

Lawn & Landscape MAINTENANCE

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JULY 1992 • \$2.50

A portrait of Bruce Wilson, a man with a mustache, wearing a dark suit, white shirt, and a red patterned tie. He is looking directly at the camera with a slight smile. The background is a blurred outdoor setting with a white fence and trees.

A BIG COMPANY THAT WORKS

*Bruce Wilson of
Environmental Care credits
branch focus and
entrepreneurialism for the
firm's colossal success.*

ALSO IN THIS ISSUE:

**Special Report:
MANAGING IRRIGATION
Fertilizer Trends
The Road to Safety
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Lawn & Landscape MAINTENANCE

VOLUME 13, NUMBER 7

JULY 1992

Cover Photo: Larry Kaplan,
Royal Oak, Mich.

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Editor's Focus

TRAINING IS NOT a new concept in the lawn and landscape industry — or in any field for that matter.

Yet somehow, the elusiveness of a good training regimen seems to be at the crux of what is inherently missing in many landscape firms — big and small.

Grueling hours, high turnover, lack of finances and sometimes a lack of initiative can all be blamed for poor training. Even firms with vast resources and loads of talent are fighting the training quandary, continually searching for the answer to a well-trained team.

Take Environmental Care Inc., this month's cover profile. Bruce Wilson, president of this well-established firm, is puzzled by the enigma training presents.

"We've struggled with training," he said in our recent interview. "It seems like it should be easy, but it's really difficult to develop training that translates into more productive people."

Much of this dilemma is derived from high turnover at the hiring stage — which is certainly a legitimate beef. Labor shortages and turnover may be the landscape industry's number one enemy. Just when a company thinks it has its crews hired and trained, one or two or more people drop out and the vicious training cycle starts again.

Fault doesn't rest entirely with presidents and owners of landscape firms. Part of the onus falls on those being hired. In order for people to get trained, they have to want to be trained. Offering promotions and pay increases to boost the level of interest in training is one option, but is based on the premise that once employees begin a training program they will want to learn more.

Acting on that assumption, *LLM* is embarking on a series of training articles for those offering irrigation design, installation and maintenance services.

As lawn and landscape contractors progress with diversification, irrigation continues to lead the industry as the fastest growing new service offering. In 1990, 14 percent of our readers were offering irrigation installation and 16 percent were offering irrigation maintenance. Those numbers jumped to 24 percent and 29 percent, respectively, in 1991, and again to 34 percent and 39 percent, respectively, in 1992.

Furthermore, forecasts show that by 1994, 54 percent of our readers will be offering irrigation installation services and 63 percent will be offering irrigation maintenance.

But as interest in irrigation has evolved at a swift pace, so should the various avenues of training. For more advanced irrigation contractors, the Irrigation Asso-



ciation offers certification programs directly tied to an individual's expertise. Interest in this program is steadily increasing and, among other things, it offers a tremendous opportunity to be recognized as a nationally certified irrigation contractor. In addition, manufacturers and several universities offer training opportunities.

The training series initiated on the pages of this magazine are intended to supplement rather than take the place of established training courses and hands-on field demonstrations. The series is offered in response to tremendous reader requests, received over the last several years, to assist them in diversification efforts into irrigation installation and maintenance.

The training series, which runs through 1993, will address and promote water conservation through the proper design, installation and maintenance of irrigation systems. It is intended to offer the reader a collection of topics and suggested methods for achieving the best results.

In addition, the training series will alert the reader on what to watch for in selecting the proper equipment for maximum performance, allow for discussion on various types of installation, detail how to install and maintain various types of equipment and help ensure proper system management.

A short question and answer section follows the training course. Questions appear at the end of the discussion and the answers appear in a separate section in the back of the magazine.

Training presents a formidable task, but this unprecedented training series is one means of ensuring the proper growth and development of landscape contractors venturing into irrigation. Lesson one starts on page 43. Let us know how your training progresses. — *Cindy Code* ■

EDITORIAL

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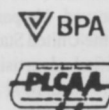
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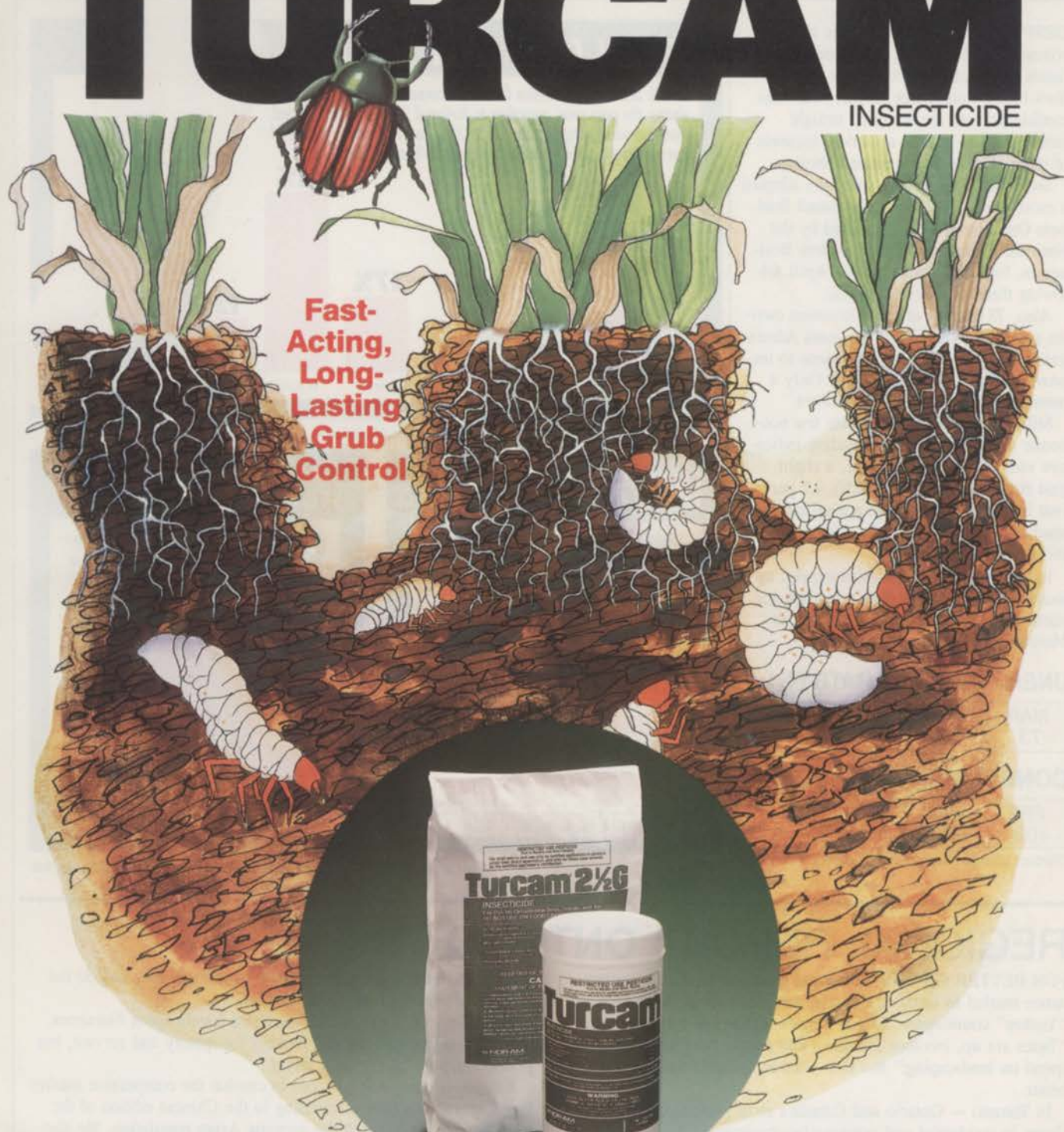
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USE READER SERVICE #11

Business Watch

DESPITE AVERAGE economic reports, consumer and business confidence continues to increase. According to the New York-based Conference Board, consumer confidence rose for the third straight month in May to 71.6, a marked increase of more than 24 points since February.

Small-business owners also have adopted a more positive outlook. The Small Business Optimism Index, measured by the National Federation of Independent Businesses, hit a three-year high in April following three quarters of decline.

Also, 73 percent of small-business owners surveyed by the Small Business Administration expect business conditions to improve over the next six months. Only 4 percent expect conditions to worsen.

Still, national figures indicate few economic gains. The index of leading indicators rose 0.4 percent in April, a slight gain from the previous month's 0.2 percent increase. The unemployment rate reached 7.8 percent in June, it's worst showing in eight years.

In housing, new home sales stepped up a modest 1.2 percent in April; and housing starts plummeted, from 1.34 million in March to 1.12 million in April.

UNEMPLOYMENT RATE (%)

MAR.	APR.	MAY	JUNE
7.3	7.2	7.5	7.8

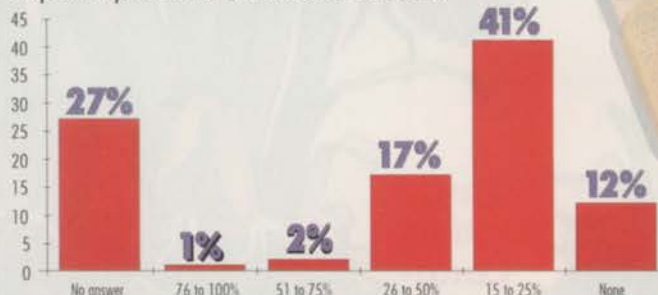
CONSUMER PRICE INDEX*

FEB.	MAR.	APR.	MAY
+0.3	+0.5	+0.2	+0.1

*Percent change from preceding month.

HEALTH CARE COST WORRIES

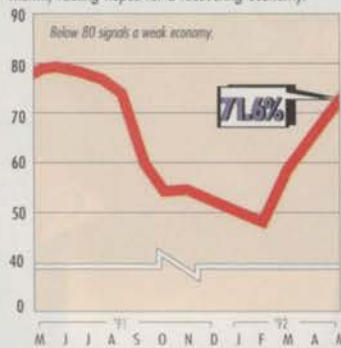
Health insurance premiums for small companies increased by 23% during the past year, according to National Small Business United. Most increases ranged from 1% to 25%, but 17% of the surveyed companies reported increases between 26% and 50%.



Source: 1991 National Small Business United Member Survey, Washington D.C.

CONSUMER CONFIDENCE: THIRD TIME'S A CHARM

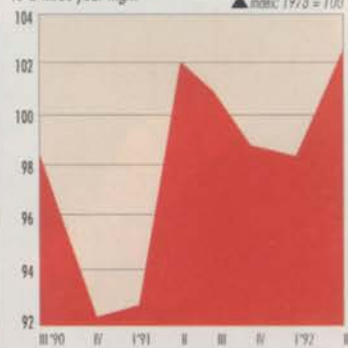
Consumer confidence gained for the third consecutive month, fueling hopes for a recovering economy.



Source: Conference Board

SMALL BUSINESS OWNERS SEE BRIGHTER DAYS

First quarter earnings and rising sales push confidence to a three-year high.



Source: National Federation of Independent Business and Business Week

REGIONAL REPORT: ONTARIO

FOR BETTER OR FOR worse, the lawn and landscape maintenance market in Ontario, Canada, has much in common with its "Yankee" counterpart. As one Ontario landscape contractor said: "Taxes are up, incomes are down and people have less money to spend on landscaping." No U.S. contractor could have said it any better.

In Toronto — Ontario and Canada's most populated city — a slump in residential and commercial construction has severely impacted the landscape construction market.

"Nobody's building," said Don Sullivan, owner of Peter Sullivan Landscaping, a 23-year-old full-service firm. "In Toronto, it's survival time."

Sullivan estimated that it will take three to five years before the construction market bounces back. Until then, reputable landscape companies face stiff competition from low-ball bidders.

That holds true for the maintenance end of business as well, he said. "The economy is really tough this year. People are definitely cutting back — even the wealthier clientele. Either we cut back on costs or we don't take the job."

"Clientele want better service, better quality and better products

and can demand it because so many people say they can do the job. We're nearly in the barter system."

Mike Eeuwes, president of Markham Landscaping Nurseries, Toronto, said people are still looking for quality and service, but price is largely the deciding factor.

Eeuwes is doing what he can to combat the competitive market. For starters, he's been advertising in the Chinese edition of the local newspaper to reach the growing Asian population. He also uses more job signs on previously completed properties and distributes full-color door hangers in residential areas.

To retain present clients, the company mails out evaluation cards and follows up on any client concerns. Clients are also rewarded with a free tree for successful referrals.

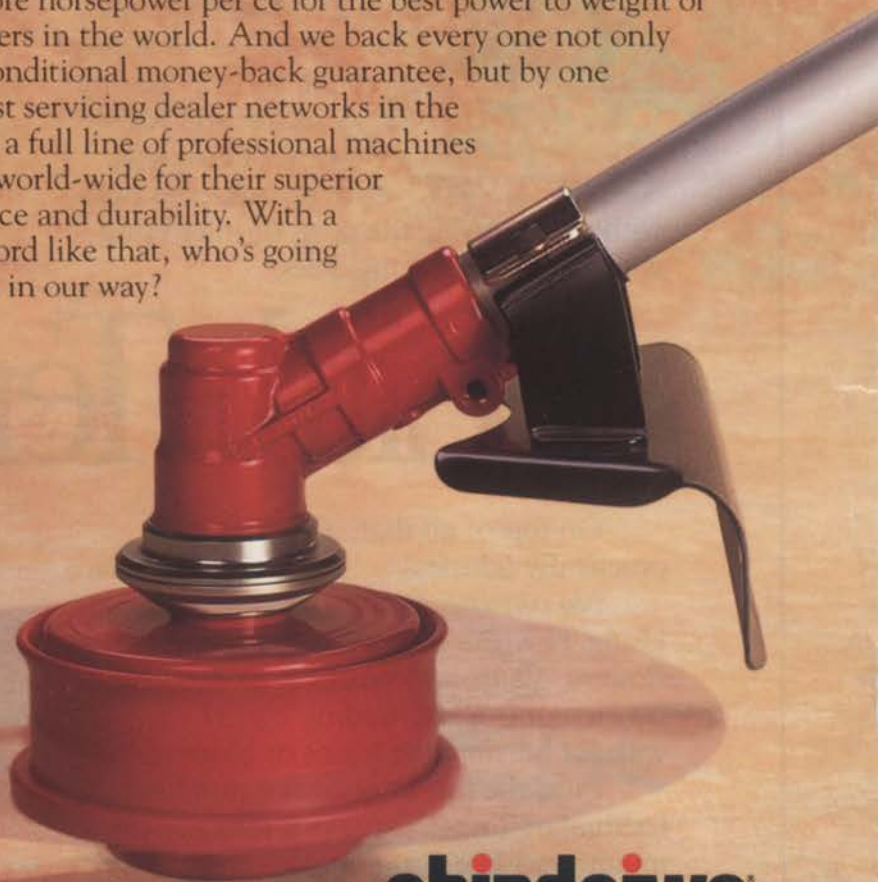
Weed Man Ltd., a lawn care franchise based in Mississauga, has actually benefited from the recession, according to Michael Kernagan, director of franchise development.

"Every time there is a recession, we see business increase," Kernagan said. "People stay home more and invest in property improvements. We're actually seeing an increase. Renewals are up dramatically this year."

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USE READER SERVICE #55

NEWS DIGEST

Valent's Triforine Makes Its Return

Valent USA Corp. will resume production and marketing of Triforine EC fungicide for use on commercially grown ornamentals.

The product was withdrawn from the market more than a year ago to make a formulation change required by the Environmental Protection Agency. Following an EPA review process, the revised formulation received EPA approval.

Triforine EC controls blackspot, powdery mildew and rust.

Hunter Opens East Coast Facility

Hunter Industries recently opened a new plant in Cary, N.C. The 83,000-square-foot manufacturing and administrative facility is located on a 17-acre site in the MacGregor Industrial Park outside of Raleigh.

The new plant is producing G-type rotary sprinklers for residential and commercial installations and shipping them to East Coast distributors from Maine to Florida.

Toro Reports Higher Profits

The Toro Co. said fiscal third-quarter profits increased 10 percent from its year-earlier level, on a 6.9 percent rise in sales.

Toro's earnings upturn was mainly due to increased orders for commercial and irrigation products, according to *The Wall Street Journal*.

The company's net income for the period ended May 1 totaled \$9.4 million up from \$8.5 million a year earlier. Sales rose to \$224.1 million from \$209.7 million.

RAC Restructures Primary Businesses

Ransomes America Corp. has been restructured into four primary business units. Together, the four units manufacture equipment for the turf, professional lawn care, consumer and industrial/commercial markets.

Ransomes America Corp.'s North American operation includes Cushman Inc., based in Lincoln, Neb., and Edgewater, Fla.; Ransomes Inc., Johnson Creek, Wis; Brouwer Turf Equipment, Keswick, Ontario; and Steiner Turf Equipment, Orrville, Ohio.

Ransomes America Corp. is headquartered in Minneapolis. Irv Aal serves as RAC president and is a member of the Ransomes plc board of directors. Previously, Aal was involved in the farm equipment industry.

Federal Pesticide Legislation Remains at a Standstill

FEDERAL PESTICIDE legislation, on the back burner for much of this year, will continue to stew for another session.

With Congress nearing the end of its term and national political conventions just around the corner, it's highly unlikely that federal legislation in the areas of preemption, posting and notification and water quality issues will see any progress, according to Allen James, executive director for the Responsible Industry for a Sound Environment.

Although no official action has been taken, a redraft to S. 849 — The Notification Control and Application Act of 1991 — has been released by the staff of Sen. Joseph Lieberman, D-Conn.

Some of the changes, viewed as positive by the Professional Lawn Care Association of America, require states to establish a registry of people who want advance notice of a pesticide application rather than giving abutting neighbors advance written notice of each application. The initial application notice would still be in writing, but communications thereafter would be limited to those who place themselves on the registry.

Another change in the legislation would extend sign posting after applications to include homeowners. The redraft requires the packaging of consumer chemicals to explain the sign posting duties. Sign posting prior to an application would be reduced from 72 hours advance posting to immediately before an application. Seventy-two hour advance written notice would still be required.

While the revisions haven't been reviewed by RISE's government affairs committee, James said, the association still finds the bill undesirable, although not quite as onerous.

Although no federal preemption language is likely to be passed this year, about 27 states already have full or partial preemption in place. About 10 of those states passed preemption language this year. Preemption forbids cities from enacting stricter pesticide ordinances than the state.



European Chafer Takes Michigan By Storm

Grubs, not an unusual summertime sight, have reached epidemic proportions in Michigan and surrounding states. And in many cases, they have taken no prisoners.

Tim Doppel, president of Atwood Lawn care, Sterling Heights, Mich., said an infestation of European Chafers, originally dating back eight to 10 years, finally exploded last fall during extremely dry conditions. Most of the damage appeared after the traditional lawn care season had ended, so damage reports weren't realized until this spring.

"There's not a blade of grass left in Dearborn," Doppel said. "It's creating war zones."

Doppel and his crews are frantically selling both preventive and curative grub control programs. Local news media are also doing a good job of educating the public on various control measures despite the bleak conditions.

Doppel said his firm has already done more grub work this year than all of last year and expects to add the service to his

premiere lawn care programs next year.

"Three years ago, if six lawns had grubs, it was a lot," Doppel said. "We have to get people accustomed to grub control. We're going to be seeing grubs for quite a while."

EPA Investigates Risk Of Pesticides to Birds

The U.S. Environmental Protection Agency plans an innovative approach to evaluate granular pesticides posing the highest risk to birds.

An EPA analysis identified 14 granular compounds out of 99 granular pesticides that it believes may pose a high risk of killing birds. Because the compounds each pose a similar risk to birds, the EPA has decided to use a cluster approach to further evaluate the compounds in corn fields and turf, including home lawns.

Considering both toxicity and exposure, the granular pesticides identified as posing potentially high risk to birds are aldicarb, bendiocarb, carbofuran, chlorpyrifos, diazinon, disulfoton, ethoprop, ethyl para-

thion, fenamiphos, fonofos, isofensphos, methomyl, phorate and terbufos.

Corn is the single largest use of granular pesticides with more than 20 million acres treated annually. About 2.5 million acres of turf are treated annually with granular pesticides.

Before proceeding with the cluster projects, EPA is giving registrants of the 14 pesticides identified in the analysis 90 days to submit voluntary risk reduction measures, such as lower application rates, better soil incorporation and fewer applications per year.

Green Tech Attendance Cut Short by Rioters

The California Landscape Contractors Association attracted more than 5,000 visitors to its recent Green Tech trade show in Long Beach. Higher attendance was anticipated as more than 3,200 visitors flocked to nearly 350 exhibits on opening day. But a chance at record-breaking attendance was dealt a blow as rioters protesting the Rodney King verdict created transportation problems for many scheduled attendees.

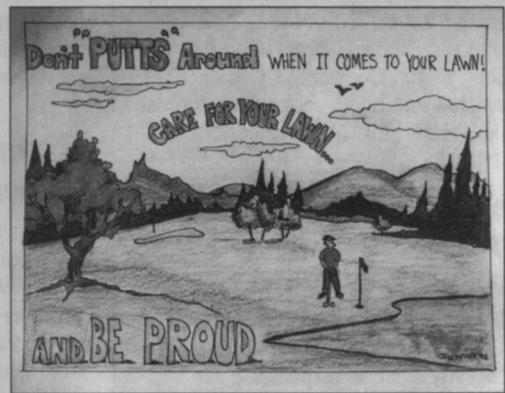
GMAW Selects Poster Winner

It's never too soon to educate consumers on the benefits of turf.

With this in mind, the Grounds Management Association of Wisconsin sponsored its second annual poster contest designed to conjure up positive images of turf. The contest attracted more than 600 entrants from Wisconsin's sixth, seventh and eighth graders.

"Kids hear some negative things about lawn chemicals and we felt we needed to change the thinking of our youth," said Lou Wierichs, GMAW vice president. "After all, they are our future customers, employees and legislators. This is a small step in the right direction."

Jon Wink, an eighth grader from Madison, Wis., was the grand prize winner. He won \$200, a tour of the Milwaukee County Stadium, tickets for a Brewer's game and an overnight stay at the Embassy Suites.



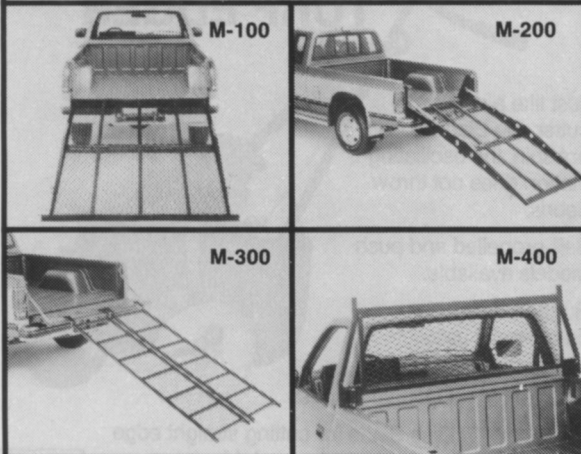
Only slightly more than 1,500 people attended the second day, and a dawn-to-dusk curfew in Los Angeles County was responsible for the show finishing two

hours early that day.

All was not lost, however, as a successful preregistration program eliminated long lines at the show's outset and re-

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sulted in a better distribution of attendees throughout the show floor.

Next year's show is Feb. 24 and 25 at the Long Beach Convention Center. For information and booth reservations contact Yvonne Fenner, CLCA headquarters, 916/448-2522.

IA Picks Technical Services Director

Jim Borneman is the Irrigation Association's new director of education and technical services. He is responsible for overseeing educational programs, building the membership base and enhancing membership programs.

Grace Sierra Improves Water-Soluble Products

A new process to minimize caking in water-soluble fertilizers has been developed by Grace-Sierra Horticultural Products Co. The system, which reduces the moisture content in the products, is patent pending.

The new drying process brings other improvements to the firm's Peters Professional

fertilizer line including a texture which breaks apart more easily when compacted, a more flowable formulation and easier measuring.

Davey Reports Record Revenues

The Davey Tree Expert Co. reported record revenues in 1991 of \$187.4 million. In addition, 1991 net earnings increased 12 percent over 1990. Though 1991 revenues showed an increase of 2 percent over 1990, sales were dampened by the weak economy, according to Davey President and CEO R. Douglas Cowan.

"The recession has impacted us and we doubt that there will be any marked change in customer buying habits in 1992," he said. "We are going to continue to demonstrate that our services should be a priority for our customers."

LLM Wins Three Excellence Awards

Lawn & Landscape Maintenance magazine and its staff are the recipients of three

awards recognizing editorial and graphic excellence.

The awards were presented by three professional associations whose members are affiliated with both the business and consumer press as well as other forms of media.

The staff of *LLM* received second-place for general excellence in journalism from the Society of Professional Journalists and The Press Club. The award recognizes industry coverage for trade and professional magazines.

A first-place writing award from the Turf and Ornamentals Communicators Association was presented to Cindy Code, *LLM* editor, for the article "After the Buy Out," a story which explored ChemLawn's presence in the marketplace four years after being purchased by Ecolab. The interview with then ChemLawn President David Siegfried was an industry exclusive.

A second-place graphics excellence award from the American Society of Business Press Editors was awarded to *LLM* Art Director Charlotte Turcotte for the design of an opening page/spread feature for an article on drip irrigation. ■



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USE READER SERVICE #67

JULY 1992 • LAWN & LANDSCAPE MAINTENANCE

Association News

THE **OUTDOOR POWER Equipment Institute** announced a cooperative effort with the Environmental Protection Agency to develop a national exhaust emissions standard to reduce pollutants from outdoor power equipment type engines in the 0- to 25-h.p. range.

According to Dennis Dix, OPEI's president and CEO, the national standard would provide states with an alternative to California's proposed off-road vehicle emission limits without having to absorb the same administrative and regulatory costs. California was the first state to adopt emission control standards for lawn maintenance and utility equipment engines.

The joint OPEI/EPA standard would also minimize any cost increases to end users.

A national emissions standard is expected to be developed and adopted by the EPA by November, 1993. Joint plans are also in the works for spillage emissions control.

Five compost research and demonstration projects in the Northeast were awarded funding by the **Solid Waste Composting**

For More Information...



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Council and other contributors. The three-year municipal solid waste (MSW) compost studies are slated for Connecticut, New York, Massachusetts and New Hampshire.

The studies will investigate the effects of MSW compost on plant growth as well as on surface water or groundwater and soils common to the Northeast. The compost will also be tested for suitability as a mulch or soil amendment in field- and container-grown nursery stock. One study in New York will compare analysis of

MSW compost to other composts and to fertilizers.

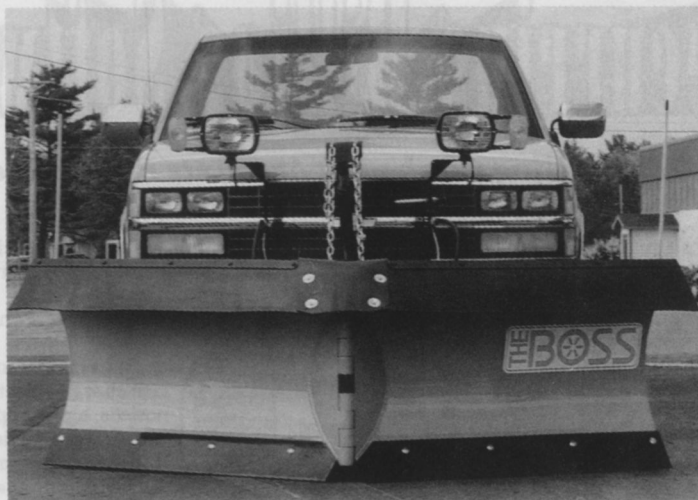
Studies in New Hampshire and New York are focusing on the attitudes of Northeastern residents toward MSW composting. Researchers will work with local extension offices to develop public education.

Total funding for the projects is \$1.7 million and comes from a variety of sources. The SWCC will provide \$740,000 and the remainder will come from matching funds and in-kind contributions.

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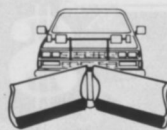
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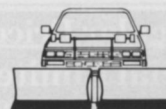
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USE READER SERVICE #72

Shifting leadership, regional seminars and the annual association meeting were among the topics discussed at a recent board meeting of the **Professional Lawn Care Association of America**.

Citing business and personal obligations, President-elect Ed Coia announced he will not be able to fulfill the role of president next year. In response, the board voted to appoint John Robinson, second vice-president, to the president-elect position. Coia moves into the second vice-president role.

In other news, the PLCAA has been working with allied associations to present regional seminars. No dates have been set, but they could begin this month or next.

The board also announced that Rep. Charles Stenholm, D-Texas, a ranking member of the House Ag Committee, will keynote PLCAA's combined annual meeting and new member reception. The breakfast meeting will be held Tuesday, Nov. 17, just before the opening of the Green Industry Expo in Indianapolis.

The **Associated Landscape Contractors of America** is digging up new research on plants and their ability to attract people into underused public interior space. The

project is a cooperative effort with the Departments of Interior Design and Horticulture at the Virginia Polytechnic Institute and State University.

The study could be a first, as ALCA has not located any other research on this topic. Past efforts have focused on the use of plants for promoting warmth and caring in business environments, improving air quality, promoting customer enjoyment by the hospitality industry, increasing productivity, alleviating stress and plants as therapy.

ALCA is financing the project. Members of ALCA and the Florida Foliage Association donated plants and transportation for the research.

Plans are under way for the annual grounds management conference of the **Professional Grounds Management Society**. Scheduled for Nov. 15-19 in Indianapolis, the conference is held during the Green Industry Expo, a cooperative effort of PGMS, PLCAA and ALCA.

Educational areas covered by the conference range from ornamental grasses, bedding plants and trees to snow removal and asphalt repair. Management sessions are also planned, including communications and motivation, middle management

training and the qualities of a good supervisor. In addition, presentations will be made by motivational speaker Mike McCartney and Indiana University Basketball Coach Bobby Knight (who delivers the GIE show keynote address).

A breakfast will be held each morning for industry leaders to exchange ideas and discuss topics of mutual interest. Other events include the PGMS annual luncheon and business meeting on Monday, Nov. 16; and an evening banquet on Tuesday, Nov. 17.

Non-PGMS members who wish to attend the grounds management conference can take advantage of an introductory discount combination price for membership and conference registration.

The **Professional Lawn Care Association of Mid-America** is holding its summer field day at Powell Gardens, Kansas City's Botanical Gardens, Kingsville, Mo., on Aug. 12.

Educational sessions, exhibits and a barbecue lunch are among the scheduled activities. Speakers include Ohio State University Professor David Shetlar. Sponsored by Miles Inc., Shetlar will speak on white grub control. ■

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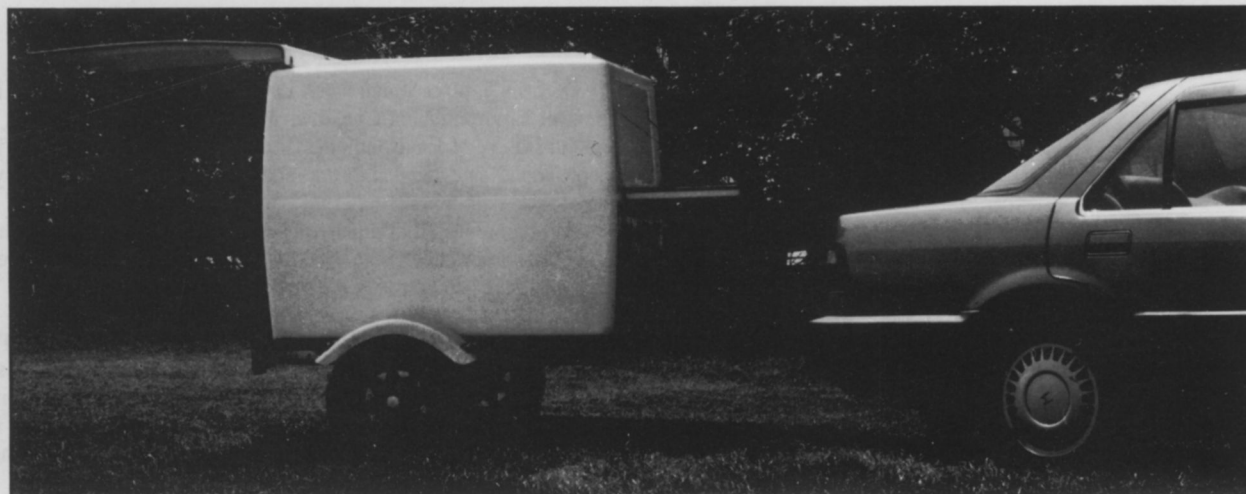
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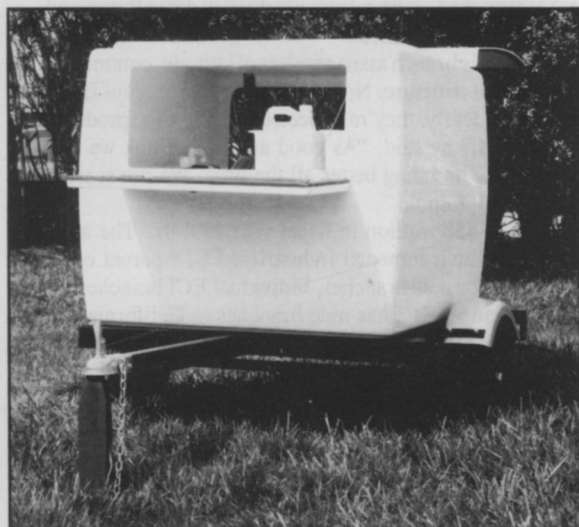
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USE READER SERVICE #10

A BIG COMPANY THAT WORKS

*No matter how
large the landscape entity,
personalized, professional
service still gets the
job done.*

By Cindy Code

Bruce Wilson, ECI president, and Bob Scofield, vice president, corporate relations, are instrumental in the success of the Calabasas, Calif.-based landscape maintenance firm. (Photo on page 19: Larry Kaplan.)

BRUCE WILSON DOESN'T place much stock in the bigger is better theory. If he did, the president of Environmental Care Inc. would be resting easy.

Although ECI, a subsidiary of Environmental Industries, Calabasas, Calif., is the generally acknowledged sales leader in the landscape maintenance industry, Wilson isn't eating crow.

"I don't think we feel that there's that much to being the largest — if we are the largest," he said. "We like to be the best in each area. We're the largest in aggregate...but it doesn't get you a whole lot."

Regardless, ECI is a big company that works.

Like such well-known manufacturers as Johnson & Johnson, the secret to ECI's success is keeping the business divided into small, manageable units; that is, branches able to react quickly to market changes. Splintered into 20 branches in seven states, ECI branch managers are given free rein to contract work and get it done. That's their entire focus. Things like insurance, legal counsel and banking are taken out of their hands and dealt with at the corporate level.

"All they have to concentrate on is getting the new business, doing the work and keeping the customers happy," Wilson said. "It allows them to stay focused. I've seen a lot of businessmen get sidetracked, start getting involved in other things and take their attention away from the main business."

As president of ECI, Wilson gives his branch managers lots of latitude, continually fine-tuning and massaging the branch structure. Not only are the managers of ECI's branches encouraged to act independently, they're expected to. And they produce.

"We all take a lot of pride in ECI," he said. "As good as people think we are, we work really hard and concentrate on being better all the time. We run scared, like there's somebody after us every minute."

It pays off. ECI reported sales of \$58 million in fiscal year 1991-92. The most recently published sales figure for Environmental Industries, ECI's parent company, reached \$230 million. Except for new branches, individual ECI branches report sales in the \$2 to \$6 million range. ECI has nine branches in California and others in Denver and Colorado Springs, Phoenix, Houston, Las Vegas, Tampa, West Palm Beach, Jacksonville and Orlando. Its newest branches are in Torrance, Calif., and Atlanta.

The opening of the Atlanta office is one example of how ECI has grown and expanded by nature of its customer base.

"We've more or less grown by where our customers have taken us," Wilson said. "Our customers manage and own property there (Atlanta). They like what we do, how we treat them and, as a business, feel comfortable dealing with us."

ECI is predicting good things for fiscal year 1992-93, forecasting a 15 percent increase in sales.

"That's slow for us. Some of our branches will have a tough time growing 7 percent or 8 percent, but some are going to grow 50 percent and it's those smaller branches that provide bigger growth to drive the company."

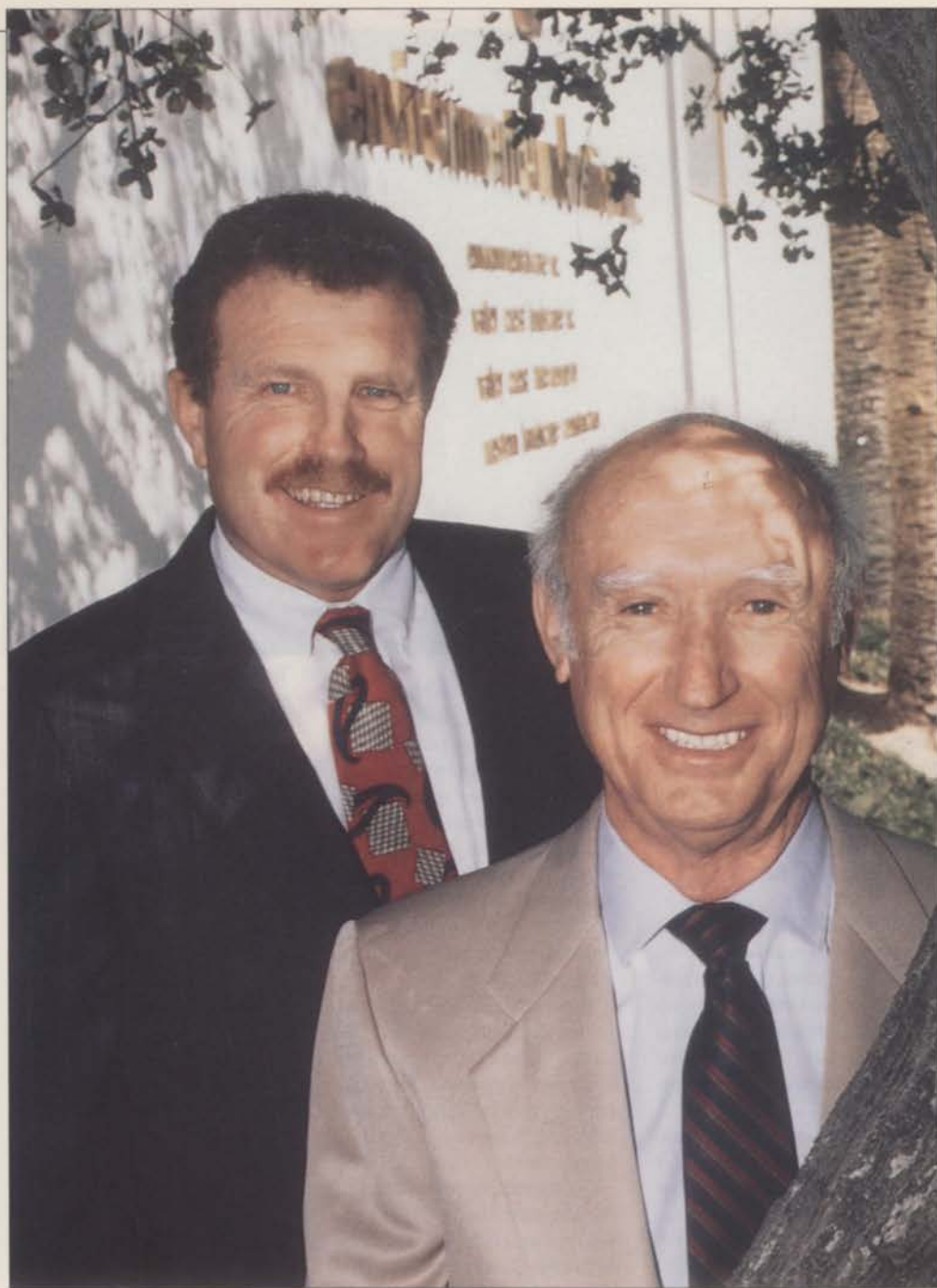
Environmental Industries and ECI have done nothing but grow, reporting sales increases each year and increased profits in every year but two.

"We mow like anybody else...we just love the business," said Burton Sperber, president and co-founder of Environmental Industries. "Focused, slow growth has been the key."

Still, branch offices are at the center of success for ECI. Establishing itself in so many different markets gives the firm opportunities a one-city or one-branch company doesn't have. When one market slows down, it generally looks for opportunities elsewhere.

And, while every branch acts independently, each staff knows the others are counting on them to succeed. Consequently, each branch manager and supervisor knows and is accountable for their individual budgets. Foremen not only know what man-hours are budgeted for each job, they know that for every minute they go over budget they spent too much time on the job.

"Some jobs are over budget because there's more work that week, and it's OK to be over," Wilson said. "The first thing is that they have to finish the job, and if they stay on budget that's a measure of whether they're doing it efficiently or not. It's hard to quantify some things, but we keep trying to sharpen our estimating skills."



CREATIVE AUTONOMY. One of the unique things about ECI is the ability of each profit center — construction, maintenance and trees — to stand alone. Sometimes the divisions do business together and sometimes they don't.

Although it would seem advantageous to frequently conduct business with one another, the independent system works well for ECI. A blend of entrepreneurialism and corporate structure, it creates a dynamic environment in which each manager operates his own profit center and, ideally, makes the best deals, according to Wilson.

Each division, including in-

teriorscaping and arbor care, maintains separate budgets. Each also has its own formula for determining overhead, direct costs and bottom-line profit.

"Typically, if we want to do maintenance for the construction division we have to do it for less money than we normally would. Sometimes it's worth it to get our foot in the door," Wilson said. "The company has been very successful because it has allowed each profit center to work independently, and it forces us to be competitive and creative and not just get the job handed to us."

Few jobs have come easy in recent years as the recession, linger-

ing drought and reduced housing starts have plagued the industry. Although somewhat sheltered from the economy by its multifaceted businesses and its intra- and inter-state organization, ECI is still feeling the effects of the recession.

At first glance, the construction business has been hurt more than maintenance. The reality, however, is that with little new business to go after, maintenance firms are fighting each other for the same business.

"Just as we try to take business from our competitors, we have to prevent others from taking our clients," Wilson said. "We have

to stay close to the client, keep our finger on the pulse of what's going on and make sure we have the last opportunity to save the job if somebody is going after it."

California, where the bulk of Environmental's business takes place, is dealing with construction woes in the southern region of the state, but is picking up some remedial work in the north. Freeze damage from a year ago and a subsequent shortage of water kept plant replacements at a standstill. However, better water supplies is enabling the firm to plant some new plant materials this year.

In areas where drought still per-

ENVIRONMENTAL CARE INC.

HEADQUARTERS:
Calabasas, Calif.

BRANCHES:
20 in 7 states

FOUNDED:
1970 as a subsidiary of
Environmental Industries

MAJORITY OWNER:
Burton Sperber

PRIMARY SERVICES:
Landscape management services including mowing, irrigation installation and maintenance, pest control, remedial landscaping, arbor care, interiorscaping, golf course construction and maintenance and annual color.

EMPLOYEES:
1,400 year-round

1991-92 NET SALES:
\$58 million

sists, the firm makes up for any reduced service levels by reading water meters, managing water better and doing manual rather than automatic watering when required.

But while California may not currently have a favorable business climate, the state does boast technical expertise. Wilson sees more sophistication in the use of horticultural chemicals to save labor, and a general understanding of horticulture as it relates to ornamentals.

About 10 percent of ECI's supervisory personnel are college graduated horticulturists.

BEHIND THE SCENES. ECI's roots date back to 1949 with the start-up of Valley Crest Landscape Nurseries. Valley Crest was a retail nursery in Southern California performing landscape, tree moving and irrigation projects. By 1959, the nursery had closed and the firm's name was changed to Valley Crest Landscape Inc.

Services expanded to offer landscape design and construction on apartment projects, industrial and commercial projects and model homes. In the early 1960s, Valley Crest identified the need to grow large quantities of trees for major landscape projects. To facilitate this business, Valley Crest Tree Co. was formed.

The two firms continued to grow and thrive in California and in 1969, Environmental Industries was formed as a holding company for all operating divisions. In 1970, Environmental Care was formed to handle maintenance. This start-up coincided with the acquisition of Green Valley Landscaping, one of the largest independent companies involved in industrial and commercial maintenance.

In 1976, Environmental Industries acquired Western Landscape Construction, a residential landscape company based in San Diego. Over the next 10 years the firm continued to expand and open new branches.

Over the years, Environmental Industries also developed quite a reputation in the golf course construction industry. In the mid-1970s, ECI began offering maintenance for golf courses.

In 1985, ECI started an arbor care division and a year later established its interiorscape division.

Just this spring, Valley Crest



Landscape merged with Oyler Construction, one of the largest landscape construction contractors in Florida. The deal completes the acquisition of Oyler by Environmental Industries which in 1989 merged Oyler's maintenance arm with ECI.

TEAM STRENGTH. While the branch managers are directly responsible for sales, customer service and job performance, a group back at corporate headquarters is working just as diligently to improve and increase Environmental's presence.

Wilson, who heads this group, began as a spray operator for ECI in 1971. He worked his way up through field operations, was responsible for opening the Denver branch office in 1973 and returned to California a year later to manage the San Jose branch until becoming president in 1980.

"We have a well-rounded group. They all have a good sense of humor, have fun doing their work and they're all very good," Wilson said. "We try to build as much as we can on other people's strengths. We also recognize that everybody has weaknesses and that you can get a lot out of people's weaknesses."

Here's a look at the corporate players:

Bob Scofield, vice president, corporate relations. Scofield has been with ECI since its inception in 1970. He started as general manager and was responsible for opening the first branch in Santa

Ana. Currently, Scofield is managing golf course maintenance.

Pam Stark, corporate vice president, responsible for administration and customer service. She's been with the company since 1975. Stark started in the field like everyone else, became branch manager of the East Bay branch and started the Palm Springs branch before moving to corporate headquarters.

Howard Mees, regional manager for southern California. Mees started the San Diego branch and has been responsible for ECI's equipment purchases in addition to his branch manager duties. He's been with the firm for 20 years.

Bill Arman, regional manager. Arman started in the field in San Jose and took over Scofield's post in Orange County when Scofield took on corporate sales. Now he manages branches in the northern part of Southern California. He's been with ECI since 1976.

Jack Bangs, vice president and regional manager in Colorado. Bangs first came to Green Valley Landscaping in 1968 (which later became ECI). After starting in the San Jose branch, he moved to Denver in 1973. He now manages all branches outside of California, except Florida.

Dave Hanson, vice president and regional manager in Northern California and technical support manager. Formerly a University of California extension agent and, at one time, an employee of ChemLawn, he now conducts research efforts for ECI's chemical

Technical expertise and a full-service arsenal help ECI complete successful projects.

and fertilization programs, and trains and supervises spray operators. He also manages the hazard communications program and compliance of ECI facilities.

Robert Flood is vice president of sales and manages ECI's interiorscape division. He's been with the firm since 1985.

Peter Sortwell started and manages the arbor care division. He's been with ECI for six years.

To this group, Wilson said, he brings the ability to keep the team together and focused. He also provides everyone the opportunity to express themselves and to excel.

BRANCH OPERATIONS. ECI employs 1,400 people year-round and primarily serves the commercial/industrial sector. In addition, each branch is responsible for maintaining a good number of condominium complexes.

The average job size is about one-half acre and is maintained for about \$1,000 per month.

Within each branch, supervisors are responsible for client contact while foremen are in charge of production and making sure the work gets done. Mostly two-person crews are out in the field performing a variety of tasks, although some branches use mowing and detail crews where applicable.

Each branch has one to three in-house mechanics and at least one full-time sales person depend-

ing on its size.

"One of the things that's allowed us to grow is to take qualified people and make their span of control larger so they can control more work," Wilson said. "Part of what we do is to stretch quality people over as much work as possible."

As far as equipment, ECI buys mostly through distributors although they do have a couple of national accounts with some manufacturers. The firm continually searches for and tests new equipment. "We like to have the best regardless of who manufactures it and what it costs. It saves labor, and labor costs us more than anything else," he said.

CLIENT RELATIONS. Like most landscape firms, ECI strives to be better than its competition. This is achieved through technical expertise, responsiveness, a full-service arsenal and consistency.

"We give the clients more value for what they pay, and I think our customer service is better than most," Wilson said. "If a client needs to talk with a manager, it's always the same person. That's

true of all of our branches."

Not all branches currently offer arbor care and interiorscaping, but ECI is working toward that goal.

To monitor its work, ECI has a survey system in place which measures the quality of its service through the eyes of its customers first after 30 days of service and then at each contract renewal. Written feedback is routed back to the corporate level rather than branch offices.

From there, Stark, corporate vice president, conducts personal interviews with representative clients from each branch. The information gives ECI insight into what customers really want and the ability to tailor its services to those needs.

"We do a lot of training of our supervisory people; anyone who has contact with the customer," Wilson said. "What we've learned from the interviews is how to be truly responsive."

Any negative survey comments are almost always turned into positives through quick client interaction. The corporate office

contacts the branch manager and the manager contacts the client, all within the same day of receiving the complaint.

UNTAPPED MARKET. Wilson sees unlimited growth potential in the lawn and landscape maintenance industry.

"For as much work as we do, we probably don't do more than 1 or 2 percent of the work in any market," he said. "We're seeing more big companies doing more than just landscaping. They're doing garbage and janitorial services...we may end up doing some of that to compete."

ECI plans to remain customer-service oriented and on a planned growth track, focusing on clearly defined markets. The firm will also continue to refine its training program.

"We focus a lot on training, but we still don't even come close to the amount or effectiveness of training we really need," Wilson said. "It's a problem."

As for hindrances to the success of the landscape industry, Wilson said, he sees the ability

of weaker firms to perpetuate themselves at the expense of legitimate firms a critical issue. Generous suppliers and liberal use of credit enables firms to exist when they would otherwise have little chance of fulfilling their financial obligations.

"If those selling product had more stringent credit rules, it would prevent a lot of these fly-by-night companies from staying in business," he said.

Those companies which come in, undercut a market's pricing level and then are unable to complete a job hurt the client, the end-user and the suppliers.

Despite its size, Wilson said he tries to be sensitive to the needs of the industry and young landscape firms.

"Some people put us up on a pedestal and think we're a lot different than they are," he said. "We go to industry meetings like anyone else, and we put what we learn there to good use." ■

The author is Editor of Lawn & Landscape Maintenance magazine.

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SAFETY ENFORCEMENT

STARTS AT THE TOP

Pre-employment screening, drug testing and ongoing training are among the more commonly cited components of a successful safety program.

By Julie A. Evans

SAFETY — WHO WOULD say it's not important? From infancy to adulthood, someone is always looking out for our well-being — if we're not already doing a good job of it ourselves.

But traffic signs warn us and street lights stop us and still we don't always get the message. Safety may be ingrained in our consciousness, but accidents happen — all the time.

Employees in the lawn and landscape maintenance industry encounter potentially hazardous situations daily — it's inherent in the type of work performed and the technology involved. But that doesn't mean that a company can't achieve a clean safety record.

"Everyone knows that safety is important. It's paying attention and trying to do something about it that counts," said Ronald Damgaard, president of Otto Damgaard Sons, Des Plaines, Ill.

"For some companies, when it hurts in the pocketbook, then they become safety conscious. We try to reach people before it gets to that point," he said.

At Otto Damgaard Sons, the safety policy is stated in English and Spanish, and employees are "made aware that the company is a fully conscious safety employer," Damgaard said.

"Tool box" talks are held twice a month on various safety topics. Employees with good safety records are rewarded with incentives like T-shirts and warm-up suits. In return, the company does its part to keep the workplace clean and equipment painted and in good repair.

"People have more respect for things that look good rather than a disorganized operation. Neatness is very important," Damgaard said.



Sign posting is only one component of a comprehensive safety program.

Back injuries related to lifting and vehicular accidents are the most commonly reported incidents at his company, he said.

"You have to explain to people the proper way to lift to avoid back injury. We've had bogus claims — back injury is one of the easiest things to fake.

"Unfortunately, there always seem to be bogus complaints. They're almost impossible to weed out and there are certain doctors

and attorneys that feed on that."

To cut back on the number of questionable claims, Damgaard tries "not to hire that type of employee in the first place. Pre-employment screening is the best prevention."

He also has a back-to-work program that has been fairly successful. "If someone feels that they're injured, we try to get them back to work as soon as possible, even if the work is of a lighter

nature, to avoid the extended claim."

Damgaard said peer pressure keeps most employees from abusing the system. "If you've got a soft job when you come back to work, your peers will keep you in line so you don't take advantage of the situation."

As for reducing the frequency of vehicular accidents, Damgaard gets the driving records of all potential drivers and requires a Commercial Driver's License (CDL) and drug testing.

He said the company's track record on safety is "absolutely improving." Still, safety can be a tough subject to teach in an ever-changing workforce. "Repetition is very important," Damgaard said. "We are always reinventing the wheel because of turnover and new employees on board. We've been in business since 1935 and still have problems. We are not perfect by any means."

TACTICS THAT WORK. In Dallas, Carl McCord has taken a tough stance on safety enforcement. He said drug testing and selective hiring have drastically reduced the number of accident claims at his Maintain Inc. firm.

According to McCord, the company had a strong safety program and fewer accidents in the early 1980s. But as the decade progressed, the quality of employees declined and the number of accidents rose accordingly. He was troubled by this trend, especially since his other company, Landscape Design and Construction, had a spotless safety record and had won numerous safety awards.

To pull Maintain back on track, McCord took a long, hard look at the problems plaguing his firm:

MOWING SAFETY: THE BASICS

THE TORO CO. and The St. Paul Risk Management Services have teamed up to bring lawn maintenance companies a safety basics program. Included is an audio cassette, manual and multiple choice quiz for management to share with mowing personnel. Among the safety suggestions included in the manual are:

- Study the operator's manual thoroughly. Review any available training videos. Learn to identify all safety and warning decals.
- Wear clothing that fits snugly, remove all jewelry and wear sturdy work boots or shoes.
- Be careful when lifting. Bend your knees, hold the load close to your body and pivot — don't twist. Plan the lift before you begin and clear the area.
- Conduct a pre-operation inspection of the equipment. Test all safety interlock devices and don't operate the equipment if any aren't working properly.
- Remove all debris and loose impediments from the area.
- If equipment becomes damaged or develops an unusual sound or behavior, cease mowing and return to the maintenance area for repairs.
- Never operate a machine that does not have all safety shields in place. Be sure the deflector shields and deck guards are ad-

justed correctly.

- Match your speed to the conditions and terrain. Learn which equipment is appropriate for which hills, and in which direction to work each hill. Never approach an unknown hill from the top.
- Approach curbs slowly and at an angle and creep over them one wheel at a time before proceeding.
- Never operate equipment while under the influence of alcohol or drugs, or while taking medication that could affect your reactions or your ability to concentrate.
- Always completely shut off the equipment, disengage the traction and cutting units and remove the key or spark-plug wire when getting off equipment or working around it.
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- Follow safe refueling practices. Cool the engine, refuel outdoors, use a funnel or nozzle, don't overfill and make sure nobody is smoking in the area.

The complete Turf Maintenance Equipment Safety Education Program is available from The Toro Co. For details, write: The Toro Co., Commercial Products Division, 8111 Lyndale Ave. S., Minneapolis, MN 55420; 612/888-8801.

tardiness, absenteeism, petty theft and of course, an unacceptably high number of accidents.

Today, McCord has done away with many of those problems. Most training now takes place in the winter, when his "students" read texts, watch videos and take quizzes two days a week. He brings in outside speakers and field supervisors to lecture on various training topics.

"We realized that these are peo-

ple with a minimum of on-the-job experience. They're young. They're macho. They don't sit back and think. Colleges don't train them at all."

McCord said pre-employment and random drug testing have had a tremendous impact on his company's safety record. For starters, he's managed to reduce the number of workers' compensation claims.

"Workers' compensation is a

big fraud," he said. "Insurance companies don't like to go to court and fight. At Maintain, we had a guy fake a back claim. He came back and told other employees, 'this is easy money.' Next thing you know, we had two or three more.

"The control had to come from within our company. That's when we started drug testing, checking drivers' records, issuing safety handbooks and improving our hiring practices. We hired a human

resources personnel manager who's also an industrial nurse."

Workers who miss three days of work without phoning in or providing a doctor's excuse are terminated, McCord said. In addition, the industrial nurse checks up on employees who stay home, and "you have to be home or at the doctor's office," McCord said.

"Our real intent is to help, because we do care. What angers us are the few who abuse the system."

SPIC 'N SPAN

PROTECTIVE EQUIPMENT and apparel must be maintained on a regular basis to prevent the buildup of pesticide residues. Clothing and equipment worn during pesticide applications should be dedicated for these purposes only.

If clothing contaminated with pesticides is worn during other activities, it increases the likelihood that the pesticides will penetrate the skin, especially in high-perspiration areas.

Clothing worn during pesticide applications should be laundered on a regular basis, preferably daily. Exposed clothing should be separated from other items of family laundry. It's best to use a plastic garbage bag or a "dedicated" laundry hamper for collecting contaminated clothing.

Clothing should be washed as soon as possible after each day's use. Residue removal is less complete as the concentration of pesticide increases.

Pesticide removal is enhanced when pre-

wash products or presoaking is used. If using the presoak cycle of a washer, let the presoak water drain, then refill with fresh water for detergent washing.

Because pesticide residues transfer from contaminated clothing to "clean" clothing during the washing cycle, it's important to launder pesticide-contaminated clothing separately. Also, only garments contaminated with the same pesticides should be washed together.

As for wash water, the hotter the better. Temperatures of at least 140 degrees Fahrenheit have proven best. The rinse temperature is not as important.

During laundering, use a phosphate detergent or a heavy-duty liquid detergent. Heavy-duty liquid detergents are particularly effective in removing particulate soils, but are not as effective in hard water. If hard water is a problem in your area, increase the amount of detergent 1.25 to 1.5 times.

A normal 12-minute washing cycle works best. Also, limit the number of garments in the load. Too many items in the wash tub or too low water volume can decrease agitation and reduce soil removal. If the washer has a sud-saver feature, it should not be used for pesticide-soiled clothing.

Multiple washings are recommended for clothing contaminated with more concentrated pesticides. Clothing contaminated with highly concentrated pesticides should be discarded.

After laundering, swab down the inside of the washer tub and run the washer through a cycle before using it for the rest of the family wash.

Finally, line drying is recommended whenever possible because many pesticides break down in the sunlight. Do not dry clean pesticide-contaminated clothing. — *Excerpted with permission from The Handbook of Pest Control by Arnold Mallis.*

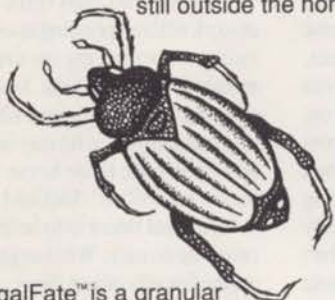
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USE READER SERVICE #76

Like McCord, Bruce Church uses drug testing to weed out undesirable employees.

As president of D.R. Church Landscape Co., Lombard, Ill., he offers a \$50 reward to employees with no lost-time accidents or property loss within the year. Good attendance counts, as well.

The company holds safety committee meetings twice a month. Representatives from installation, maintenance, irrigation, administration and mechanical service departments attend and bring the information back to their co-workers.

The company also requires foremen to come into work two to three weeks prior to the beginning of a new season for training. This helps "tremendously," Church said.

Workers' compensation rates have declined as a result of the emphasis on safety, Church said. "When we started the safety incentive program, we had a 1.18 workers' compensation modifying rate. Since 1983, we've dropped to 0.84. That's a huge savings." (He estimates total savings at about \$140,000 to date.)

Church stays on top of safety issues through his association involvement. As a member of the safety and risk committee of the Illinois Landscape Contractors Association, he is constantly learning new strategies and implementing them at his company.

"An investment in safety is not only morally appropriate but it's an investment that will pay back in real dollars 10 times over," he said.

To Joe Carpenter, president of Landmasters, Gastonia, N.C., safety is "paying attention to common sense things, and keeping up with

OSHA (Occupational Safety and Health Administration) requirements."

Tool box talks are held once a week and any accidents or injuries are critiqued.

Carpenter noted that it's important to abide by your clients' safety requirements as well as your own. "You should learn their emergency procedures, evacuation sites and designated places for injured people to go," he said.

SELLING SAFETY. In Port Orange, Fla., Jim Carter has heard his share of accident tales. Owner of Jim's Landscape Maintenance, Carter is also at the helm of a fledgling company, W.E. Chapps, that markets protective clothing to landscape contractors.

Because he makes his living from the landscape industry, Carter knows first-hand the importance of safety. "I just heard the story of a lawn maintenance employee in Florida who was weeding high grass around a trailer with a string trimmer. He kicked up a piece of broken glass and the glass went into a

muscle in his thigh." The glass was surgically removed, Carter said.

Carter designed leg protectors to reduce the number of such incidents by providing a strong, removable source of added protection. His "Chapps" or leg protectors wrap around the leg and cover the areas most vulnerable to string trimmer and brush cutter injuries.

Carter now offers arm protectors and a chemical spray protector as well. All products are patented or patent-pending. ■

The author is Associate Editor of Lawn & Landscape Maintenance magazine.

"The control had to come from within our company. That's when we started drug testing and improving our hiring practices."

TALKING IT OUT

THE SAFETY MEETING is a vital component of any safety program. Here, all levels of personnel come together and discuss a common theme. The Associated Landscape Contractors of America recommends the following tips on planning successful meetings:

- Hold the meeting at least once a week. Regular meetings reinforce the idea that they are a valuable part of the job.
- Hold the meeting at the beginning of the day or right after lunch, or after a break. Perhaps the best time is at the beginning of the work day when everyone is alert.
- Hold the meeting right on the job, preferably where persons can sit.
- Limit each meeting to between five and 10 minutes. If discussion gets hot and

heavy, continue it at the next meeting.

- Discuss only a single point or subject. And don't choose too broad a subject.
 - Spend some time and thought before the meeting, so that you are ready to stimulate discussion if necessary.
 - While you may open the meeting by stating the subject and presenting the hazard or problem, try to get the group to develop the discussion and to sum up the solution that will provide safety.
 - Use positive approaches and conclusions whenever possible.
- ALCA also recommends maintaining a log of meeting topics and attendees. Note taking is not recommended because it might limit participation. Notes and minutes can be made after the meeting.

POWERFUL TOOLS

PERFORM IN MANY USES

Trimmers, edgers and brush cutters are mainstays for landscape contractors.

Take a look at some of the new and revised products the green industry has to offer.

LIGHTWEIGHT YET durable. That's what lawn and landscape maintenance operators can expect to find in new edger, trimmer and brush cutter offerings.

Also look for convenience, comfort and safety features such as anti-vibration systems, comfort-grip handles and counter-rotating blades.

To help ease buying decisions, *Lawn & Landscape Maintenance* magazine rounded up some of the latest product offerings from manufacturers. Read on to learn what's new in the trimmer, edger and brush cutter market

AVAILABLE FROM **Echo** is a lightweight, hand-held power edger. Model PE-2400 weighs 13 pounds and offers a 23.6 cc engine and electronic ignition.

The edger-features an 8-inch blade for deep-cutting applications and a pivoting mechanism



for easy depth setting. Large, steel wheels with ball bearings and solid rubber tread allow the edger to maintain consistent depth

over rough terrain.

Circle 145 on reader service card

The new Pro-Line edger from **Encore** maneuvers easily to promote a clean and manicured edge. A counter-rotating blade protects



the operator from debris. The unit is powered by a 3-h.p. Briggs & Stratton or 4-h.p. Honda engine.

Other features include belt idler design; one-lever control of height adjustment and blade engagement; and front-to-rear wheel alignment. The blade shaft has wide-spaced, sealed ball bearings with trash guards to promote longer life. Steel ball bearing wheels are designed for added durability.

Circle 146 on reader service card

The **Husqvarna** model LE309 edger is powered by a 3-h.p. Briggs & Stratton engine. Its 9-inch edger blade with "curb hop" allows users to adjust the height of the wheels for trimming along curbs.

Other offerings include: mud scrapers on the blade shield and rear wheels; handle-mounted depth control; and 7/8-inch handles. For added stability, the unit

has a wider 15-inch base and dual front wheels. Maximum cut depth is 2 3/4 inches.

Circle 147 on reader service card

Ten lightweight trimmers are also available from **Husqvarna**. Five models are powered by a 25.4 cc engine; and five models by a 32 cc engine. They range in weight from 11.5 pounds to 13.4 pounds.

All trimmers include a one-button injection starting system; no choking or half throttle is necessary. The muffler is molded of an aluminum alloy for noise reduction. Some models feature



detachable shafts for easy transport and storing.

Circle 148 on reader service card

Edger/trimmers from **Jacobsen** offer 2-cycle, 4-h.p. engines, 5/8-inch cutter head shaft with steel pulley, heavy-duty steel frame and 10-inch spring steel blade. Steel rim wheels with regreasable ball bearings and 8-inch semi-pneu-

matic tires are built for smooth operation. The front wheel can be adjusted from left to right to



match cutting conditions. An optional curb wheel attachment provides added stability for edging from street side.

Other features include handle-mounted throttle control and blade depth/clutch lever. The cutter head can be set horizontally for trimming in hard-to-reach areas.

Circle 149 on reader service card

John Deere offers a line of gasoline-powered trimmers and brush cutters in power sizes from 21.2 cc to 37.8 cc and cutting widths from 16 to 17 inches.

Optional 8- and 10-inch saw blades are available, as well as an 8-tooth brush blade and a pro trim-cut blade. The units are powered by a commercial grade engine that features an adjustable carburetor,



primer bulb, electric ignition, diaphragm carburetor and an extra large spark-arresting low-tone

muffler. Anti-vibration mounts reduce operator fatigue.

Circle 150 on reader service card

The LHS 3000 single-sided, gas-powered hedge clipper from **LESCO** offers electronic ignition,



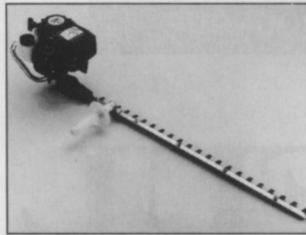
an anti-vibration system for its rear handle and an air-cooled, 2-cycle gasoline engine.

The unit's cutter length is 30 inches. Other features include a 21.2 cc displacement engine and diaphragm carburetor with purge pump. It weighs 12.7 pounds.

Circle 151 on reader service card

Gasoline hedge trimmers from **Little Wonder** are available in 16- and 30-inch blade lengths and cut growth up to 1-inch thick. The fully sealed gas tank is designed to allow usage in any position without leakage.

The 2-cycle engine has quick



starting electronic ignition.

Circle 152 on reader service card

The Titan 2500 trimmer/brush cutter from **McCulloch** is designed to trim large areas and thick vege-



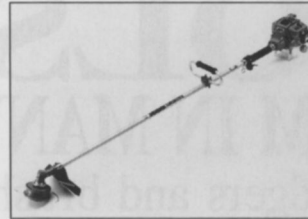
tation. It has a 25 cc engine, 56-inch solid-steel straight drive shaft to withstand higher torque loads,

centrifugal clutch, all-position carburetor with primer and a two-line, auto-feed head.

Options include a clearing blade and "U" handle kit.

Circle 153 on reader service card

The T-27 trimmer from **Shindaiwa** offers a 27.2 cc engine with 1.5-h.p. high-torque power at



8,000 rpm. It weighs 12.3 pounds and has a 60-inch shaft to eliminate stooping.

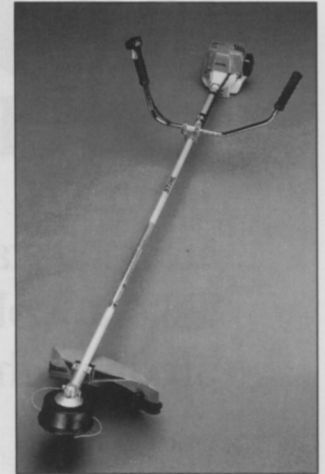
Standard equipment includes electronic ignition; TK diaphragm carburetor; U.S.F.S.-approved spark arrestor muffler with replaceable screen; an anti-vibration system that encompasses engine, grip and handle; automatic centrifugal clutch; and a fully automatic trimmer head.

Other features include high-

capacity flywheel fins for forced air cooling; automatically adjusting fuel tank breather that prevents vapor lock; externally mounted polyethylene fuel tank; and air filter silencer.

Circle 154 on reader service card

The FS 76 trimmer/brush cutter from **Stihl** features a 23.9 cc



engine, electronic ignition, anti-vibration system and single lever Master Control (half-throttle,

(continued on page 30)

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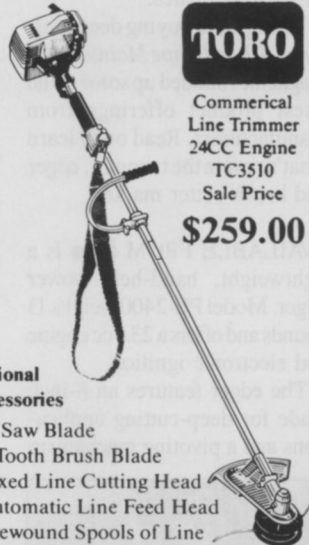
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Landscape Tools

(continued from page 26)

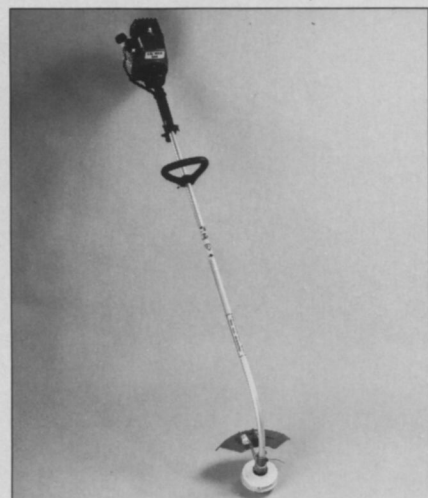
throttle and stop switch). It weighs less than 12 pounds.

Circle 155 on reader service card

The Efco deluxe trimmer/brushcutter safety harness is designed for operator comfort, control and safety. Available from **Tilton Equipment Co.**, the harness features wide, foam-padded shoulder straps; a thick, cushioned hip pad, a vibration-reducing coil spring mount hook; and a quick-release safety feature.

Circle 156 on reader service card

Tilton Equipment Co. offers the Jonsered line of trimmers and brush cutters. Models range

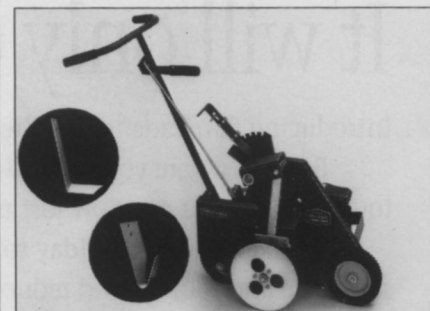


from the lightweight, curved-shaft 26 cc loop handle to the 51 cc heavy-duty clearing saw.

Features of the various models include chokeless primer bulb carburetors, heavy-duty tempered steel shafts supported by multiple bearings and mounts, anti-vibration systems, chrome-impregnated cylinders, ball bearing-supported crankshafts and heat-treated, ball-bearing helical gear transmissions.

Circle 157 on reader service card

The Turfco Edge-R-Rite multi-purpose turf edger is available in self-propelled and push models. Optional blades include a disc blade



for cutting straight edges along sidewalks and driveways; the "V" blade for removing a strip of turf along a sidewalk; and a right angle blade for edging along flower beds and golf course sand traps.

Circle 158 on reader service card

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TURNING AUTUMN LEAVES INTO COLD HARD CASH

Although leaf removal is the primary service of fall cleanup, additional services can boost revenues and protect the client's investment in the landscape.

By Julie A. Evans

"FALL CLEANUP is profitable, but you have to sell it that way," said Monty Mitchell, president of Suburban Landscape Associates, Davenport, Iowa. Like many landscape contractors, Mitchell offers fall cleanup to his clients, thereby extending the season of profitability to year end.

But fall cleanup does more than boost revenues. It protects the client's year-round investment in the landscape by reducing potential turf diseases. Snow mold and other fungal diseases, for example, are reduced when turf areas are kept free of debris in winter. Bare spots also are less likely to crop up when winter's snow melts into spring.

Despite the obvious benefits of fall cleanup, commercial clients are more likely to subscribe to this specialty service than residential clients. Cost is one factor. Depending on the site (heavily wooded vs. lightly wooded), fall cleanup can require more time and effort than mowing and is often priced higher. Another reason is that many homeowners see fall cleanup as a service they can perform themselves.

This is especially true for owners of smaller or sparsely wooded properties.

Mitchell said he prefers commercial clients for fall cleanup. "We got rid of our residential accounts," he said. "You can't recover your costs on residential. Businesses are more understanding of rates and how they need to be charged out."

Mitchell said that fall cleanup is a specialty service and should be billed as such. He finds it most

profitable to itemize each service (e.g. leaf removal, tree protection, erecting a snow fence). Then, as he builds up his relationships with clients, "they assume you will provide (those) services, and you can lump sum them in there."

"There's a better appreciation for payment by the customer if we line item it and bill it as a specialty service," he said. "We've found that if you throw it into the hat and say 'we're going to do this and that' and then do it, they never

know the service was performed. With an itemized bill, the customer sees what you've done."

At Hillenmeyer Nurseries, Lexington, Ky., nearly all commercial clients request fall cleanup. Although it's up to the client whether it will be billed as an add-on service or part of the seasonal contract, the company prefers the latter option, said co-owner Stephen Hillenmeyer.

"The advantage of including fall cleanup in the contract is

scheduling. Then we can anticipate how much we can do and provide better service. Add-ons are good, but they create a scheduling nightmare."

He estimated that 75 percent of those who subscribe to fall cleanup want it included in the contract. "Most people are educated enough to know they need it included in the budget."

Homeowners are a tougher sell. "They see it as something they can handle vs. mowing 25 to 30 times a season," Hillenmeyer said. "We try to sell it as 'we'll cover you January through December, and here are the things you don't have to worry about.'"

R.B. Stout, a full-service firm in Akron, Ohio, doesn't include fall cleanup in its regular contracts. Instead, it charges time and amount, or "however long it takes us to do the job," said Mike Roberts, grounds maintenance supervisor.

"Generally, our clients understand they can't be charged the same for fall cleanup as for regular mowing, because it's going to take three times as long."

Rain fall can dramatically slow down the work rate. "If there's too much rain, we call it a washout. It's too difficult to do. On a wet day, we can only do three houses vs. 10 houses on a dry day."

In Fort Wayne, Ind., Landscape Services provides fall cleanup services to an estimated 90 percent of its clientele (high-end residential and commercial). Most clients are charged an hourly rate because "leaf removal can be very time consuming and can vary

(continued on page 34)



Fall cleanup adds revenues, keeps crews busy and protects the landscape.

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USE READER SERVICE #13

Fall Cleanup

(continued from page 32)

from year to year," said Daniel Skinner, president.

"We make it simple," he said. "There's no charge for the equipment in our fall cleanups; we just charge for the man-hours."

Skinner said he may charge new clients on a materials-use basis for two to three years, or enough time to estimate the appropriate hourly rate.

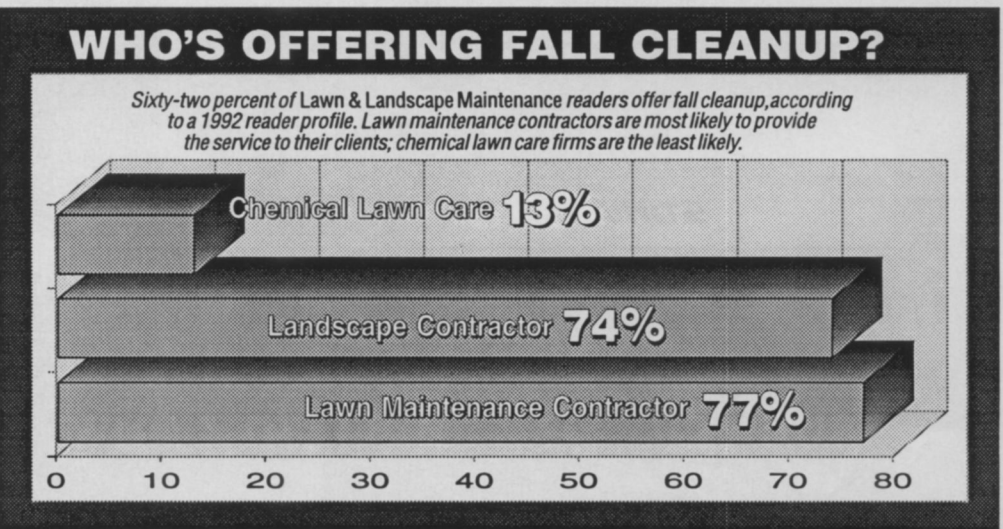
Joe Bilskemper, president of Lawn Care Specialists, La Crosse, Wis., said he doesn't offer fall cleanup as an extra service, but he does provide leaf bagging during the final weeks of the regular mowing season. "Instead of cutting and mulching clippings, we put bagging attachments on and pick the leaves up. We're adding a small service to our clients and keeping crews busy."

Bilskemper charges the cost of a mowing for this service.

In Dayton, Ohio, Bill Clutter, president of TurfGard Co., doesn't offer fall cleanup. Like many lawn care firms, TurfGard is too busy with fall fertilization and seeding to tack on additional services such as leaf removal.

"Fall cleanup gets so labor intensive," he said. "Fall is our second biggest push to get the work done. I've never had the luxury of having the available manpower."

"Most people think of spring as being busy. For us, fall matches the spring."



Source: LLM Reader Profile/Buying Intentions Survey

WHAT'S INCLUDED? Although leaf removal is the primary component of fall cleanup, other services can be offered to increase profits and enhance customer satisfaction.

To Mitchell, fall cleanup entails any number of additional services, depending on the client. Among other services, his company offers fall bed preparation including the removal of annual flowers; shrubbery protection; and fall fertilization.

Martin & Associates, Vernon Hills, Ill., provides deer protection as a service to some of its clients. According to horticulturist Cathy Walker, the company applies a deer repellent to evergreens.

In addition to leaf removal,

Skinner said he also applies antidesiccants to all evergreens and prepares for snow removal by spreading gypsum in salt runoff areas. The gypsum locks up the salt and prevents it from killing off plant materials.

Pat Bucci, horticulturist for Carroll College, Waukesha, Wis., said she protects certain plants such as the euonymus (burning bush) from rabbits. She uses lightweight aluminum with 1/4-inch mesh or chicken wire to keep the animals out.

COMPOSTING LEAF WASTE. To dispose of the high volume of leaf waste, many landscape contractors compost the leaves and either use the compost in bedding or market it to clients.

Hillenmeyer said leaves are returned to the nursery for composting. From there, the compost is used to retain moisture in stored plant materials; or it's run through a grinder and reused as a soil additive in bed preparation.

The composting operation is large enough that the city dumps some of its leaves at the nursery for composting.

Skinner started composting last year in response to the high cost of disposal and impending landfill closures in Indiana. He uses the compost in his greenhouses and sells it to clients for their flower beds.

"We used to just throw the leaves in the dumpster or in a field but now we're composting it," he said. "We mix the leaves with

KEEPING YOUR SAWS IN SHAPE FOR FALL CLEANUP

WITH FALL CLEANUP just around the corner, it may be time to give your chain saws a once-over before preparing your crews to clean up after a fall storm, clear brush or trim unwieldy branches. Get the most from saws — and reduce the risk of accidents — by following some simple tips on chain saw maintenance.

Clean the air filter. Remove, clean, check for damage and re-install the air filter. A dirty air filter is a major cause of poor engine performance and excessive fuel consumption.

Clean the cylinder cooling fins. Clean the area around the cylinder for maximum heat dissipation.

Check the muffler and the spark arrester screen. The muffler is equipped with a spark arrester screen that prevents sparks which may cause a fire. Inspect the screen once a week. Clean with a wire brush, or replace the screen as needed.

Check the front hand guard. Replace if damaged.

Clean and inspect the chain brake. Remove the clutch cover and clean the chain brake components. Make sure the brake is disengaged before the cover is reinstalled. Following manufacturer's instructions, check the chain brake band for wear. Manually test the chain brake. Replace the chain catcher if damaged.

Check the throttle trigger and throttle lockout. Make sure the trigger cannot be pulled until the throttle trigger lockout is de-

pressed, and that the engine readily returns to idle when the trigger is released. At idle speed, the saw's chain must not rotate.

Inspect the starter and starter cord for wear and damage.

Thoroughly clean the air intake slots on the starter housing.

Check the chain tension. To check chain tension, set the saw on a level surface and then move the chain around the guide bar by hand to ensure the chain moves freely without sagging below the bar. Wear gloves.

Check the chain oiler. With the saw running, point the tip of the bar downward toward a light-colored surface. A line of oil should spin off the bar.

Sharpen the chain. Simple chain sharpening guides are available, and brief instructions on field filing will see your customer through the day with a sharp saw.

Rotate the bar. Chain saw bar maintenance is equally important. Rotate the bar for more even wear; file any burrs off the sides. Again, use gloves.

Test the stop switch. Ensure the stop switch shuts off the engine.

Finally, check for loose nuts and screws, and retighten if necessary. — John Foster, Forestry Products Service Manager, Husqvarna Forest & Garden Co. ■

clippings collected in summer and any other biodegradable material, and compost it."

Skinner also composts leaves and other lawn debris on the site of some of his larger residential accounts. "It's a revenue builder throughout the year because we have to return and mix up the compost."

"On 12 acres, you get a lot of leaves. For them to throw all that stuff away is cost prohibitive."

Skinner, who sells the compost for \$18 to \$38 a cubic yard, said he can never get enough compost. His success is partly due to his willingness to educate the client about the value of compost as a soil amendment.

R.B. Stout's Roberts said the company is in the process of creating a compost area. For now, the company uses ground up leaves as a temporary moisture barrier for trees in storage.

Bilskemper said that the company takes its bagged leaves to the landfill, but that will change in 1993 when landfills in Wisconsin begin to close their doors to yard waste. Although he has no

plans to open a composting site, his city is exploring the possibility of a community compost pile.

EQUIPMENT. From mulching mowers to vacuums or sweepers, a variety of equipment options are available for fall cleanup.

Walker of Martin & Associates said they use the same equipment for fall cleanup as they use during the regular season. The staples are walk-behind and backpack blowers which blow leaves onto a tarp for easy disposal, she said.

Hillenmeyer said his company blows leaves into piles, then drives a dump truck with a vacuum over the piles.

"It reduces time and labor tremendously," he said. "It also shreds (the leaves) as it sucks them up so you get more in the truck and spend less time traveling back and forth dumping."

Steven Chapman, certified grounds manager for Digital Equipment Corp., Salem, N.H., said some leaves are mulched early on in the season with a mulching mower. This cuts down on labor later in the fall as the volume



The sweeper is one of many fall cleanup equipment options.

of falling leaves increases. He uses backpack blowers to move leaves out of wooded areas; and a vacuum that mounts on the draw bar of the trailer for leaf removal.

Chapman advised other contractors to make sure equipment is working properly early on in the season. "Make sure you have a good leaf vacuum and leaf blower," he said. "You don't want to get stuck if the equipment breaks down."

For Skinner, fall cleanup equipment includes heavy-duty blowers and tractor implements, "espec-

ially ones with PTO off the back to develop the necessary thrust to heave the leaves."

Sweepers are another fall cleanup tool. Their ability to remove leaves from both pavement and turf areas make them an attractive option for some landscape contractors.

The author is Associate Editor of Lawn & Landscape Maintenance magazine.

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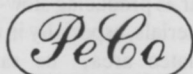
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USE READER SERVICE #21

FERTILIZERS TAKE ON NEW CHALLENGES

Higher-analysis fertilizers, reduced top growth and longer lasting products are key trends in turf fertilization.

By Bob Gitlin

REDUCING TOP growth is still a main concern among lawn maintenance professionals, as is application of slow- or controlled-release fertilizers. Chemical fertilization programs are still capturing the lion's share of the work, although organics have been adopted as options by more contractors.

Kathy O'Hara, director of public affairs, The Fertilizer Institute,

a trade group based in Washington, D.C., said slow release is of vital importance to lawn maintenance contractors. "The trend we see is not so much their increasing availability, but the increased awareness of fertilizers as providing an environmentally sound technique."

Controlled-release fertilizers — whose season-long utility is intended to preclude the need for

repeat applications, and introduces adjusted budgeting considerations — encountered a bit of resistance a few years ago.

"People were afraid they would put down a full season's worth of expensive fertilizer and lose the account in a month," said Mark Broxon, group marketing manager, Grace-Sierra, Milpitas, Calif. "Also, it tends to discourage the applicator from coming back,

which means he might not be able to charge as often. Three years ago, people were saying, 'What do I want to use this for? I want to go back four or five times.'"

CHANGING ATTITUDES. But contractor attitudes have shifted dramatically, he said, as the trend toward environmentalism begins what he sees as a trickle-down, starting with the larger lawn maintenance companies. "We're now finding real interest by these companies in our product." Resistance to constant repeat chemical spraying comes mostly from homeowners rather than commercial property managers.

The benefit of a controlled-release fertilizer is its coating, which releases the nitrogen very slowly, whereas traditional fertilizers release quickly, potentially "burning" the turf and generating volumes of top growth which cannot be dumped in many landfills anymore.

With a successful application of a controlled-release fertilizer, the grass uses up all its nutrients. The lawn suffers no leaching or famine, nor does the contractor have to bear the costs of fixing those problems. Sellers of these products usually mention this when explaining the cost of advanced technology.

Sales of controlled-release fertilizer have gone particularly well for Grace-Sierra in the East and upper Midwest, where seasons are easily defined, Broxon said.

Dean Mosdell, program manager, fertilizer research, O.M. Scott & Sons, Marysville, Ohio — which has come out recently with its new Poly-S sulfur-coated-urea product — agrees the trend continues toward use of slower-release fertilizers on turfs.

"There's a lot more competition as far as producing slow-release materials, especially in the encapsulated area," he said. "Starting in 1986, we looked at improvements to sulfur-coated urea. We finally achieved an ideal formulation reducing the amount



Granular or liquid, slow-release or organic, fertilizers are a high volume lawn-care product.

(continued on page 40)

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Name	Mean
Arid	6.0
Finelawn I	5.6
Trident	5.4
Pacer	5.3
Mustang	5.3
Apache	5.2
Tempo	5.1
KY-31	5.0
Falcon	5.0
Hounddog	5.0
Adventure	4.9
Jaguar	4.9
Bonanza	4.8
Olympic	4.8
Maverick	4.7
Willamette	4.6
Rebel	4.5
Clemfine	4.4
Brookston	4.4
Johnstone	4.0
Kenhy	3.4

Data from USDA National Turfgrass Evaluation Program

Drought Tolerance (Dormancy) Ratings of Tall Fescue Cultivars

Dormancy Ratings 1-9		9=No Dormancy	
Name	Mean	Name	Mean
Arid	7.7	Chesapeake	5.7
Olympic	7.7	Tempo	5.3
Apache	7.3	Hounddog	5.0
Jaguar	7.3	Pacer	5.0
Finelawn I	6.3	Johnstone	5.0
Mustang	6.3	Kenhy	5.0
Rebel	6.3	Maverick	5.0
Bonanza	6.0	Brookston	4.3
KY-31	6.0	Clemfine	4.3
Adventure	5.7	Trident	3.7
Falcon	5.7	Willamette	3.3
Finelawn 5GL	5.7		

Data from USDA National Turfgrass Evaluation Program

Brown Patch Ratings of Tall Fescue Cultivars

Brown Patch Ratings 1-9		9=No Disease	
Name	Mean	Name	Mean
Arid	6.3		
Adventure	6.2		
Jaguar	6.1		
Rebel	6.0		
Pacer	5.9		
Maverick	5.8		
Falcon	5.8		
Clemfine	5.7		
Apache	5.6		
Tempo	5.6		
Olympic	5.6		
Hounddog	5.6		
Chesapeake	5.5		
Finelawn 5GL	5.5		
KY-31	5.5		
Mustang	5.5		
Bonanza	5.5		
Trident	5.5		
Johnstone	5.5		
Finelawn I	5.3		
Kenhy	5.0		
Willamette	4.9		
Brookston	4.3		

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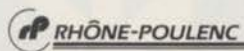


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Fertilizer Trends

(continued from page 36)

of sulfur and adding a polymer on the outside to slow initial release — getting all the urea out of the sulfur-coated material. Interest in new advances in encapsulated fertilizer are a noticeable uptrend this year.”

According to David White, director of marketing, CoRoN, Souderton, Pa., “Many are taking a harder look at controlled release because of consumer/environmental concerns about such things as groundwater quality. Penn State and other studies show fertilizers can leach out, however small the chance.”

Also, a trend industrywide toward total maintenance has influenced turf-fertilizer buying and application decisions, he said. Contractors are starting to see the advantages of fewer visits. “With slow release, these guys can now apply fertilizer fewer times and maintain a more even turf, without the big flushes.”

Sure, a lot of maintenance firms view the product's downside of fewer visits; all they know is they get paid \$35 every time they go out and spray. The economies, however, appeal to companies involved in total maintenance.

“These guys contract with a property to fertilize and maintain the turf,” White said. “The owner of that property could care less about how many times they came out, as long as it looks maintained. If the contractor can cut his fertilization to three applications a year, that's saving him money, especially if he's getting paid a flat rate to maintain the property.”

Because of recent dry summers, slow-release fertilizers are more in demand this year than last, said Craig Filley, sales representative for The Andersons, Maumee, Ohio. Like most traditional synthetic-fertilizer marketers, The Andersons offers organic alternatives as well. But sales of the latter have lagged far behind those of chemical fertilizers. “They're relatively expensive, and most of the time the consumer doesn't want to pay for it,” he said.

“There's a trend from liquid to dry fertilizers,” said Greg Richards, chemical product manager, LESCO, Rocky River, Ohio. He cites transportation costs, and a public perception (whether warranted or not) that granules are nicer to the environment.

“Also,” he said, “they seem to be switching to higher-analysis fertilizers, getting away from 10:10:10s and the 15:5:5s and into 32:5:7s and 34:3:11s. They only have to put down 3 pounds per thousand to get a pound of nitrogen vs. 5. People are switching to urea formaldehyde or sulfur-coated urea (a nitrogen source lasting six to 10 weeks vs. three to four), and more people are switching to fertilizers with micro-nutrients.”

LESCO, which offers both granular and liquid fertilizers, sells more turf fertilizers in Florida than anywhere else. Indeed, that state is the nation's largest fertilizer consumer.

“Customers know what they want from a fertilizer in terms of slow release — the sulfur-coated-urea portion — but they're sensitive about cost,” said Harry Mathis, national sales



Once in liquid form, O.M. Scott's fertilizer diffuses outward through the coating.

manager, lawn care and landscape products, Lebanon Turf Products, Lebanon, Pa. “But people who mow look at it differently from those who don't. The smaller landscaper is starting to not want to cut hay every week. Slow-release nitrogen is not a luxury, but a need in overall turf management. They start to understand that they pay a little more for controlled-release fertilizer, but they get more.”

Parker Fertilizer Co., Sylacauga, Ala., has come out with new Polyon controlled-release fertilizers that the company said are specifically designed to meet the prolonged feeding requirements of turfgrasses (as well as ornamentals).

To a great extent, both the traditional chemical fertilizer suppliers (who generally offer organic alternatives) and the original organics companies are addressing the same increased concern for environmentally benign products.

Milorganite, a decades-old organic fertilizer made from activated Milwaukee sewage sludge, is the “corn flakes” of lawn care; people are discovering it as if for the first time.

Terry Ward, sales and advertising manager for Milorganite, explained: “People are re-discovering the slow-release and the organic side of Milorganite. We even predate our friends at O.M. Scott by a couple years. Our business this spring has been nothing short of tremendous.”

“I was just down in Florida doing car-seat market research, driving down the road and stopping at outlets, any place with a fertilizer sign out. I got out and talked to people, asked them how things were going. People told me they were having a pretty average year, but Milorganite was booming.”

New England also has been strong, he said.

BRIDGE PRODUCTS. “We've seen slow-release synthetics on the uptrend for 10 years,” said Mark Nuzum, president, Harmony Products, a manufacturer of organic fertilizers, based in Chesapeake, Va. “The secret of good turf fertilization and management is slow-release mechanisms, whether sulfur-coated urea, urea formaldehyde, IBDU or whatever. We see the trend also in incorporation of natural organic materials into the soil. Organics fertilize the

(continued on page 42)

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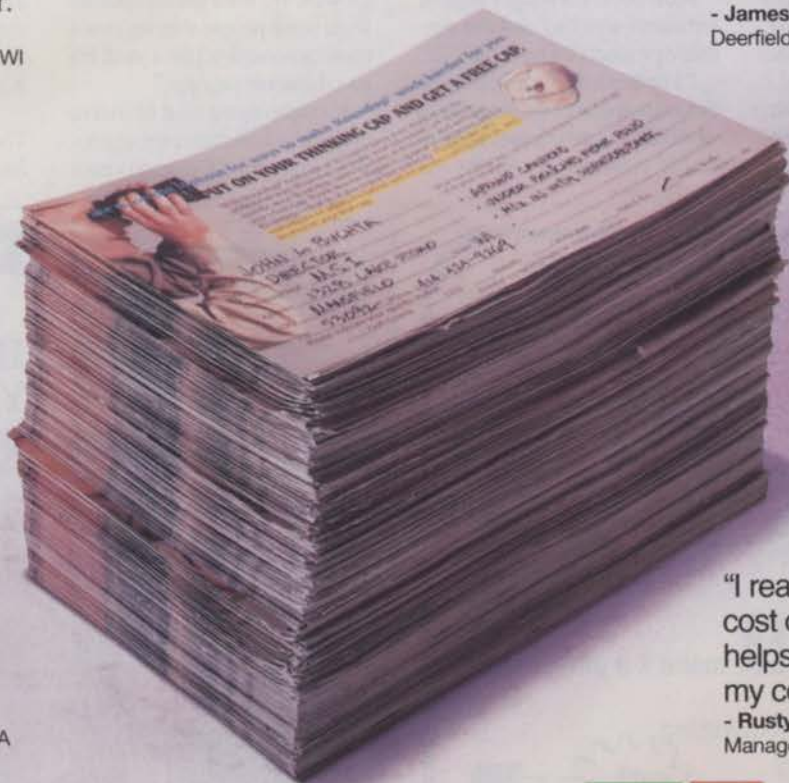
- **James Rhoden**, Superintendent,
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- **Mark Davis**, Owner, AAA
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- **Patricia Ann McCurry**
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- **Rusty Holt**, Owner, Property
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- **Slade Strickland**, Director of Parks Recreation and
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Fertilizer Trends
(continued from page 40)

soil, not the plant directly. We feed the soil; the soil feeds the plant."

Organic fertilizers, by their very nature, provide slow release. Because of its sandy soil, Florida is the biggest organic-fertilizer market in the United States, he said. "They need organic matter and slow-release products so they don't leach right through the soil."

The big thing to look for: hybrid products combining the advantages of synthetic and organic fertilizers.

"People are using more straight organics now," Nuzum said, "but some complain about lack of the quick response that satisfies customers. I developed bridge products that take a natural organic material and combine a synthetic slow-release product to it. The bridge has at least 60 percent (by weight) natural organic matter. You get the benefits of the organic, but a higher-analysis material."

The bag contains hard, smooth, odorless particles — another innovation as far as many homeowners

and contractors are concerned. "Most organics are associated with smell, and they're dusty and difficult to use. We looked at the different problems organics and synthetics were having, and combined the two into a product with the benefits but none of those problems."

Synthetic/organic hybrids are also offered by a variety of manufacturers.

"Maybe 20 percent of our professional fertilizer buyers are mom-and-pop lawn maintenance companies motivated strongly by the environment," said Scott Boutillier, commercial marketing director, Ringer Corp., Minneapolis, which sells organic fertilizers. "Another 40 percent buy because their customers are beating them over the head for this kind of product. The final 40 percent say they have to offer something like this because the competition is."

Most buyers of Ringer organic fertilizers also buy and use synthetic products on turfs, he said.

"There is a desire for products that bring together the best of both worlds: the slow-release capabilities of products like IBDU and

methylene urea, with benefits you get from natural organic sources. These hybrids will let people who haven't used high-end slow-release products or natural organic sources investigate these more sophisticated, efficient, environmentally responsible fertilizers."

TOO MANY CHOICES? Contractors are caught in the middle all the time. Granular or liquid? Synthetic or organic? Slow or fast release? For most, it seems traditional chemicals do the job best, and actually keep the property owners happiest.

Steve Hyland, president, Hyland Bros. Lawn and Tree Care, Ft. Collins, Colo., uses CoRoN (methylene urea) in his all-liquid operation.

"In all our 11 years, we've used controlled-release materials. We've always tried to slow top growth. We even get complaints from some people that we're not mowing enough off their yard! It's an education process."

He's also using a lot of iron to correct for iron chlorosis, a problem with many of Colorado's poor

growing soils. "People around here do a lot of work with iron. Micronutrient problems pop up, so we shoot quite a few vitamins in there."

Hugh Kramber, president/CEO, Outdoor Environments, Shakopee, Minn., said his customers (all commercial) want one thing from his company: "Green grass and no yellow flowers."

His most popular fertilizer package begins with an application of a preemergent with slow-release fertilizer in April, before the ground heats up to germination temperature.

Next visit involves a liquid application with weed control and fertilizer. The nitrogen is reduced a bit from full quick release. This application is supplemented with a full micronutrient package.

Kramber's people come out a third time in very late summer with a broad-spectrum broadleaf weed control application. Finally, a fall fertilization is put down high in K and P to develop turfgrass roots.

The author is a free-lance writer based in Shaker Heights, Ohio

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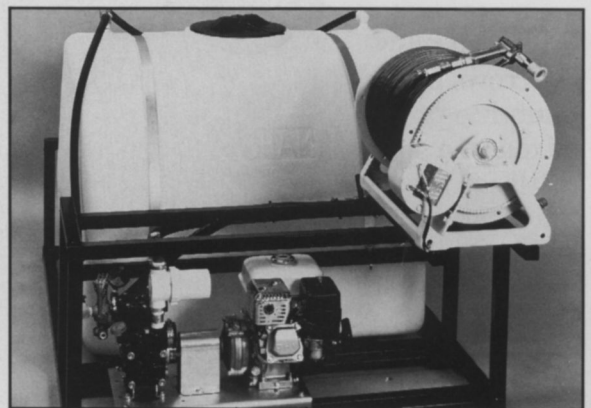
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ACHIEVING GOOD WATER MANAGEMENT PRACTICES

Before designing and installing an irrigation system soil, plant and climatic conditions must first be investigated.

By Larry Keesen

THE PURPOSE OF THIS article is to learn how to identify soil types, how plants use water and how plants affect the operations of irrigation systems including the selection of sprinkler heads and nozzles and the spacing and size of emitters and bubblers.

Why is the soil type so important when designing and operating the irrigation system and adhering to good water management practices? Soil is the water storage reservoir or "gas tank" for most plant materials. Plants require water to maintain their structure and to cool leaf surfaces by means of transpiration. Additionally, water movement into the soil is important in order to prevent runoff and conserve water.

How plants interact with soil and available water supplies is critical to understanding how water moves in and out of the soil and how good water management practices can be achieved.



This turf suffers from a soil almost like rock, and reflects the effects of poor water holding capacity. Photo: Larry Keesen

SOIL SUBSTRATES. Soil types and texture are determined by the particle size of minerals that make up the soil. Soil types range from very coarse sand with a particle size of up to 20 mm to clay soil with particle sizes below 0.002 mm. For our purposes we will group the soil categories into three types:

SOIL TYPE	TEXTURE	APPEARANCE/DRY	APPEARANCE/WET
Sandy soils	Coarse	Loose, single-grained; flows through fingers	Sticks together and may form a ball
Loamy soils	Medium	Powdery, sometimes slightly crusted	Very dark; water can be squeezed out
Clayey soils	Fine	Hard, baked, cracked; may have loose crumbs on surface	Very dark; free water puddles on the surface

Soil structure is determined by the organization and grouping of soil particles. Crumb and granular structure are the most beneficial for water storage and infiltration. This preferred structure is generally achieved after

soil preparation takes place.

Soil pore space is the area between particles that is available to hold water and air. Sandy soil has the least amount of pore space at approximately 35 percent of total volume, while clay soils have up to 60 percent pore space. A high percentage of pore space results in a greater soil water holding capacity.

When compacted, clay soils have reduced pore space that can be as low as 25 percent of the total volume. Tilling the soil prior to planting is important to create space for needed air and water.

The water holding capacity or field capacity of a soil type is defined as the amount of water that remains in

the soil after the gravitational water has drained away, and after the rate of downward movement has decreased to a significant extent.

Water holding capacities in turf will vary by soil type and are generally measured in inches of water per inch of soil thickness as shown in the table below.

SOIL TYPE	INCHES OF WATER PER INCH OF SOIL
Sandy soils	0.083
Loamy soils	0.125
Clayey soils	0.167

A 12-inch layer of sandy soil holds 0.996 inches of water and a 6-inch layer of clayey soil holds 1.002 inches of water.

If the plant root zone is 4 inches deep in a loamy soil the water holding capacity would be 0.50 inches. A clay

soil 4 inches deep would have a water holding capacity of 0.668 inches.

WATER AVAILABILITY. Wilt results when plants can't retrieve enough moisture out of the soil. The difference between field capacity and the wilting point is known as available water holding capacity (AWHC), and is the percentage of moisture available to the plant from the soil.

Management allowable depletion (MAD) is the percentage or fraction of water — of the total available water — which can be removed from the soil by the plant before irrigation should occur. For example, a clay soil 12 inches deep has an AWHC of 2 inches and a MAD of 1 inch. The MAD is commonly calculated at 50 percent of the AWHC for turfgrass. This is usually a safe percentage to start with and can be fine-tuned with experience.

MAD, coupled with evapotranspiration rates (ET) can tell us when to irrigate (frequency) and how much water to apply. Soil water extraction by plants will vary, but a safe assumption for calculating soil water extraction is the 40-30-20-10 rule.

This rule states that 40 percent of the water will be withdrawn from the top 25 percent of the root zone, 30 percent will be withdrawn from the second 25 percent of the root zone, 20 percent from the third 25 percent and 10 percent from the lowest 25 percent of the root zone.

Transpiration occurs when the plant moves water through the roots and stomates into the air as a result of a

Ideal irrigation run times can be determined by comparing infiltration and precipitation rates.

difference in tension or atmospheric suction. The plant uses this water to draw up nutrients, maintain structure and to cool the leaf surface. ET is the combination of transpiration and water that is evaporated from the soil surface. It is usually defined as the quantity of water in inches or millimeters that needs to be replaced in the soil in order to maintain ideal growth and appearance.

Evaporation from the soil surface usually affects only the top few inches of soil. Daily irrigations of a clay soil with turfgrass can result in a higher soil evaporation rate than every other day or every third day watering. This is not much of a problem in sandy soils. Crop cover and mulches will also reduce the amount of soil evaporation.

The climatic factors that affect ET are air temperature, wind speed, relative humidity and solar radiation.

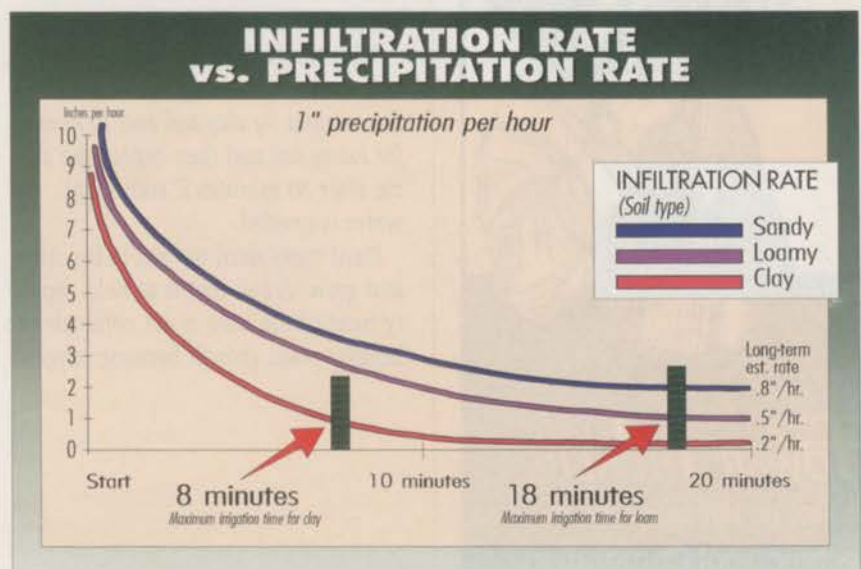
Solar radiation is the primary climatic factor that affects ET. It is the source of energy necessary to transfer water from a liquid to the vapor phase in both plants and soil. Solar radiation

peaks during the month of July. In August, the ET rate begins to decline leading to reduced irrigation frequency through the remainder of the season.

Weather stations can provide ET data on a daily basis in order to determine when next to irrigate. California and Arizona have a series of weather stations in various parts of their states that provide a daily ET rate for irrigators. Historical monthly ET rates can also be used for scheduling irrigations and these are available from the National Climatic Center in Asheville, N.C., or from your local weather service.

The soil infiltration rate or intake rate is the maximum rate the water enters *bare soil* during an irrigation, and is usually measured in inches per hour (in/hr). Initially, water moves into the soil by gravity and then by gravity and capillary action.

The top layer of soil fills with water to field capacity before the water moves downward and each subsequent layer does the same. Soils that are high in organic content will



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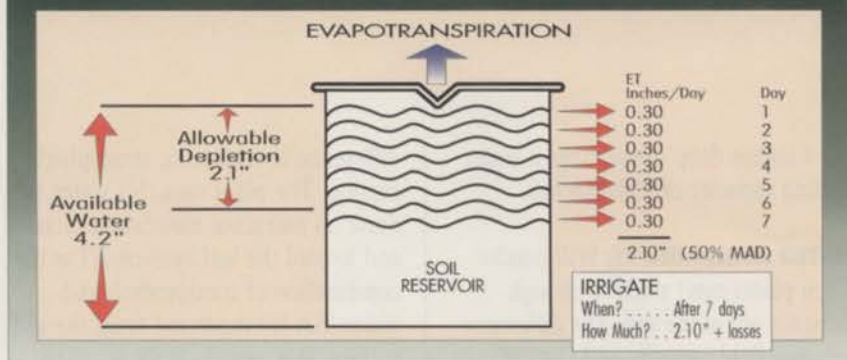
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have a higher infiltration rate than soils that are low in organic content.

movement in the soil is limited. In clay soils this can be a problem and

SOIL TYPE	BASIC INTAKE RATE	TURF/SOIL INTAKE RATE
Sandy soils	0.60 to 1 in/hr	0.30 to 0.50 in/hr
Loamy soils	0.30 to 0.60	0.15 to 0.30
Clayey soils	0.10 to 0.30	0.05 to 0.15

can be avoided by infrequent or "just in time" irrigation, and in sandy soils this is not much of a problem.

Frequent aeration allows oxygen

The turf cover as well as compaction, slopes and thatch will slow down the infiltration rate. During the first few minutes of irrigation the infiltration rate is very high at 5 to 10 inches per hour and then it rapidly decreases to the rates described above. Sprinkler heads with a precipitation rate of 1 inch per hour have a maximum irrigation run time in bare clay soil of eight minutes; 18 minutes of run time for loamy soil before runoff occurs.

With the *turf crop cover* I would recommend a maximum run time of *five minutes for clay soil and 10 minutes for loamy soil* and then repeat the cycle after 30 minutes if additional water is needed.

Plant roots need oxygen to function and grow. A soil that is at field capacity most of the time is not conducive to healthy plant growth because oxygen

to readily enter the soil and also improves the intake rate of the soil. The depth of the active root zone for many species of turfgrass is less than 6 inches and in some cases may be only 1 to 2 inches. Root growth does not search or hunt for water and they will not grow through dry soil in search of water.

When selecting irrigation equipment and nozzle sizes it is helpful if the application rate of the sprinkler head matches the intake rate of the crop cover/soil combination. With certain soil types and sprinkler head combinations this is not possible, such as a clay soil combined with pop-up spray heads.

Clay soils have a very slow infiltration rate at less than 0.15 inches per hour, while the pop-up spray head has an average application rate or precipitation rate of 1.5 inches per hour. Bubbler heads can be spaced further

Management allowable depletion together with evapotranspiration rates can determine necessary irrigation frequency. Chart appears on facing page.

apart in a clay soil because the capillary action of the clay soil will increase the lateral movement of water, whereas in a sandy soil there is little lateral movement.

The information in this article is critical for understanding how water moves in and out of the soil, how water is stored, how the plant uses the water and how good water management practices can be achieved.

Next month we will continue with water management and look at irrigation scheduling, methods of calculating precipitation rates, controllers and programming and weekly applications. ■

The author is president of Keesen Water Management Inc., Denver, Colo.

IRRIGATION QUESTIONS

1. What type of soil has the least amount of pore space?

2. What is the approximate infiltration rate for a bluegrass lawn with a clay soil?

3. What is the available water holding capacity of a 6-inch layer of loam soil?

4. What is the MAD for fescue turfgrass planted on sandy soil with a 4-inch active root zone?

5. With a daily ET rate of 0.20 inches, what is the irrigation frequency and amount applied for a turfgrass lawn on clay soil with a 5-inch active root zone?

6. What is the maximum runtime for small spray heads watering turfgrass on a clay soil?

Answers appear on page 62 of July LLM.

In the August issue of *Lawn & Landscape Maintenance* magazine, we'll discuss calculating precipitation rates and weekly irrigation applications. Controllers and programming will also be addressed.

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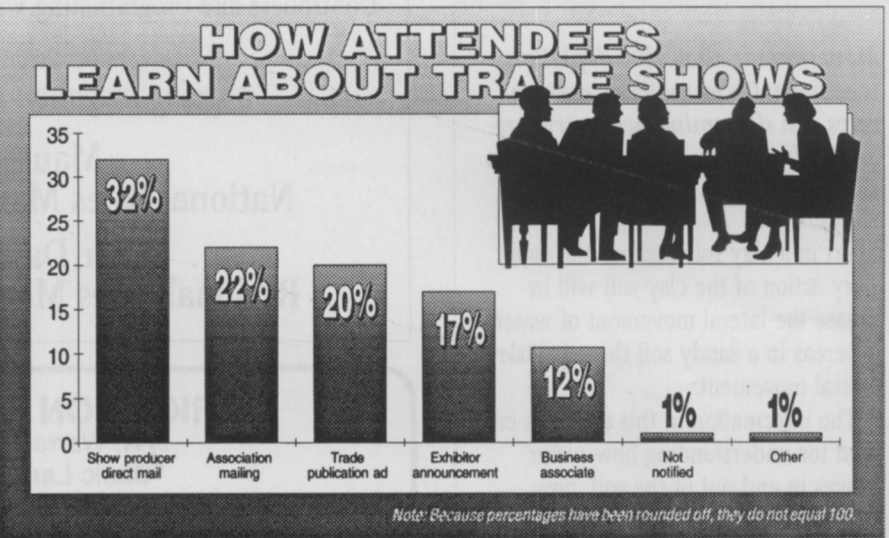
Hands On

Editor's Note: Hands On is designed to provide our readers with ideas and resources for running your businesses. We need you to share ideas, lessons learned and successes with your peers. Submit your stories to: Hands On, LLM, 4012 Bridge Ave., Cleveland, OH 44113. Or if you want to phone us with your tips, call 800/456-0707.

Setting Up Branch Offices

Opening a branch sales office sounds simple, but many companies find that protecting the corporate culture, motivating employees and keeping tabs on the cash are difficult to do from a distance. One formula to success:

- Promote from within for the sales manager slot. Only top sales performers who have at least two years of selling under their belts and want to go into management should



Source: B.R. Blackmarr & Associates study for Trade Show Bureau.

be considered. Those selected must have clearly demonstrated leadership abilities. Match candidates with rural backgrounds

to rural territories and those with urban backgrounds to urban territories.

- Grow your own salespeople for sales positions. It's cheaper than hiring seasoned professionals, and internally trained salespeople usually haven't picked up bad habits at other companies. Training includes field experience as well as selling skills.

- Set goals.

Ex: At minimum, each account is visited twice a month and each large account weekly. Two days a week the sales managers work their



own territories, calling on customers with their staff on the other days. Thirty sales calls per day is the target.

- Stay in touch. Supplement personal visits to branches with customer surveys to keep branches up to standard. Mail quarterly customer-satisfaction surveys directly to headquarters. Send negative responses to the territory's sales manager.

— Inc. magazine

Success Tips

To keep your staff and clientele happy, try this approach: Regard your employees as your partners and treat your customers like family. Provide the best service possible, give fair value and act with integrity. Make it fun for everyone to do business and remember to enjoy the process. — Poulan/Weed Eater

Who Are You Kidding?

EVERY COMPANY has a right to establish prices at whatever level is deemed appropriate. But too often, price-cutters don't take the time to calculate what a price-cut really means. Seldom do people think through what real effect a 5 percent, 10 percent or 15 percent price-cut will mean to the company's profitability and ultimate market survival.

The following chart illustrates the effects of price-cutting on profits. All numbers and calculations are based on 30 percent profit margins. Different numbers can be calculated on any profit rate.

Price Off	Selling Price	Dollar Profit	% Increase In Total Sales \$ Volume Needed To Make Same \$ Profit	\$ Sales Needed to Make Same \$30 Profit
0%	\$100	\$30		
-1%	\$99	\$29	3.45%	\$102.42
-2%	\$98	\$28	7.14%	\$105.00
-3%	\$97	\$27	11.11%	\$107.78
-4%	\$96	\$26	15.38%	\$110.76
-5%	\$95	\$25	20.00%	\$114.00
-10%	\$90	\$20	50.00%	\$135.00
-15%	\$85	\$15	100.00%	\$170.00
-20%	\$80	\$10	200.00%	\$240.00
-25%	\$75	\$5	500.00%	\$450.00

Cutting price by just 5 percent means that to generate the same amount of real profit, the seller will have to increase volume by 20 percent.

If sales weren't coming in fast enough at the 100 percent price, will a 5 percent selling price-cut really be sufficient to generate an additional 20 percent in volume? It's highly doubtful, yet too often businesses attempt to fool themselves into thinking that will happen, so they cut the price and then wonder why they went out of business. A 15 percent price-cut would slice your profit margin in half. Thus, you would need to double your sales volume (increase by 100 percent) to make the same profit you would have had if prices had not been cut. — American Sod Producers Association

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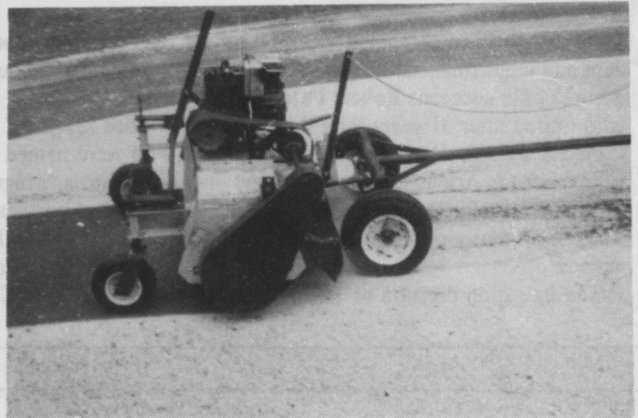


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People

GERALD KNIGHT was named vice president and chief financial officer of The Toro Co. He succeeds **Robert Peterson**, who retired after 31 years with the firm.

Dexter Defnet, director of business development for Ariens Co., has assumed the same post for Promark, as well. Promark is a wholly owned subsidiary of Ariens.

The irrigation division of The Toro Co.

has appointed **Jeanne Cantu** to the position of key account sales manager in the Texas area.

Rich Maguire, **Forrest Loftis** and **Mac Fite** were named territory managers by Husqvarna. Maguire services eastern Virginia and northeastern North Carolina; Loftis, northern Florida and southern Georgia; and Fite, northern Georgia. Pepco Water Conservation Products



Knight



Defnet

made the following appointments: **Donald Dungjen**, national sales manager, commercial division; and **David Bane**, vice president of manufacturing.

Randy Rogers joined Lebanon Turf Products as senior market specialist for the professional and golf course product group.

Ames Lawn & Garden Tools named **C. Michael Coyne** director, national account sales; and **P.D. Thomas**, general sales manager, northern midwest region.

Hugo Keltz was elected a corporate officer of Briggs & Stratton. In his 14 years with the company, Keltz has held various service and distribution positions, most recently vice president — international.

Also at Briggs & Stratton, **Rick Zeckmeister** was named product manager for the company's small engine division.

Todd Mohr joined the commercial and contractor divisions of Rain Bird Sales as area specifications manager. Mohr's Southern California territory comprises San Diego, Imperial and southern Riverside counties.

Ed Baumann was promoted to western distribution operations manager for Rain Bird Sprinkler Mfg. Corp. Baumann is responsible for daily operations at the Rain Bird Distribution Center in Azusa, Calif.

Jacklin Seed Co. announced the addition of **Lisa Dacey** and **Rick Miller** to the domestic marketing department. Dacey works with turfgrass accounts throughout the United States, assisting in customer communications and sales support. Miller provides sales support and product information to new and existing customers.

Suzanne Mariucci joined the Garick Corp. as sales representative for the eastern Nebraska and western Iowa territories.

Jeff Boyd was appointed president of Eco Inc.; **Martin Green** was named vice president of sales.

Rick Oberg joined Kelly Lime & Rock Co. as national sales manager. He heads up research and development, sales and marketing efforts. Formerly, Oberg was regional sales manager for the professional turf, lawn and garden division at AMPEL.

The Yazoo Co. named **Jack Talin** territory manager for New York and New England and **Bob Morgan** distributor sales. ■

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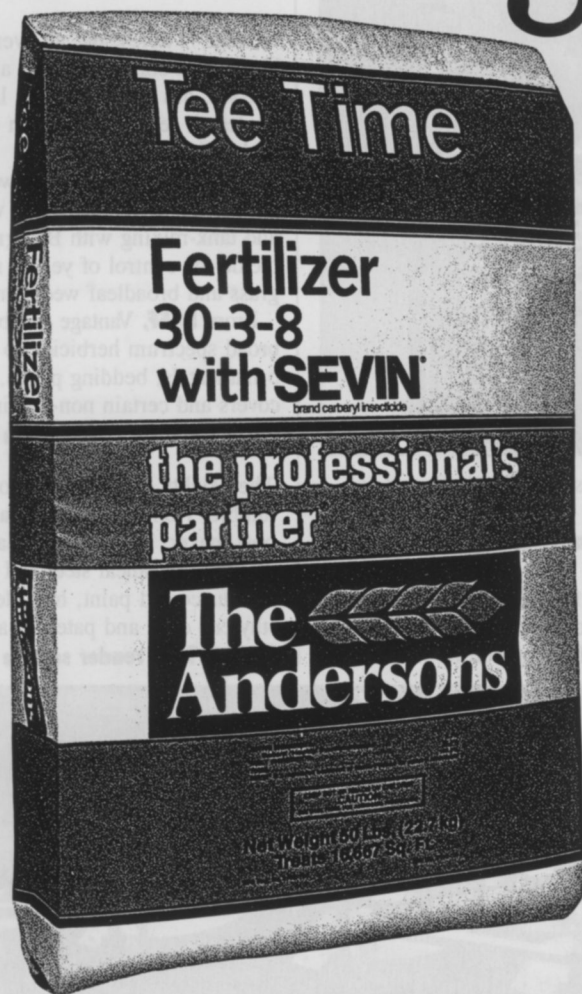
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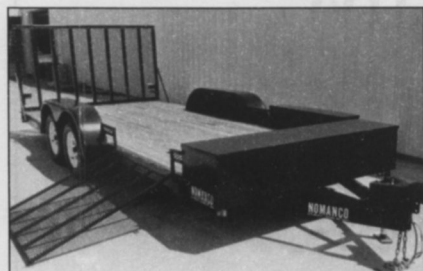
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Circle 125 on reader service card



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The product is available in 8- and 16-ounce bottles.

Circle 126 on reader service card

The Articulator from **LasTec** is a wide-area finish mower that consists of a series of 21-inch fully floating cutting heads.



Three different configurations of the mower are available.

The R Series rear-mount floating rotary mower cuts in forward and reverse. The F Series front-mounted floating rotary offers cutting capacities up to 10 feet wide and can cut up to 4 different widths by adding or removing cutting decks. The 3-point series is designed for large, open areas.

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Vantage™ herbicide, an over-the-top herbicide that controls annual and perennial grasses, has a new product label that includes all registered uses in one comprehensive label.

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From **BASF**, Vantage can be applied as a broad spectrum herbicide to trees, shrubs, ornamentals, bedding plants, ground covers and certain non-bearing food crops.

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The Mighty Mac Speedy Soil compost tumbler from **MacKissic** is a 14-day compost maker. The drum is made of rust-resistant galvaneal steel and features powder-coated paint, high-density polyethylene ends and patented aerators.

Circle 129 on reader service card

A new 21-inch walk-behind mower from **Ariens** features the Swivel System, front wheels that swivel to provide easy handling. Zero-turning radius helps make trimming around obstacles easy. Fixed rear wheels help keep the mower on course. Locking pins hold the front wheels in place when mowing across an incline.

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The **Sisis** Auto-Seeder is self-propelled for rapid overseeding of small, worn-out turf areas.

The tines rotate against the direction of travel and cut shallow, open grooves 2 inches apart. In the same pass, grass seed is metered from a positive feed seeding mechanism directly into the grooves.

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The 036 mid-size saw from **Stihl** features a slim profile and low weight. The saw has a 61.5 cc/3.75 cu. in. engine and weighs 11.9 pounds without bar and chain.



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Scag Power Equipment and **Sweepster** offer a new sweep option for Scag walk-behinds. The 24-inch-diameter brush comes in 4- or 5-foot widths and is available in polypropylene or 50/50 poly/wire construction. It mounts on the engine deck of Scag belt-drive and zero-turn walk-behinds with 14-, 18- and 20-h.p. engine decks.



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Well, we bought a new walk-behind and spent a lot of extra money to have hydraulic drive instead of belts and "Oh so what, while we're at it throw in a Velke."

The results were more than I hoped for. My guys now get twice the work done. And my problem kid—he won't get off the thing! He thinks he's lawn skiing. All I know is that he's become one of my top performers. He's producing so much I've not only given him back his lost pay, but a raise.

Now I just smile throughout my day watching his newfound attitude. What more can I say except thanks for making such a great product.

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Calendar

APRIL 20-OCT. 12 AmeriFlora '92, Franklin Park, Columbus, Ohio. Contact: AmeriFlora '92, 1995 East Broad St., Columbus, OH 43209-1679; 800/BUCKEYE.

AUG. 7-9 TAN-MISSLARK Regional Nursery & Garden Supply Show, George R. Brown Convention Center, Houston, Texas. Contact: Texas Association of Nurserymen, 7730 IH-35, Austin, TX 78745-6621; 512/280-5182.

AUG. 9-12 Cornell Compost Management Symposium for Professionals, Cornell University, Ithaca, N.Y. Contact: Ken Cobb, 607/255-1185.

AUG. 19 Michigan Nursery and Landscape Association's Third Annual Summer Field Day, Lincoln Nurseries, Grand Rapids, Mich. Contact: MNLA, 819 N. Washington Ave., Suite 2, Lansing, MI 48906; 517/487-1282.

AUG. 19 1992 Annual Turfgrass Field Day, University of Rhode Island, Kingston, R.I. Contact: Dr. Noel Jackson or Dr. Bridget Ruemmele, Dept. of Plant Sciences, Woodward Hall, The University of Rhode Island, Kingston, RI 02881-0804; 401/792-2932.

AUG. 19-21 Field Diagnosis: Insects and Diseases of Trees and Shrubs, Cornell University, Ithaca, N.Y. Contact: New York State Arborists Association, P.O. Box 58, Latham, NY 12110; 518/783-1322.

AUG. 20 Michigan State University Turfgrass Field Day, Hancock Turfgrass Research Center, MSU Campus, East Lansing, Mich. Contact: Dr. Frank Rossi, Dept. of Crop and Soil Sciences, MSU, East Lansing, MI 48824-1325; 517/353-0860.

AUG. 20-21 Pennsylvania Landscape and Nursery Trade Show and Conference, Expo Mart, Monroeville, Pa. Contact: Pennsylvania Nurserymen's Association, 1924 North Second St., Harrisburg, PA 17102; 717/238-1673.

AUG. 27-30 1992 Farwest Show and Ornamentals Northwest Seminars, Oregon Convention Center, Portland. Contact: Oregon Association of Nurserymen, 2780 S.E. Harrison, Suite 102, Milwaukie, OR 97222; 503/653-8733.

SEPT. 11-12 Southwest Horticultural Trade Show, Phoenix Civic Plaza Convention Center, Phoenix, Ariz. Contact: Arizona Nursery Association, 1430 W. Broadway,

Suite A-125, Tempe, AZ 85282; 602/966-1610.

SEPT. 11-16 Responsible Industry for a Sound Environment Second Annual Conference, Washington, D.C. Contact: RISE, 1155 15th St., NW, Suite 900, Washington, DC 20005; 202/872-3860.

SEPT. 20-23 Florida Turfgrass Association, 40th Annual Conference and Trade Show, Prime F. Osborn Convention Center, Jacksonville, Fla. Contact: Florida Turfgrass Association, 302 S. Graham Ave., Orlando, FL 32803-6399; 407/898-6721.

SEPT. 21-24 Northwest Turfgrass Conference & Exhibition, Sun River Lodge and Resort, Sun River, Ore. Contact: NTA, 206/754-0825.

SEPT. 24-28 Oregon Association of Nurserymen, Annual Convention, Shilo Inn, Lincoln City. Contact: OAN, 2780 S.E. Harrison, Suite 1022, Milwaukie, OR 97222; 503/653-8733.

OCT. 22-23 Xeriscape '92 — San Diego Style, San Diego Convention Center. Contact: Jan Tubiolo, Cuyamaca College, 619/443-1756. ■

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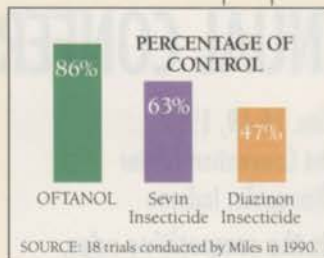
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OFTANOL USERS KNOW THE BEST WAY TO OUTSMART GRUBS IS WITH A LITTLE EXTRA HOMEWORK.

Getting rid of grubs that attack your customers' lawns can be pretty tricky sometimes. Unfortunately, simply treating against these destructive pests doesn't always guarantee success.

But many lawn care operators have learned that all it takes to outsmart grubs is a little preparation—finding the right product and the right time of year to make the application. The product is OFTANOL Insecticide. Studies show that time after time, OFTANOL provides grub control. And delivers better control than other widely used products such as Sevin® and Diazinon Insecticides.

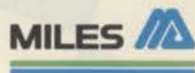
The right time to apply it? That will vary from region to region. But a good rule of thumb is



to treat with OFTANOL when grubs are at or near the surface. An easy way to check is by just pulling back a bit of sod and looking for an infestation. Or call your local Extension office to determine peak periods of grub feeding in your area.

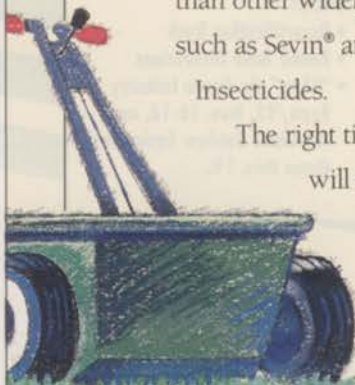
These are, of course, just the basics of effective grub control. If you'd like to learn more about OFTANOL and its proper usage, contact your local Miles representative. Or just give us a call at (800) 842-8020. One of our trained professionals will be standing by to answer your questions. Miles Inc., Specialty Products, Box 4913, Kansas City, MO 64120.

So why let grubs continue to test your patience when the easy answer is OFTANOL.



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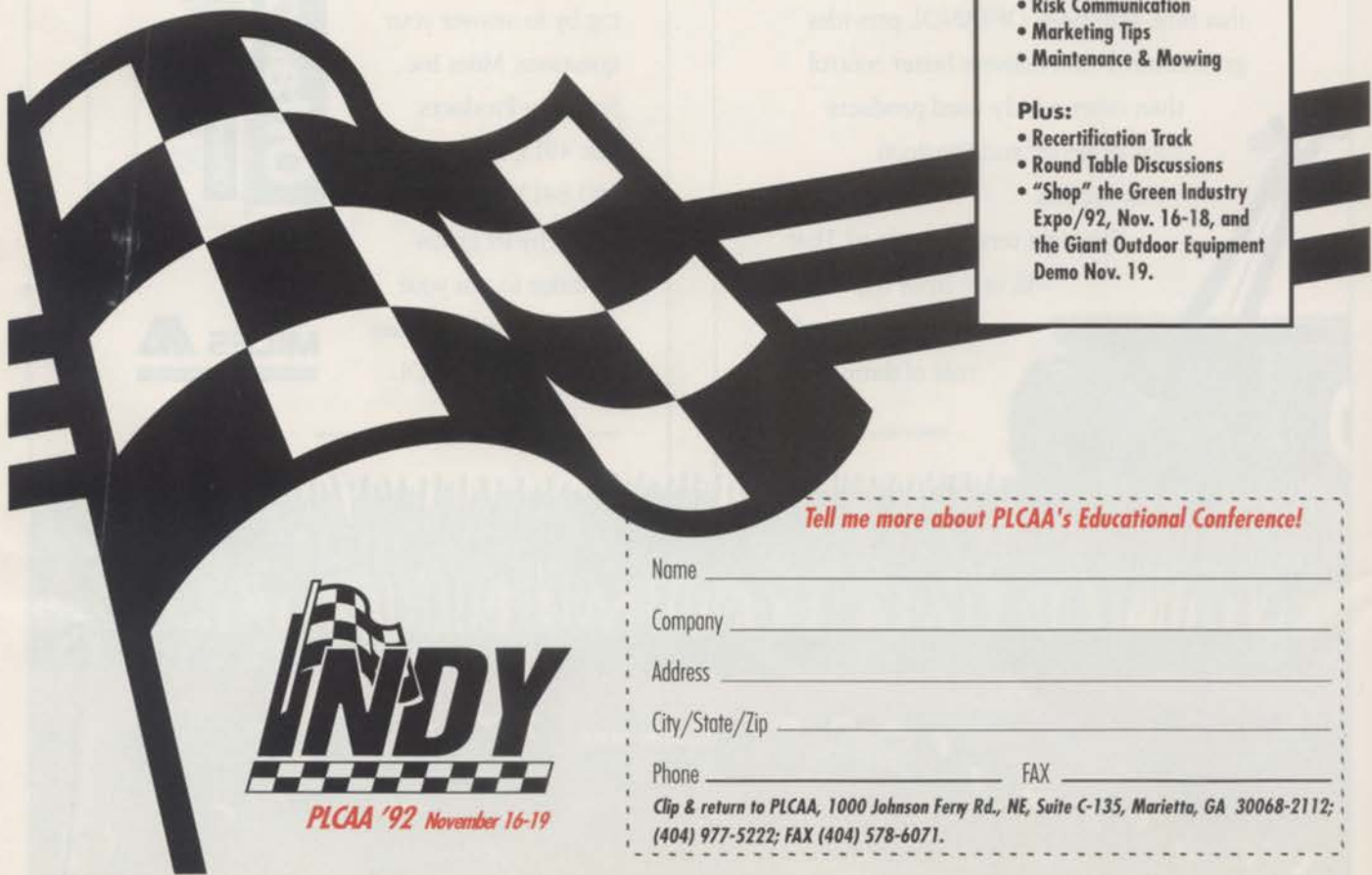
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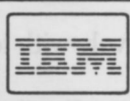
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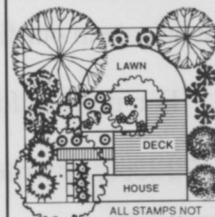
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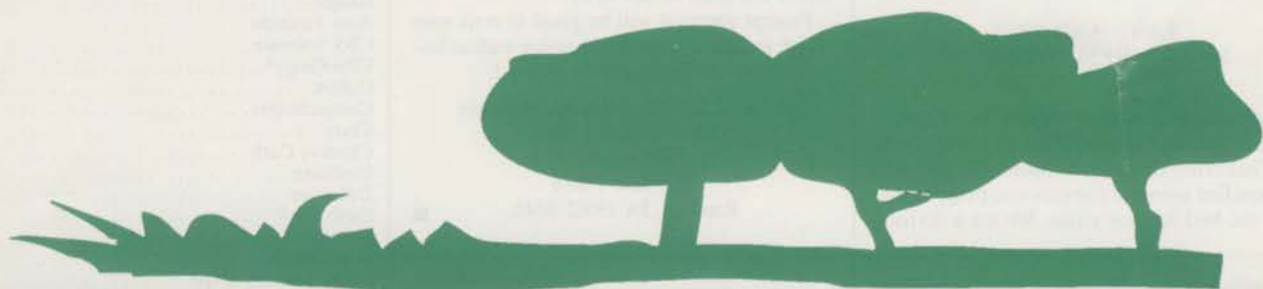
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(continued on page 62)

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Classifieds

(continued from page 60)

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Ehrlich Green Team
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Answers to questions on page 47.

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3. 0.75 inches of water.
4. 0.166 inches of water.
5. Apply 0.4 inches of water every other day.
6. Five minutes.

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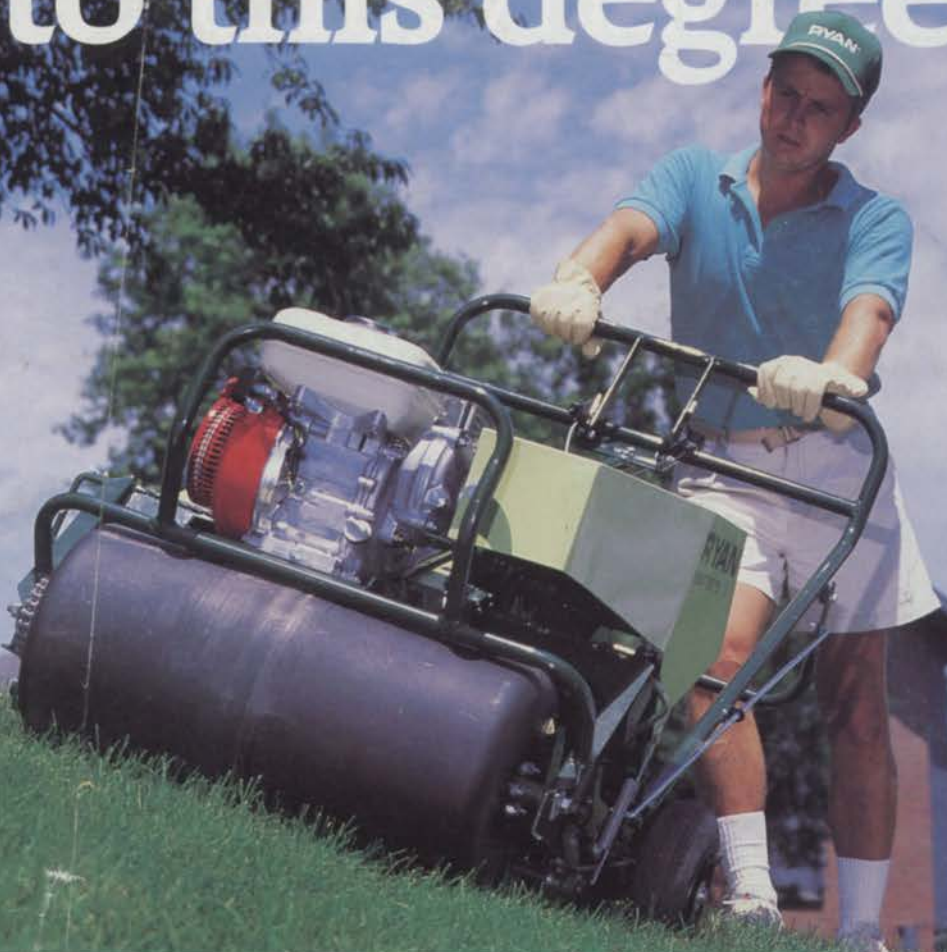
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