurface drains, and managing subcontractors.

Irrigation Superintendent

Must be able to handle large mainline irrigation systems associated with urban parks, streetscapes, highway projects, etc. Must have comprehensive knowledge of large mainline systems up to 8" involving wiring, valves, clocks, layout, etc.

Landscape Maintenance Superintendent

Must have experience with mowing, pruning, fertilization and irrigation repair on commercial projects.

Reclamation Superintendent

Must have adequate previous experience with farm and heavy equipment. Require individual that can work in a variety of hands on environments completing unique revegetation and erosion control processes. Periodic travel required.

Excellent benefits, profit sharing, relocation allowance, and company vehicle. Please send your resume with salary history to WSRI, 11730 Wadsworth Blvd., Broomfield, CO 80020 or Fax 303/465-2478.

LANDSCAPE PROJECT MANAGER

Landscape Project Manager to oversee all phases of landscape construction sales, bidding, managing and client relations. Four year degree mandatory. Top southern California firm with great perks. Call Gary Horton, Landscape Development, Inc. 805/295-1970.

LANDSCAPE FOREPERSONS

A fast growing, full-service landscape contractor in Vail, Colorado is seeking qualified Irrigation Technicians, Licensed Chemical Applicators, Financial Controller, as well as individuals for maintenance and installation positions in the spring of 1999. A minimum of 2 years experience and/or a related college degree. Salary commensurate to experience. Benefits available. Bilingual a plus. Please mail or fax resume to: Johnie's Garden, Inc., P.O. Box 5115, Vail, CO 81658, fax 970/827-5696, phone 970/827-9200. E.O.E.

IRRIGATION OPERATIONS MANAGER INSTALLATION CREW LEADER IRRIGATION TECHNICIANS

One of the Northeast's most dynamic tree and lawn care companies is seeking irrigation professionals to join our winning team. Our continued strong growth has opened management/sales and field opportunities in Southampton, NY to provide irrigation installation and maintenance services to an elite clientele. **IRRIGATION MANAGER:** 3+ years experience in a managerial capacity with sales/customer service and profit orientation, and strong knowledge of irrigation installation, maintenance and sales. **IRRIGATION CREW LEADER:** 2-3 years experience in installation and maintenance. **IRRIGATION TECHNICIAN:** 1+ years experience in maintenance of commercial and residential irrigation systems. Very competitive compensation, plus benefits, 401(k) retirement plan, and continuing education. Contact: SavATree, Recruiting Dept., 205 Adams Street, Bedford Hills, NY 10502 or Fax: 914/244-1364.

TREE PRUNING & REMOVAL SUBCONTRACTORS

Starting a new tree care business? Need more work? Keystone Tree Experts is seeking qualified tree pruning and removal subcontractors in Southeastern PA. Call Bob McMullin for details. 215/348-4444.

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right now, and I can see benefits to shifting it either way," added Ottley. "I think we know enough about both markets to be profitable in either one, so we're not trying to steer ourselves in either direction."

FROM BAD TO GREAT. Ottley admitted that when environmental pressures on the industry reached new intensities and contractors had to deal with new posting and notification laws in the 1980s, he became disenchanted with lawn care.

"That was a nerve racking time because you never knew how the customers would react to new laws, and I got discouraged to the point that I was looking to sell the business," he recalled. "But no one was looking to buy a lawn care company in New York in the late 1980s."

So Ottley let the business run without him and, in doing so, had his eyes opened to how poorly the company treated customers.

"We weren't customer friendly at all," he said. "Phone calls were an interruption and service calls were a hassle."

"That's when I decided we are in business to help people take care of their lawns, and I got back involved in the business, but on the operations side instead of handling the administrative functions as I was before," Ottley continued. "It became my job to make sure we were looking at things from the customer's perspective and seeing service calls as opportunities."

Ottley credited this internal shift, which earned the company recognition from *Inc.* magazine's Notable Performer contest, with keeping the company in business today.

"Offering this level of service was a key for us to differentiate ourselves from the competition," he observed, returning to a common theme. "We set out to become the very best lawn and tree care service out there. If you don't have something to differentiate yourself from the rest of the market, it's next to impossible to win a price war, especially against some of the big competitors out there." ■

One Step Tree & Lawncare Inc., is located at 4343 Buffalo Road, N. Chili, N.Y. 14514. Phone: 716/594-1095

The author is Editor of *Lawn & Landscape* magazine.

AD INDEX

ADVERTISER	PG#	RS#			
Accelerator Industries	M25	162	Husqvarna	49	106
American Cyanamid	8,9,39,101	16,66,76	ICD	62	70
Aquascape Designs	61	69	Irritrol	55	58
Autodesk	33		John Buhler	M19	158
Bandit Industries	10	17	John Deere	30,31	45
B. & D.A. Weisburger	41	42	JRCO	M24	160
BioPlex	133	96	Kanga Loaders	112	79
Border Magic	130	91	KEM Enterprises	58	63
Brouwer Turf Equipment	126	90	Keystone Retaining Walls	13	19
Brown Bear	60	67	K-Rain	97	36
California Landscape Contractors Assoc.	148		Kubota	64	32
CLC Labs	18	27	K-W Mfg.	13	20
Compuscapes	60	68	Lawn & Landscape On-line Trade Show	135	
Country Clipper	M25	161	Lawn & Landscape Technical Resource Center	137	
Creative Curb	116	83	Lawn Power & Equipment	29	44
C&S Turfcare	100	75	Lebanon	27	39
Design Imaging Group	125	55	Leon-Ram	116	82
Dixie Chopper	M28	164	LESCO	M21	159
Dixon	M12	155	Line-Ward	40	49
Easy Lawn	136	99	Loeering	124	88
Environmental Care	155	16	Longhorn	144	103
Excel	25,M13	37,156	McCanse	28	41
Fabriscape	134	98	McCulloch Innovations	124	89
Ferris	M2	150	McMillan	102	77
FFC	26	38	Melroe Bobcat	7	13
Finn	63	71	Metko	24	35
Flo-Well	60	65	NEBS	120	85
FrontRunner Technologies	47	23	Neo-Tech	144	101
Galbreath	38	47	New Jersey Landscape Contractors Assoc.	148	
Gandy	28	40	Nitro-Green	29	43
Glen-Hilton	14	21	Novartis	42,43	
Glenmac	51	56	Nu-Gro Technologies	57	62
Grasshopper	22-23	31	Oldham Chemical	98	74
Gravelly	M16,M17	157	Olson	46	52
Gregson-Clark	136	100	Oly-Ola Sales	96	73
Holt Specialty Equipment	56	59	Pave Tech	24,134	34,97
Horticopia	154	105	PBI Gordon	17	25
Hunter Industries	156	106	Perma-Green Supreme	144	102
			Plant Health Care	19	29
			Presco Products	50	54
			Protean Software Group	130	92
			Rain Bird	37,121,131	78,86,93
			Real Green Computers	144	104
			RedMax	113	80
			Rexius Express	122	
			Riverdale	99,123	15,94
			RND Signs	36	46
			Rohm & Haas	52,53	57
			Roots	15	18
			Rootwell	40	48
			SavaLawn	151	108
			Scag Power Equipment	M27	163
			SCS/Lawncadd	119	84
			Sensible Software	5	12
			Shindaiwa	20,21,115	30,61
			Software Republic	132	95
			Sprayer Parts Depot	16	24
			Steiner	M25	152
			Toro Irrigation	45,117	50,10
			Toro Landscape Contractor Group	2	11
			Toro Sitework Systems	127	121
			Transitional Systems	98	107
			Tree Tech	48	53
			Tuflex	129	33
			Turbo Tech	18	26
			UDS	59	28
			University of Georgia	14	22
			Versa-Lok	46	51
			Visual Impact	116	81
			Walker Mfg.	M11	154
			Weather-matic	94,95	72
			Westheffer	58	64
			Woods	M9	153
			Yazoo	M7	151

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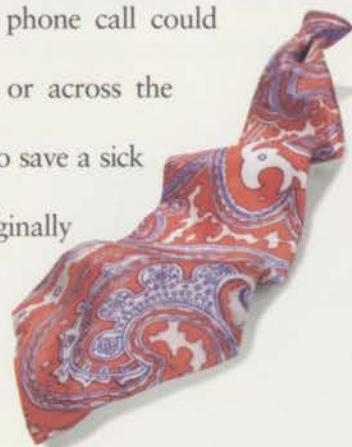
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