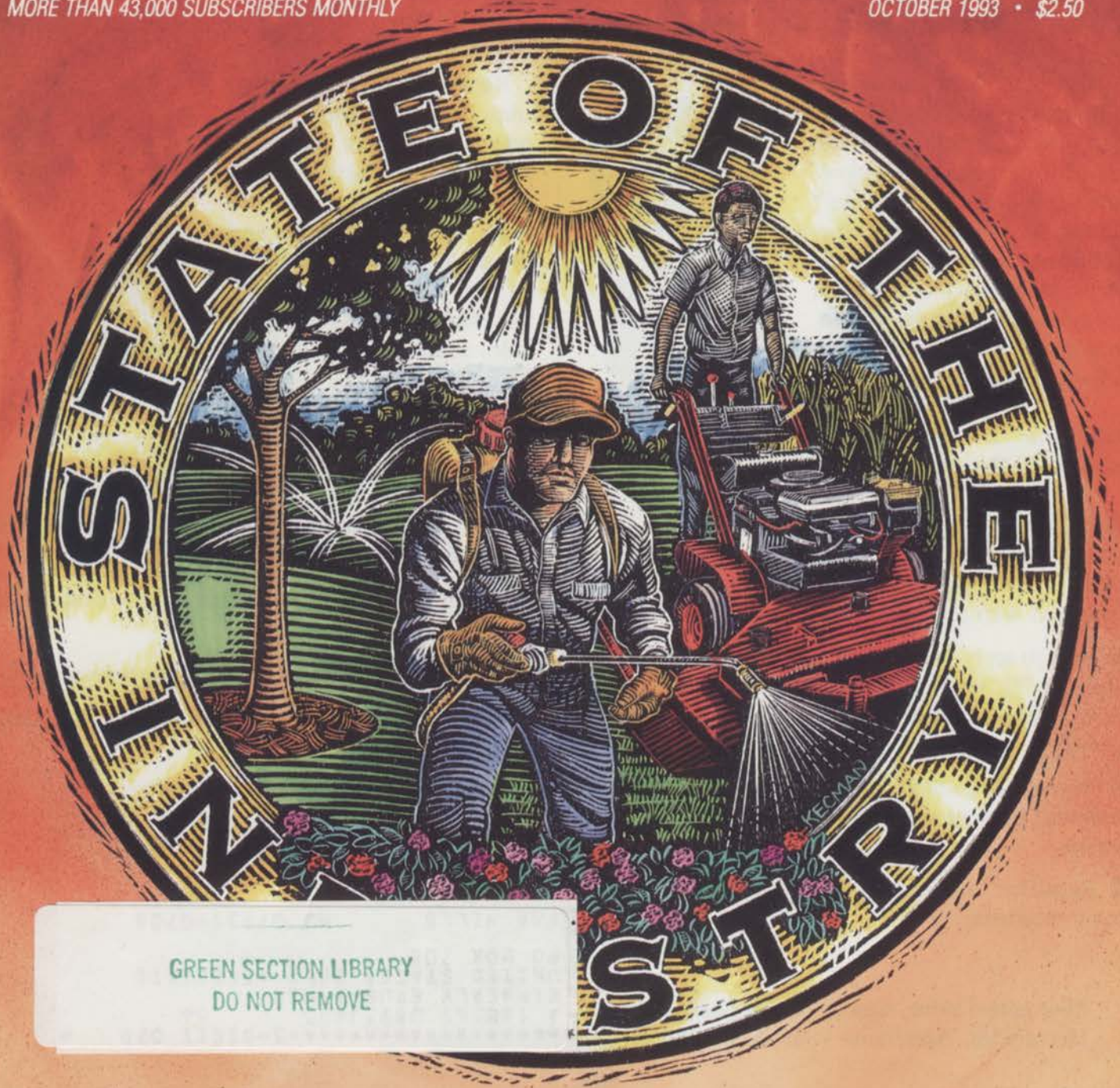


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Lawn & Landscape MAINTENANCE

VOLUME 14, NUMBER 10

OCTOBER 1993

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Milan Kecman,
Cleveland, Ohio

20 Cover Story: Contractors View Market With Wary Eye

In a time of economic and environmental uncertainty, successful lawn and landscape professionals need to gain a strong business understanding to secure a profitable future.

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36 Fusing Green Industry Alliances

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42 Is Irrigation Becoming a Standard?

As the importance of water conservation stretches across the country, contractors are finding irrigation an easier and necessary sell.

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Editor's Focus

BECAUSE THE professional lawn and landscape maintenance industry is so fragmented, it's no wonder that no two people think alike about the viability of the green industry.

While a strong majority of those we talk with remain optimistic about their businesses — both in the short- and long-term — contractors, suppliers, distributors and researchers all hedge their bets when discussing the actual state of the industry.

Sure it's prosperous, but it's that very prosperity that has attracted so many to start up a service firm or engineer some new products for this high-growth market. This is all well and good. After all, it is an entrepreneurial market and this is America. Let them give it their best shot and if they're strong enough, they'll survive.

This is nothing new to lawn and landscape professionals; they have been faced with tremendous competition and fly-by-night companies since day one. What makes the 1990s different is that business savvy and financial responsibility must rule the roost. The fast track to the top might have worked in the 1970s and 1980s, but today's professional must make adjustments to survive the complex business climate.

Long-time industry experts are predicting next year's landscape profile to look much the same as this year's. Construction growth will remain spotty for the first half of the year, with a hoped for resurgence in the second half of 1994.

Corporate and resort area philosophies will remain focused on the small landscape project rather than the massive, eye-catching displays. Both contractors and manufacturers need to become leaner, need to make the tough decisions about which products and services to market, need to know how far they can drop their prices without damaging profit and break-even levels and, above all, must know who their customers are and what it takes to satisfy them.

Diversification continues to be a legitimate way to grow a business, but it must be carefully executed. Irrigation installation and maintenance, aeration, lighting and pesticide applications remain the top new service additions. All provide good profit potential if they're integrated with precision.

Price cutting seems to be at the crux of what's angering our readers. While it appears more prevalent in the lawn care market, prices across the board are generally too low for the beneficial services being provided.

All too often, a newcomer enters the market and proceeds to underbid the established firms in order to get a foothold in the market. Traditionally, the customer who accepts the service at the lowest price is happy at



first for saving himself or his firm money, but gradually becomes dissatisfied with the customer service and the quality of the job he is receiving. Ultimately, the client may call his previous service firm back, looking for a quick-fix to his landscape nightmare.

But the damage has been done. The fact that services were once offered at lower price levels puts the idea in the customer's mind that landscape services are worth only a certain amount. That situation is magnified in today's business climate because when the economy is down, a dollar is a dollar and no matter what the repercussions, budgets must be preserved at all costs.

In essence, economic growth, social responsibility and environmental protection are the keys to survival in today's green industry. And at the crux of these issues is change. If the lawn and landscape professional cannot adapt to the changing green industry, he has no right conducting business in it.

There's no question that the future will bring new rules and regulations from the Environmental Protection Agency, the Occupational Safety and Health Administration, the Department of Transportation and so on. Professionals servicing residential, commercial and golf course properties must address these issues and adapt appropriately.

Those participating in the green industry can no longer afford to turn the other cheek, waiting for someone bigger and stronger to take the lead on legislative and economic issues. All players must provide a professional front by taking responsibility for your actions and those of your workers, by following licensing regulations and certification opportunities and by making the lawn and landscape maintenance industry as respectable and legitimate as possible. — *Cindy Code* ■

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USE READER SERVICE #13

Business Watch

INFLATION RESURFACED in July after vamoosing in June. Its disappearing act had marked the first time in two years that consumer prices did not increase. The Federal Reserve plans to continue to slowly raise short-term interest rates to stave inflation and maintain continuity.

Economic activity continued to expand slowly to moderately in June and the first half of July, according to the Fed. Single-family home construction remained strong in many areas. Residential and commercial construction were Minneapolis' strongest sectors. Housing activity continued to increase in Chicago, but growth slowed somewhat. The West Coast reported strong housing markets for most regions. Southern California and western Washington stood out as exceptions.

Commercial real estate remained sluggish or weak in most areas of Atlanta, Ga.; Dallas, Texas; and Richmond, Va.

Manufacturers reported generally sluggish output growth, although conditions varied among regions. Cleveland, Ohio, noted strong demand for steel and heavy truck components. Chicago cited modest slowdown in industrial expansion.

EXISTING HOME SALES*

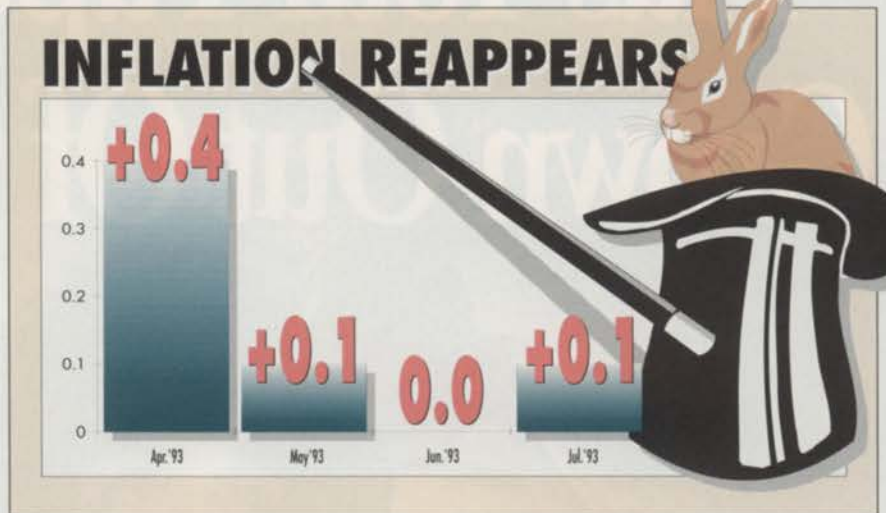
APR.	MAY	JUN.	JUL.
+2.4%	+4.9%	+1.7%	+5.4%

*Percent change from preceding month.

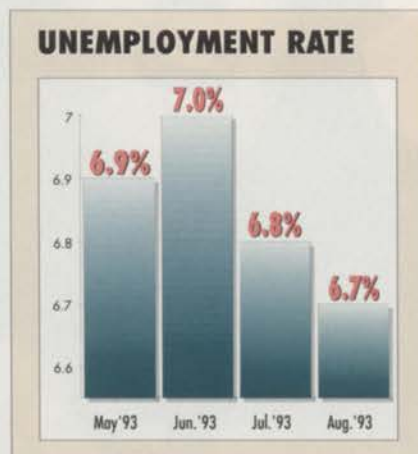
PRODUCER PRICE INDEX*

MAY	JUN.	JUL.	AUG.
0.0	-0.3	-0.2	-0.6

*Percent change from preceding month.



Source: Bureau of Labor Statistics



Source: Bureau of Labor Statistics



Source: Bureau of the Census

WEATHER REPORT: FAIRLY NORMAL, FOR NOW

THE NATIONAL WEATHER Service's 60-day outlook for October and November calls for at least a 55 percent chance of above normal temperatures in a horseshoe pattern covering the eastern, southern and western fringes of the country.

The likelihood of extra warmth rises to at least 60 percent over coastal regions of North Carolina southward through Georgia and the eastern half of Florida, over southeast Texas, over southwest Arizona and southeast California and finally over west-central California.

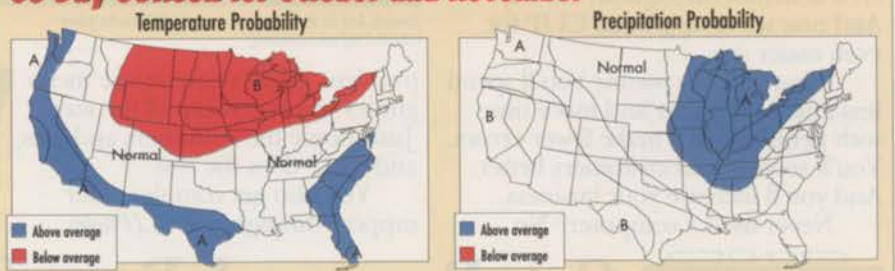
There is at least a 55 percent chance of below normal temperatures over the interior northern half of the country extending from Montana, Wyoming and Colorado eastward to western New York. Likelihood for subnormal temperatures rises to more than 65 percent over Minnesota and northern Wisconsin and the upper peninsula of Michigan.

There is at least a 55 percent probability of above median precipitation over the Great Lakes area and Ohio and Mississippi river

basins as far south as western Tennessee and northeastern Arkansas. The likelihood for above median precipitation rises to at least 60 percent in northern Illinois and Indiana along with eastern Wisconsin and all of Michigan.

No area holds more than a 55 percent probability of below median precipitation anywhere in the United States. Some regions will not depart significantly from normal temperatures or precipitation. ■

60-Day Outlook for October and November



*Rainfall will be slightly below normal in the West and Southwest, but not below average.

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Industry Viewpoint

"WHY DO I NEED A COMPUTER?"

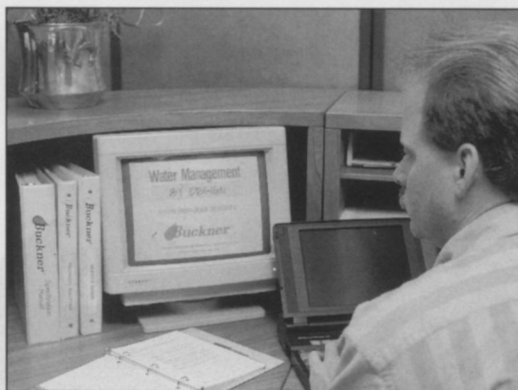
"WHAT AM I GOING to do with a computer anyway? I've gotten along fine without one so far."

Does this sound like anyone you know? If so, maybe it's time to revisit the computer issue. After all, there are an estimated 60 million personal computer systems in use in the United States today. Another 10 million personal computers will be sold this year. Obviously, there is something to this computer thing; or millions of people have been fooled.

The fact is every business, regardless of the type or size, can benefit from today's computer technology. And the reason you need a computer? Well, there are several.

If you are in the lawn maintenance business, you would go broke pretty fast if you didn't have good, reliable mowers and trimmers. If you install irrigation systems, you need the right tools and equipment to quickly and correctly put the systems in place.

Whatever your business, without the right



Computers are becoming as vital to the green industry as other traditional products.

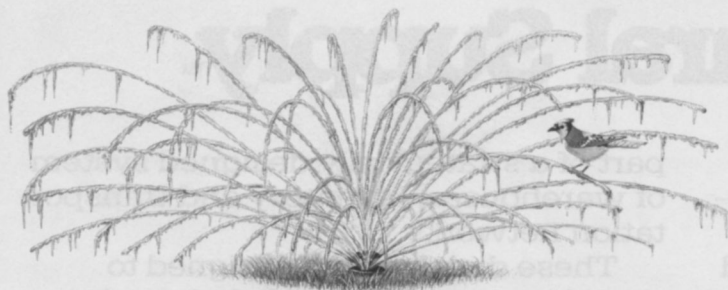
equipment, productivity suffers and the ability to compete is limited. Just as the right equipment is needed to manage a job in the field, the right equipment is needed in the office to manage the rest of the business. In today's market, a business without a computer is like a lawn maintenance company without a good mower.

In order for a business to compete and grow, it must be well-managed. Customers must perceive the business as professional in every way. A personal computer is an excellent way to take control of required daily management and enhance a firm's overall image.

Many in the green industry have already taken advantage of computer technology. Some estimates indicate that as many as 70 percent of the market uses computers. Unfortunately, not everyone takes full advantage of them. Outdated, slow computer systems, high prices or computer phobia all contribute to the lack of use.

During the past two years, computer prices have dropped substantially. In fact, prices for the most powerful personal computers are at an all-time low. These same computers come with virtually everything needed to take immediate control of a business. Many include integrated business software consisting of word processing, spreadsheet and database applications, as well as Microsoft

(continued on page 10)



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USE READER SERVICE #47

Industry Viewpoint

(continued from page 8)

Windows software for DOS-based computer systems.

Technology has worked in favor of those with computer phobia. While overall capabilities have increased, user friendliness and ease of learning have substantially improved.

The first personal computers, introduced around 1981, were more difficult to use and did little more than a glorified typewriter.

Software available at the time was command-oriented, meaning the user had to know specific commands and type them in to accomplish a certain task. Today, software incorporates ease of use with menu driven or graphically oriented operations. Instead of memorizing commands, the user can select from menu items or from pictures (called icons) which represent a specific task.

Simple menus and a graphical user interface (GUI) make learning and using today's systems easier. And, with so many computer superstores, finding additional help is no problem.

Is a personal computer really easy to use? Is it worth the investment? The first thing to remember is that a computer is nothing more than an unintelligent box. It will only do what

the user tells it to do. If you know what you want to accomplish, there is a software application available to tell the computer what to do to get the job done.

The right computer can do wonders for a business. A computer can help manage crews and projects, keep track of payables and receivables, generate professional proposals and bid packages, help design the landscape and irrigation system, schedule irrigation rotations and/or manage complete irrigation systems automatically.

When used for accounting functions, it's easy to track business performance. Less time is spent on paperwork, making more time available to pursue new business opportunities. Customers receive accurate and professional billing which can help improve the turnaround time of receivables.

Reports can be quickly generated to help management assess the health of the business. Timely reporting allows the right decisions to be made more quickly, possibly correcting or heading off potential problems. Proposals are consistent, quick and professional.

Because a customer's perception of your company is affected by the quality of the proposal, a professional package can make the difference in one company being selected

over another. Making use of industry specific software programs for design can substantially add to the proposal package. Computerized design programs also allow for easy revisions should the customer want changes.

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In many states, requirements have been implemented for landscape and irrigation designers to provide environmental impact reports, sophisticated designs and water-use reports. The intense calculations required to provide many of these reports take only minutes on a computer, but may take hours by hand. Increasing demands on designers increases the importance of computerizing a business.

With prices so low, and computers and software easy to learn and use, the biggest challenge is deciding which system and what software to buy. There are a lot of things to consider before making the decision. And, with so many choices in hardware and software, it only makes sense to do some homework before you buy. — *John Elliott*

The author is a director with Irrigation Technologies Inc., Houston, Texas.

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NEWS DIGEST

Kawasaki Certified For Two-Stroke Engine

KAWASAKI MOTORS Corp. recently received California Air Resources Board certification for a two-stroke engine aimed specifically at the hand-held utility market. It is the first company to receive CARB certification for that type engine.

Kawasaki's TE40, a 40.2-cubic centimeter engine, reduces emissions while delivering 2.4 h.p. The engines are sold directly to original equipment manufacturers, where they are resold as powerplants for backpack blowers.

The California standards, effective Jan. 1, 1995, are eventually expected to be adopted nationwide. They require the reduction of hydrocarbon, nitrogen oxide and carbon monoxide emissions.

Illinois Pesticide Bill Nullifies Local Laws

Illinois recently signed into law a controversial bill that prohibits nearly all Illinois counties and municipalities from regulating pesticide use through local ordinances.

Illinois Gov. Jim Edgar signed the bill despite strong opposition from environmental groups and suburban officials.

Under the new bill, Chicago remains the only municipality allowed to control the use of pesticides on lawns and inside buildings. The new law voids active local ordinances in at least six communities, according to the Golf Course Superintendents Association of America.

New Bark Beetle Found in Midwest

A year ago, it was discovered that pine shoot beetles had infested nurseries throughout six Great Lakes states. Now the U.S. Department of Agriculture reports another exotic bark beetle, *Ips typographus*, has taken residence near Erie, Pa. Follow-up surveys are being conducted to determine how far the beetles have spread, according to the American Association of Nurserymen.

EarthGro, Harmony Sign Agreement

EarthGro Inc. signed an agreement with Harmony Products to distribute Harmony's high-analysis, slow-release, organic-base turf and garden fertilizers in the Northeast. In return, Harmony will become sole Eastern manufacturer of EarthGro's natural fertilizer products.

The five-year agreement sets performance requirements for both companies.

Restrictions Proposed For Lawn and Garden Equipment

THE METROPOLITAN Washington (D.C.) Council of Governments has proposed banning commercial and residential use of gasoline-powered lawn and garden equipment within its jurisdiction on "ozone alert days." The proposal is part of an overall plan to get MCOG's regions online with a federal requirement to reduce ozone contaminants by 15 percent.

MCOG is comprised of the governments for the District of Columbia and 18 surrounding metropolitan counties in Virginia and Maryland.

The proposal, slated for public hearing in early November, would prohibit using gas-powered lawn and garden equipment on days the MCOG forecasts ozone alerts. The MCOG monitors wind speed, predicted wind speed, cloud covers and temperature to help it forecast whether the ozone level is in a "healthful range," said Trevis Markle, assistant director of MCOG's department of environmental programs.

Commercial use of equipment would be restricted on a lottery number basis. Each commercial operator would receive a sticker with a number on it, one through five. Each ozone alert day would be assigned a number. When the commercial operator's number comes up on a certain ozone alert day, he would not be allowed to operate equipment that day.

"There would be a one in five chance that on a given day there is an ozone alert commercial operators would not be allowed to operate that day," Markle said. Homeowners would be prohibited from using gas-powered equipment on every ozone alert day.

The American Association of Nurserymen, American Landscape Contractors Association and representatives of local landscape contractors met with MCOG in mid-August to protest the proposal, claiming it places unreasonable demands on lawn and landscape service operators. The groups fear the proposal would serve as model legislation for other metropolitan areas.

"The proposal is riddled with difficulties," said Ben Bolusky, director of government affairs for AAN. "Number one, you have the question to what degree of certainty can ozone alert days be forecasted with accuracy. Number two, the enforceability is the whole other question. What are you going to have, lawn mower police?"

Bolusky also said landscape contractors would have difficulty juggling schedules to avoid mowing or operating on "ozone alert days."

AAN and ALCA plan on submitting alternative methods for cutting down ozone pollution, such as reducing spillage and evaporation of gasoline.

"(Lawn industry groups) have indicated they would rather be given credit for purchasing new equipment meeting higher emission standards," Markle said.

MCOG's plan to reduce emissions also calls for high-tech inspections of motor vehicles; new recovery nozzles at service stations; reformulated paints, stains and varnishes; reformulated consumer products; and controls on autobody refinishing. Within the green industry, the group also proposed setting up an incentive program for turning in old equipment for scrap parts.

"Scrapping old equipment won't work because new, cleaner gasoline-powered equipment won't be available in the Washington, D.C., area until at least 1997," Bolusky said.

Markle said the proposal places restrictions on lawn and garden equipment because an EPA report produced last year showed non-road, gas-powered equipment produced "unexpectedly high" levels of emissions.

"The category kind of called attention to itself. Our committee came up with 137 tons per day emission reductions. We looked high and low for them. We thought this would be preferable than going to very expensive measures in the transportation system," he said.

MCOG must submit its proposal to the U.S. Environmental Protection Agency by Nov. 15. The plan, which reduces emissions by 15 percent from 1990 levels and negates emissions expected through growth, would become effective in November 1996.

Governments nationwide must meet a federal standard for reducing ozone pollution. About 100 communities nationwide currently violate the federal standards, Markle said. He has not heard of any other government considering plans that ban the use of lawn and garden equipment on certain days.



Proposed regulations would restrict the use of gasoline-powered mowers and other equipment on "ozone alert days."

Ohio EPA Cuts Yard Waste Regulations

The Ohio Environmental Protection Agency plans to virtually eliminate restrictions on facilities that compost only yard waste, after Ohio Gov. George Voinovich received numerous complaints from municipalities that meeting strict regulations set last year proved too costly.

The governor last November issued a moratorium on enforcement of the state's fledgling regulations that had created three classes of composting operations. Two of the classes applied to yard waste, differentiating them by size of operation.

The EPA's new regulations, expected to go into effect this month, exclude yard waste facilities under a new Class 4 from most restrictions, including setting a turning schedule or requiring inspection of the final product before it is sold.

"They essentially remove any site criteria and operational requirements for yard-waste-only compost sites," said Mike McCullough, unit supervisor of the EPA's solid-waste planning commission. "All compost site operators will have to do is submit a very simple registration form to the EPA."

The rule changes upset some private and

public sector composting managers who already invested time, money and research in setting up site preparations and equipment to meet the strict standards.

Ed Janesz, organic recycling development manager for Kurtz Bros. in Cuyahoga Heights, Ohio, claims the rules, particularly in combination with pending landfill regulations, will encourage companies to stockpile yard waste without turning it, monitoring it or maintaining quality control — essentially "creating an aboveground landfill."

"We're not at all pleased with this decision. It's jeopardizing our environmental ethics. Ohio has gone from being the leader on regulating yard-waste facilities to becoming the laughing stock," he said.

Class 2 regulations governing facilities which compost materials in addition to yard waste remain intact. "But who in their right mind would go into Class 2 with closure assurances when they can compost just yard waste without regulations?" Janesz said.

The changes may prevent companies that already complied with Ohio's strict requirements from bidding competitively against companies that simply meet the new regulations. Kurtz Bros. plans to combat underbidding with better technology and aggressive marketing.

"I think at the early juncture we're going to bite the bullet on some of these things and we're not going to be able to bid extremely low to compete with these groups," Janesz said.

Janesz speculated that resistance from private composting facilities may eventually cause Gov. Voinovich to consider stricter measures for composting yard waste. He and Kurt Princic, composting specialist for Ohio EPA's Northeast District Office, believe such a move won't happen for at least a year.

New RISE Task Forces To Tackle the Issues

The Responsible Industry for a Sound Environment has formed three task forces to address container management, education about pesticides and consumer/retail issues.

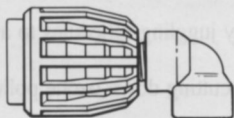
Dr. Molly Cline of Monsanto's Solaris Groups heads the Container Management Task Force, formed to identify key issues, gather information on packaging, recycling and disposal innovations and plan strategies for the specialty pesticide industry.

Bob Rosenberg of the National Pest Control Association serves as chairman of the School Task Force, which is charged with assisting the U.S. Environmental Protection Agency in

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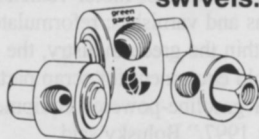
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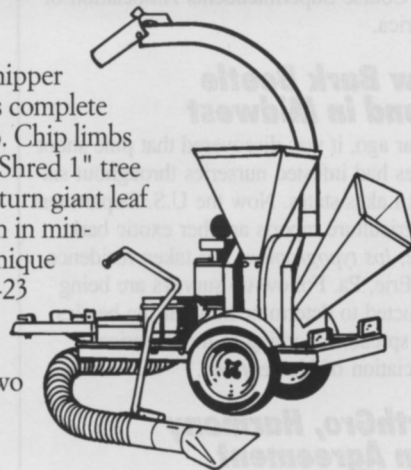
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developing an integrated pest management brochure and workbook for schools. The task force also will develop its own industry informational package to introduce IPM to school officials and school-related associations.

Additionally, RISE named Dr. Thomas Perkins of American Cyanamid interim chairman of the consumer issues task force, which met for the first time in August. The task force will identify, prioritize and address key issues related to the retail/consumer specialty pesticides market.

EPA Moves to Improve Pesticide Regulations

The Environmental Protection Agency plans to submit to Congress within six months legislative proposals on pesticide use requirements that could affect non-food crops.

The proposals would focus on pesticide use reduction and reform of the pesticide reregistration program, and seek to improve pest management standards, said Carol Browner, EPA administrator.

The pesticide reform proposal alters the Federal Insecticide, Fungicide and Rodenticide Act and the Federal Food, Drug and Cosmetic Act. It probably would only affect

non-food crops for chemicals used on both food and turf. Those chemicals could be subject to follow-up regulatory review, said Michael Scott of EPA's Office of Communications and Public Affairs.

Bio Grounds, Sustane Merge

Bio Grounds Keeper and Sustane Corp. signed a letter of intent to merge, pending completion of financial transactions. The merge is expected by early November.

The new company, performing under the name Sustane Corp., will become one of the country's largest producers of organic and biological products for the lawn, garden, turf and agricultural industries.

David Henderson, managing general partner of Founding Partners II, a Minneapolis venture capital fund participating in the financing arrangements, becomes president and chief executive officer of the merged company.

Craig Holden, president and founder of Sustane, will serve as executive vice president and chief operations officer. Thomas Duffey, president of Bio Grounds Keeper, was named executive vice president of sales, marketing and administration.

"Organic lawn and turf products have shown steady growth during the past five years, and we expect that growth to continue," Duffey said. "This merger will allow us to combine and strengthen our new product research and development programs."

IA to Install New Officers For '94

The Irrigation Association will install its new officers at this month's International Irrigation Exposition and Technical Conference in San Diego, Calif.

The new officers are: Joe Goecke, Valmont Irrigation, president; Jack Buzzard, Rain Bird, president-elect; Sam "Bo" Duke, Russell Daniel Irrigation, vice president; Louis Toth, Aqua-Lawn Inc., treasurer; and Bill Koonz, Koonz Sprinkler Supply, past-president.

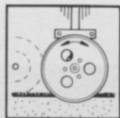
The board will consist of: Jim Clare, Golden State Irrigation Service; Michael Donahue, Aquamaster Irrigation Products Ltd.; Nick Dvorak, Growth Marketing Associates; Michael Muffett, Muffett & Sons Inc.; David Ransburg, L.R. Nelson Corp.; Sue York, Ewing Irrigation Products; Glenn Moore, Glenmore Landscape Service; Larry Cammarata, Certified Consultants Ltd.; and Jackie Robbins, Irrigation Mart.

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Association News

THE COMPOSTING Council took over the Source-Separated Composting and Organics Recycling Association to hasten SCOR's efforts to, among other things, establish a national program to promote backyard composting and develop a flexible economic model for compost collection, processing and distribution.

The move will strengthen SCOR's ability to promote composting source-separated organic materials. The fledgling association formed last May and, after two meetings, decided "it would be worthwhile for the group to merge with an existing organization already involved in composting efforts," said Craig Benton, SCOR spokesman.

The group, acting under the name of The Composting Council, set immediate project priorities which include publishing a composting facility operating guide, forming model legislation and regulations and establishing product quality guidelines, user specifications, standard product testing and validation procedures.

Other key components include expanding databases with electronic access, producing a use-based market study and certifying and training operators, marketers and designers.

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The **Associated Landscape Contractors of America's** Executive Forum Jan. 23-26 at the Hyatt Regency Waikoloa in Hawaii will focus on "The Exceptional Landscape Employee: How to Select and Develop Quality People."

Attendees gather in discussion groups based on their companies' sizes and incomes to explore techniques for selecting, coaching and motivating employees. Discounts for early reservations are available through Dec. 20.

ALCA is also sponsoring an education

seminar with the Texas Association of Landscape Contractors Dec. 3 in Dallas. Speaker Frank Ross of Ross-Payne and Associates, Barrington, Ill., will discuss pricing work in a competitive market.

In other news, 1994 scholarship applications for ALCA's Student Field Day program are due Nov. 1. Scholarships are awarded to students in the landscape/horticulture field. The awards ceremony takes place on the last day of the Student Field Days, which runs March 17-20 at the University of Tennessee in Knoxville.



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USE READER SERVICE #43

The **Idaho Nursery Association** named Paul Bosarge of Boise its new executive director. Bosarge succeeds Sherry Sass who resigned for personal reasons shortly after assuming the position several months ago.

Bosarge, new to the nursery business, plans to spend his first year learning the industry.

"The INA board has set out reasonable goals. I'm looking at the first year as a transition year. After that time I can look at projects and evaluate where to take them. Right now the major focus is the trade show in January. It has enjoyed a high level of success," he said.

Bosarge runs the Association Management Co. in Boise and recently served as marketing director of the Appaloosa Horse Club in Moscow, Idaho.

The New Jersey Turfgrass Association

and Rutgers University continue to expand Project DREAM — the Demonstration of Research, Experimentation and Management — a 60,000-square-foot field and demonstration area for displaying results of turf research.

About 40,000 square feet of the university-owned property is currently being used for a variety of demonstrations. The innovative research field includes a new, 900-square foot putting green, which was laid with washed

sod in an experiment to see how well the sod enhances growth of different bentgrass varieties.

The field also holds 19 experimental plots of bluegrass, ryegrass, fescue and other grasses. Future plans include adding plots of warm-season grasses such as buffalograss, zoysiagrass and bermudagrass. The New Jersey Irrigation Association and national Irrigation Association intend to donate a censoring system which will gauge how much water is needed for various types of irrigation.

"This showcase of turfgrass diversity, we believe, is the first of its kind to be developed solely for demonstration purposes," said Joseph Bianco, project coordinator. "The project gives landscapers a place to show people what different types of turf and varieties look like side by side, and how different maintenance practices, such as mowing pattern, cutting height and fertilization, affect turf."

Facilities include a laboratory for students to conduct experiments and a demonstration area showing how different compost bins work.

The project so far has totaled an estimated \$14,000 to \$18,000 in labor, material and equipment, most of which was donated.

The Illinois Turfgrass Foundation's North Central Turfgrass Exposition will feature a

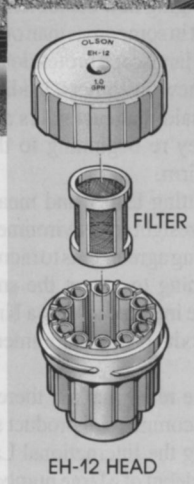
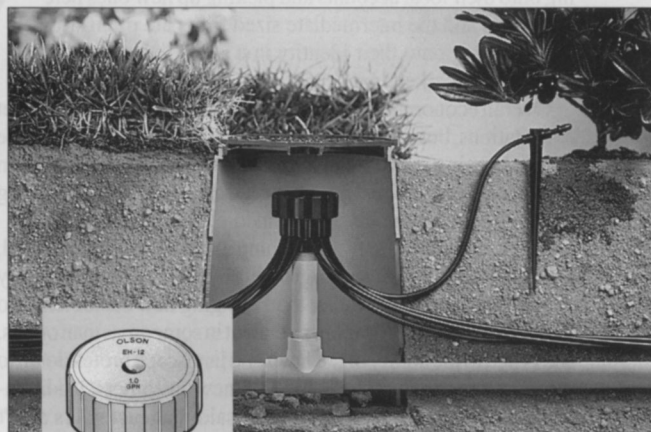
Landscape Contractors Program and Lawn Care Symposium Dec. 1. The event runs Nov. 29 to Dec. 1 at the Pheasant Run Resort in St. Charles, Ill.

The Landscape Contractors Program provides an overview of wetlands development and the permit process for the maintenance of wetlands after installation. The program will be presented by Dick Young of the Kane County Forest Preserve.

The Lawn Care Symposium features discussions on the history and future of lawn care, diagnosing turfgrass problems, timing herbicide applications and fast germinating turfgrass species and cultivars for overseeding and repair.

The NCTE also features a trade show with 150 exhibits and turf products.

IN BRIEF...The American Water Works Association has published the "Water-Efficient Landscape Guidelines" handbook by Richard Bennett and Michael Hazinski. The 176-page book reviews examples of current water use ordinances and provides water conservation guidelines for design irrigation and maintenance of commercial, industrial, public and residential landscapes. Cost is \$32 for members and \$40 for non-members. Orders can be placed by calling 800/926-7337. ■



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Contractors View Market With Wary Eye

In a time of economic and environmental uncertainty, successful lawn and landscape professionals need to gain a strong business understanding to secure a profitable future.

By Cindy Code

DESPITE A MIXED bag of reports from across the country, future prospects for growth in the lawn and landscape maintenance industry are decent, with above average prospects for growth to those who assimilate appropriately.

But don't go counting your blessings just yet. To survive in the 1990s, contractors must learn to adapt by working smarter, using new technology and managing employees and resources more effectively.

Although the year started slowly, most suppliers and lawn and landscape professionals rebounded through the summer months, offering year-end predictions of 12 percent to 20 percent growth on average.

Business concerns have become a primary focus for the contractor who is determined to survive the changing landscape profile. The successful contractor seeks adequate compensation for his services, provides training and recognition programs for his employees and works side by side with his customers to provide not only attractive landscapes, but to inform the general public about the benefits of lawn and landscape services.

Price undercutting and deep discounting remain a major concern to many — mid-sized firms in particular — as they struggle to maintain their role in a changing environment. The past two years have signified an industry in which the million dollar companies are getting bigger; the small, one- and two-truck operations are holding onto their local accounts and picking up new ones here and there; and the intermediate sized firms are often struggling to hang onto their identity in a much tighter and more competitive marketplace.

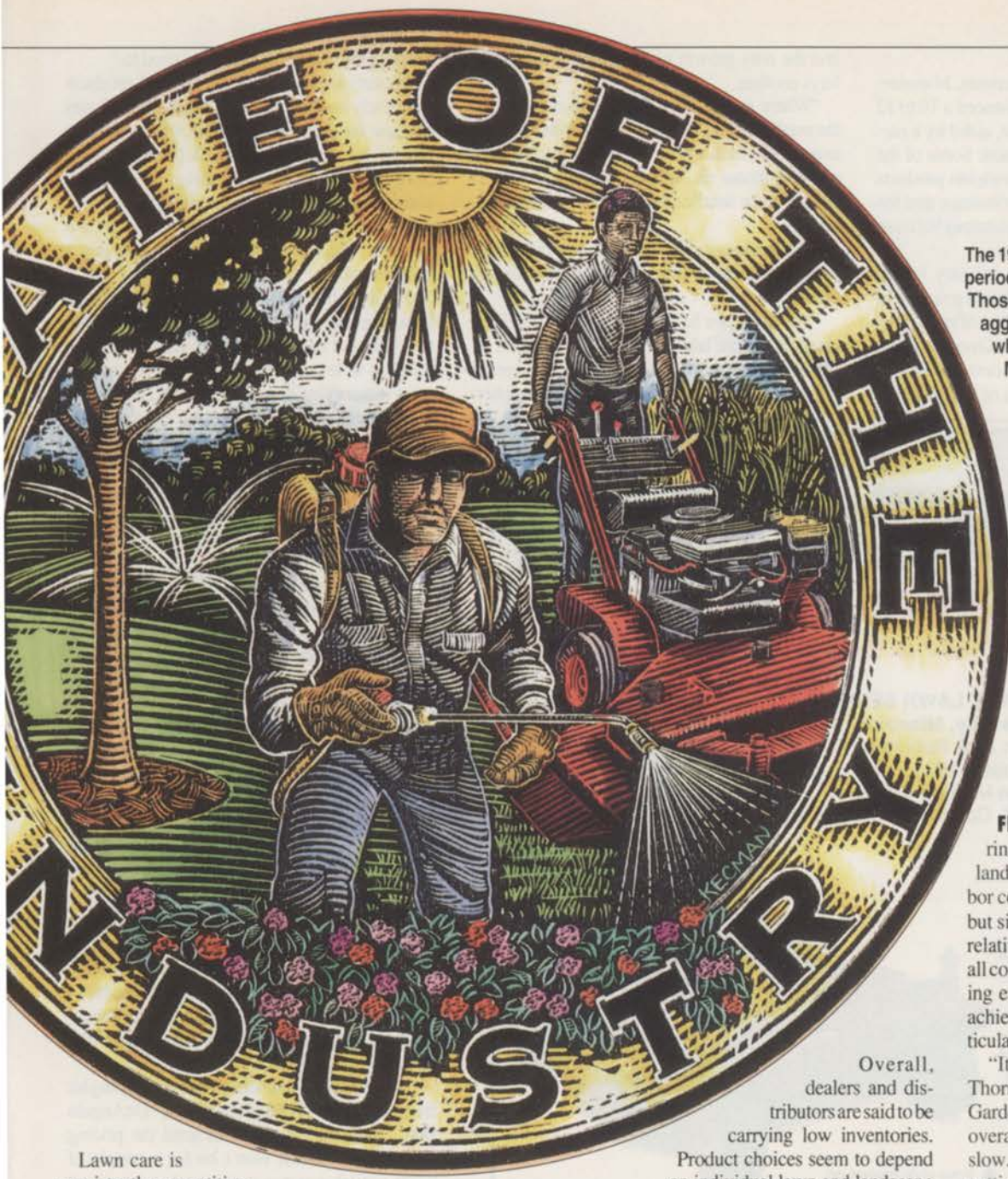
Overall economic growth in the first half of 1993 did not meet expectations, but low interest rates have been an optimistic force for the housing market which influences the green industry. In some cases, low interest rates have led to refinancing of existing loans, allowing more disposable income for consumers.

In a market that is far from reaching its true customer potential, lawn and landscape firms are growing by taking customers away from other contractors rather than bringing new customers into the market. This trend is more prevalent in some areas than others, and is tied to the ability of the lawn and landscape professional to retain accounts rather than search for new customers. Additionally, on the lawn care side, it's been said that customers aren't jumping ship as quickly because they're beginning to think product usage is similar from firm to firm.

On the supplier side, firms are getting leaner and meaner; introducing name changes to project foresight and environmental images; and entering into joint marketing agreements to increase market share. Suppliers are also aiming to attract the small, business operator who is perhaps more inclined to visit a Kmart or local garden center than purchase products from a commercial distributor or dealer.

Even without competition from the retail market, there's a tremendous amount of rivalry among commercial product suppliers. Industry trade shows, including the International Lawn Garden and Equipment Expo, saw the debut of a large number of new products for the commercial landscaper. All the talk about growth translated into strong sales this year, but too many people entering the marketplace stole some of the pie from long-time market players.

Expect more of that next year as both commercial and consumer manufacturers alike have identified the lawn and landscape market as one for significant growth.



The 1990s represents a shake-out period in the green industry. Those who are smart and aggressive will survive, those who aren't, won't. Illustration: Milan Kecman

Lawn care is consistently competitive, but entering the field isn't as easy as it used to be. "You have to decide if you're in it for the long-term," said Rick Steinau, president, Greenlon Lawn Care Services, Cincinnati, Ohio. "If they're starting from scratch, they'll sell on price 99 percent of the time. They don't have any overhead and they give away the service. They come and they go all the time."

Many of these fledgling companies go into business without the proper licensing or certification, taking the chance they won't get caught. It used to be a safe bet; however, the tide could be turning as more pressure is placed on local and state governments to reverse this trend.

Likewise, while the industry avoided another Capitol Hill show-down with Sen. Joseph Lieberman, D-Conn., common public opinion does not bode well for the comings and goings of field operators who are often not well-trained.

Bob Andrews, president of The Greenskeeper, Carmel, Ind., has taken steps to alleviate operator/customer discrepancies by assigning a specific individual to handle the same service route on an ongoing basis. The hope is to cement solid relationships.

"It's a big help. I don't see the jumping around from lawn care firm to lawn care firm that I used to see. The customers are happy," Andrews said.

Overall, dealers and distributors are said to be carrying low inventories.

Product choices seem to depend on individual lawn and landscape firms and the region of the country in which the work is performed. Contractors said they are more likely to choose a product first and name second, and the industry is more likely to see a mixed use of products today than 10 years ago, partly because there are more viable choices.

Current methods of distribution are being challenged by Home Depot, Kmart and Wal-mart among others as they search for one-stop shopping.

"In the OPE market today, there is more competition for tougher and tougher sales," said David Zerfoss, president of Husqvarna, Charlotte, N.C. "And even service—once the domain of the indepen-

dent dealer—may be up for grabs.

"I see a clear—if challenging—way around this obstacle: One, respond to the customer better than ever before, and two, be a low-cost provider of high-quality products."

To assist dealers in the field, Husqvarna has increased advertising and product promotions, upped warranty shop rates and added dealer-development training programs.

FIELD ACCOUNTS. The recurring challenge in the lawn and landscape industry is to control labor costs. Sure, it's a balancing act, but since material costs represent a relatively small percentage of overall costs, controlling labor and training employees are fundamental to achieving maximum value—particularly in today's volatile economy.

"It's rebounding," said Gary Thornton, president of Thornton Gardens, Maineville, Ohio, "but the overall commercial market here is slow...although a lot of new stuff is getting started. It will expand considerably in the next couple of years, but residential development can't maintain its current pace. There's too many big fancy subdivisions."

Thornton Gardens has been successful this year working on the in-between sites—residential developments with planned entrances, meeting areas and clubhouses. A recent local acquisition also boosted maintenance numbers by providing the firm with 40 percent more work.

"It was the first time we ever went through a merger. We had always grown internally, but this opportunity presented itself," Thornton said. "It brings in some built-in business; certainly some economies of scale."

Thornton Gardens was forced to hold a quick sale of nursery materi-

als because of the market glut.

Doug Masters of The Andersons, Maumee, Ohio, said his company experienced a 10 to 12 percent sales increase this year, aided by a particularly good insecticide season. Some of the growth is attributed to new pesticide products opening new doors for the formulator and the acquisition of a portion of the customer list from the former LaRoche Industries.

"We're not convinced the industry is still growing. With all the consolidation going on in the industry we see a lot of trading of customers among them," Masters said. "Overall, we're optimistic...if not for a tremendous amount of growth then for a steady piece of the business.

But the only growth we're seeing is when one buys another.

"Where we see our new growth is getting to the smaller lawn care folks. Those who buy two to three pallets at a time. We know the big guys and they know us. Where we have trouble is getting to the smaller, lawn and landscape contractors."

The Andersons hope to find new customers through current distributors and their own turf centers.

"We know we have to open some other avenues. It's more labor intensive but there's a lot of business out there," Masters said. "We see the big guys buying more locally, using less sophis-

ticated products today than they used to."

Masters sees the traditional N-P-K products frequently used over the slow-release fertilizers because lawn service operators want to service the turf on a more frequent basis. In essence, they have educated the customer that every time they come out to their property, they have to put down a fertilizer. "We'd rather see them go out on a property, use slow-release products and skip a fertilization."

Mark Yahn, president of Ground Control Landscaping, Orlando, Fla., said sales were up this year, but the increase only served to return the firm to levels set in 1991. The company's sales were off by 20 percent in 1992, but a good year — primarily in construction and to a lesser extent in maintenance — bolstered sales.

"The construction climate is much improved," Yahn said. "The number of bids and jobs getting built are improving. A lot of buildings are reporting high occupancy, and development deals are less fragile than before."

Some increased work from Disney World and a strong comeback in affordable, multi-family housing have led to the general improvement. Resort time shares, which at one time had replaced much of Ground Control's multi-family work, are also coming back.

"We're doing well overall. We're profitable, but we're not setting the world on fire," Yahn said. "We've re-evaluated what we want to do and we're well poised to get a good piece of the action. We see consistency in construction sales and a steady backlog. That was the key to our success in the early years, and the only bad years we had were when we ran out of backlog."

Neal DeAngelo, president of DeAngelo Brothers, Hazleton, Pa., is frustrated with the increasing number of so-called entrepreneurs entering the market, but chalks it up to something every growing industry goes through. In the meantime, he hopes the cutthroat pricing does not devastate the industry.

"The 10- to 15-year-old business is getting hit from all ends with no place to run," DeAngelo said. "We just have to wait until the pricing rebounds — which won't be for a couple of years, until they (price-cutters) get squeezed out or learn how to price their services."

Rich Akerman, president of Northwest Landscape Industries, Tigard, Ore., said the challenge to attract and retain accounts will continue through the 1990s, forcing landscape firms to get leaner or get out of the business.

The construction arena is tough in Oregon. Prices are down and there are fewer jobs with more bidders for each project. Consequently, maintenance is more competitive with both lawn care and landscape firms scrambling to pick up maintenance jobs.

"It makes you better and more efficient with your customer service efforts," Akerman said. "I'm still optimistic about the future because those who are aggressive will find ways to get better. Unfortunately, only a small percent of the industry is professional. There's lots of nice people, but they don't understand the business."

Pricing is a concern for Akerman as well. He

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USE READER SERVICE #37



Drought was a major concern for the Northeast and Southeast regions of the country this year.

hasn't initiated a price increase in two years and may have to decrease prices because of intense competition and a mediocre construction outlook for 1994.

Harmony Products, a fertilizer supplier based in Chesapeake, Va., reported sales in the first six months of 1993 equal to all of 1992. President Mark Nuzum said he's extremely optimistic that sales will continue to increase in 1994. The organic fertilizer is selling well to the small lawn care and landscape operator, but not as quickly to the large, traditional chemical lawn care firms.

Despite a soft European economy, Jacobsen reported international sales success. "Jacobsen's growth around the world has been occurring at a gratifying rate," said Eric Smitsdorff, vice president of marketing, adding that worldwide sales have been strong as well.

New construction is up about 10 percent to 20 percent in Louisiana, according to Dan Standley, owner of Dan's Landscaping and Lawn Care in Gretna. The full-service operator has gotten out of the residential market, and is satisfied with his grounds management success in the commercial field.

Standley said he's making more money with less labor which he attributes to more hands-on involvement in the business, improved training and a four-day work week.

"I'm very optimistic. If we do what we say we're going to do, when we say we're going to do it, for the price we say we're going to do it, we'll be in this business for a long time," he said. "You're only as good as your last job, so you have to make every one count."

IRRIGATION PERFORMANCE. California, perhaps the state suffering the most from economic doldrums, has some good news to report. A recent study showed that the state's landscaping industry will generate retail sales of nearly \$7.5 billion this year and \$8.5 billion in 1994.

Optimistic? Maybe, since California businesses are continuing to move out of state (although recent losses in the defense industry have motivated the state to become aggressive in efforts to retain business), and attracting new hires remains a difficult task for all employers.

And irrigation manufacturers, who once judged a good year from a bad year on sales in California, are looking to make dollars in other regions as irrigation went down the tubes this year in California. Micro and drip irrigation continue to make inroads, however.

"The economy dipped off dramatically. Ev-

erything there is predicated on the construction industry which came to a screeching halt," said Larry Keesen, vice president of Keesen Water Management, Aurora, Colo. "Manufacturers are feeling it in a major way. Design people are the best predictors of what's to come in the future and next year looks kind of mediocre."

No significant amount of commercial work was reported in California, but Texas is mounting a recovery and Florida is strong.

Toro of Riverside, Calif., reported a 10 percent to 12 percent nationwide increase in sales over 1992.

"We've had a good year. Sales were down in the Midwest, but the rest of the country was quite active and California held its own," said Mark Painter, international contractor sales manager. The largest sales came from its residential/commercial division.

After Toro's irrigation division lost money in 1992—the first time since 1963—the manufacturer instigated a large restructuring effort to combat an inflated expense structure. Added were a new director of marketing and sales, three new national sales managers and layoffs totaling about 50 people in the plant. Restructuring naturally led to some attrition in upper level management, but Painter said the firm added, not subtracted, to its field personnel.

"We've experienced a \$17 to \$18 million upswing in profits since last year," Painter said.

The Midwest and Northeast have contributed to the steady development of the irrigation industry, although lingering side effects from this year's flood may affect 1994 sales. In general the Midwest economy is less volatile leading to an increase in the number of people requesting irrigation services. Irrigation is viewed as a more affordable commodity today, where it used to be viewed as only for the affluent.

On the West Coast, landscape architects are still specifying irrigation systems and irrigation contractors are handling installation. Elsewhere, landscape contractors are getting involved in the business and contributing to the expansion of the service.

"It continues to be a growth area. As they get into business they want to broaden their line of services," Painter said.

To tap into the growth market, Hunter Industries, whose headquarters is in San Marcos, Calif., opened an irrigation office in Cary, N.C., two years ago. The plant, which is fully operational, includes manufacturing, sales and support and a training facility.

"We see the benefits there already," said Charles Huston, director of sales. "It gives us a strength position in the East, a complete warehouse and name recognition."

Huston said Hunter's sales are on par with those of a year ago. Numbers were slightly

(continued on page 70)

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USE READER SERVICE #36



Patience Spells Progress

In Today's Economy

LAWN AND landscape maintenance contractors across the United States cite fair to middling sales revenues for 1993, and predict 1994 will bring only slightly higher figures. Many foresee moderate growth for their companies in the next few years, while a number of companies battle to simply hold their own.

Growth opportunities still exist in lawn care, landscaping, nursery and irrigation maintenance and installation, reported contractors, but deterrents such as underbidding, post-recession cautiousness and extremely stiff competition restrain companies from prospering. Where contractors could budget a 15 percent to 30 percent annual growth rate five years ago, revenue increases of 5 percent to 10 percent are more the norm today.

Lawn and landscape maintenance companies rated growth opportunities within the industry from very good to generally poor. The responses seemed to depend chiefly on geographical location, market size, company size and market positioning.

"Overall, I foresee a pretty stable long-term market showing minimal growth with pockets of growth niches," said Landon Reeve, president of

Lawn and landscape maintenance firms rate growth opportunities in the industry from poor to very good, depending on geographical region and other factors. Most continue to cite underbidding, a sour economy and stiff competition as the leading deterrents to a healthier market.

By Cathy Hoehn

Chapel Valley Landscape, Woodbine, Md. "I see the industry becoming more and more competitive with less growth as markets mature."

Future growth prospects appear brightest in the Midwest and Northwest, where people are filtering in from California and other saturated market areas, and dimmest in the Southeast and West. Cities like Boise, Idaho, and Austin, Texas, continue to see growing populations and expanding economies. Other markets such as Atlanta and Orlando, which have become glutted, face fierce competition and tiresome bidding wars.

Competition appears particularly evident in government bidding. "People go in and bid low price and won't provide what they promised," said Ben Chambliss, owner of Maximum Maintenance in North Fort Lauderdale, Fla. "One county job required 26 operations in 26 locations. Our bid was \$117,000 a year. The low bid was \$40,000. The high bid was \$225,000 a year. They took the lowest bid. With bids that low, it's next to impossible to perform according to specifications. The county will end up firing them and putting (the project) out to bid again."

To sharpen their competitive edges, contractors are deftly seeking areas of the market not widely developed. Though they vary by region and each company's profile, note-



worthy areas of growth in residential and commercial markets include seasonal decorating, adding plant color, hydroseeding, curbing and edging, artscaping and, in a few regions, designing, installing and servicing irrigation systems.

Companies don't always have to work hard at developing niches; these areas of growth often develop naturally through meeting clients' needs, according to Dennis Dautel, chief executive officer of Clean Cut, Austin, Texas.

"A company goes out and gets the best maintenance account. In the past, it never really did irrigation. All of a sudden, it gets demand from the customer, and is forced into that business whether it wants it or not," he said. "Once that company is mature, 10 years, million dollar sales, it will find that its customers need maintenance involving all different aspects of services—arboriculture,



Renovation and design projects are on the rise in the green industry. Photo: Green View Co.



Maintenance projects are a natural add-on for companies whose construction divisions are struggling. Photo: Clean Cut.

horticulture, irrigation. Some might think they've gotten into a niche when it's really growth."

BEATING THE ECONOMY. Despite cautious growth estimates, a number of companies are reporting higher revenues in 1993 than in 1992.

"This year, we're seeing a better year than last year. In a period of recession, that was our slowest year. I think we're going to recover what decrease in revenue we had," Reeve said. "We're going to see a 15 to 17 percent increase over last year, which is a lot in a year, but is also coming off a very slow year. We'll probably be back to where we were two years ago."

Contractors recognize that the economy governs growth patterns, and thus position themselves to take greatest advantage of their particular markets.

Maintain, based in Dallas, Texas, recently downsized, reducing one-

time-need volume and becoming more selective in its client base. "We realized it's more cost-effective to be selective in the types of jobs we take on. The higher the price, the fewer jobs we need to take on, yet we make the same amount of money," said Jimmy Rhodes, general manager at Maintain's Fort Worth office.

"We've been in the business 25 years," he said. "It cycles with the economy. We were struggling for awhile. Others are now suffering where we did two years ago. We're on the way back out. This is one of the best years we've had in the last five or six years. Our volume is down but our profits are up. Now we just hope to rebuild and grow."

Landscaping serves as the backbone of Maintain's \$4.5 million to \$5 million business (compared to about \$7 million six years ago), supporting a range of services including lawn maintenance, installation and irrigation.

Bud Christy, owner of the mid-sized Lucas Tree Expert Co., Portland, Maine, is representative of a number of companies keeping busy by staying on top of current business, with no desire to diversify or expand right now. "We do a lot of tree work, as well as design/build, maintenance, lawn care and hydroseeding. Very few people in our area offer all the services we do. We'll steadily increase what we have. We're not looking to get into everything; just do what we're doing better," he said.

Green View Landscaping, a \$15 million to \$20 million company in Dunlap, Ill., that has six locations throughout the state, finds its retail business neatly ties together its service package.

"We started landscaping in a small town of 150,000 more than 25 years ago," said Thomas Hoerr, company president. "We offered other services to get volume up. We started in landscaping, then nurs-

ery, sod production, retail, irrigation and maintenance later on. We started the nursery to have a reliable source of product. I think it all works well together. We get a lot of sales leads from the retail division."

Chambliss hopes to grow Maximum Maintenance from \$500,000 to a \$1 million firm. The growth rate thus far has crawled due to continual price wars. "It seems like every time we started making progress, we lost a couple of small accounts strictly to price. Because people don't play by the same rules. They don't have company insurance, proper licensing, don't do things above-table. We can't compete."

Chambliss concedes increasing the growth rate from about 4 percent to 10 percent will take patience, hard work and a few sizable new accounts. "I'd like to pick up the pace a little bit, but not at the expense of taking business for the sake of taking business," he said.

Chambliss and a partner are considering establishing a landscape and construction management company to serve a mostly retiree community. "We would act like a broker, subcontracting all the work, from mowing to painting, so we wouldn't have a heavy overhead. We would try to maintain a high level of service and not get too large so we could keep our expenses down," Chambliss said.

FINDING NICHES. Some of the same companies that a few years ago diversified into many different services are the very ones now narrowing their scope to a particular specialty. These contractors find they did well in one area, but overextended themselves when they broke into new markets.

Drake Snodgrass, owner of Drake's 7 Dees, Portland, Ore., hopes to avoid making that mistake. "We continue to focus on what we're doing. We won't delude ourselves by going into some new area like tree care or spraying services," he said. "We do offer some backpack spraying for plant material. If the customer has large trees that have

DISCOVERING THE NURSERY MARKET

ALTHOUGH IT seems the general trend is for nursery owners to delve into lawn and landscape maintenance, some landscaping companies are opening either wholesale or retail nursery operations as well.

"More often, I think nurseries get into the landscape construction business, which then leads to landscape maintenance. But it seems like a lot of old-time landscape companies that have been around 20 to 30 years are starting up nursery operations. Nursery owners have better profit margins than landscape contractors, but it's a completely separate business," said Dennis Dautel, chief executive officer of Clean Cut, Austin, Texas.

A landscape contractor's success in the nursery market rests largely on the same factors as other aspects of their business, primarily the economic climate. "The wholesale nursery business moves as fast as the economy," said Peter Carlin, owner of the Shadow Oaks Nursery in Sarasota, Fla. "When the economy picks up, there's more demand."

Carlin claims retail nurseries in Florida cannot compete with the larger garden centers such as Kmart's. His nursery used to stock a variety of trees, but now only supplies oak trees. When those run out, he will close the nursery and focus on lawn care and grounds maintenance.

"Today it's easier to buy plants rather than maintain stock. We started

out as a landscaper providing our own plants. It's too difficult to maintain unless it's on a large scale," he said. "Prices have come down. Plants are cheaper now than they were 10 to 20 years ago."

In the California market, wholesale nurseries are seeing similar woes, while the retail market is going strong. "People are traveling less, spending less, and doing more gardening. During a recession, home gardening increases. People start doing projects on their own," said Lebo Newman, owner of Redwood Landscaping in Santa Rosa, Calif.

For companies not in the nursery business, Dautel believes the best way to guarantee receiving good plant materials at low prices is to buy through small farms rather than large retail centers.

"So many small farms out there sell nursery stock that if you communicate with them and get prices out of them, you'll find somebody willing to give you an excellent price to put cash in their pocket," he said.

Clean Cut maintains a database report on nurseries, classified by how many different types of plants they have. "We'll do a report, depending on what material we need, and fax out a list of what we need. We get quotes back and buy at the cheapest price. It boils down to we're paying our-selves that good profit and getting good quality plants."

problems, we'll subcontract."

Drake's 7 Dees, which offers mostly landscaping services and minimal lawn maintenance, concentrates on creating landscapes that require minimal maintenance.

"It's a matter of water conservation, as well as time conservation. The perfect yard is one that is gorgeous all the time and you don't have to do anything to it," Snodgrass explained. "You can't attain that, obviously, but you can get a lot closer than you could years ago. It's scary that we (as an industry) continue to create landscapes that are impossible to take care of, so that economically we're forced to do less."

The company is working its way into offering more maintenance, an approach reverse of what other companies in the market have done. "Pro-Grass and ChemLawn started in lawn fertilization and spray applications and are now expanding to horticultural services. We started with those services and are going toward lawn fertilization. They're broadening and we're narrowing. And we're both ending up at the same spot, probably," Snodgrass said.

Irrigation design, installation and maintenance, novelty niches in some regions and commonplace in others, remain price competitive in most markets. In Austin, Texas, for

example, "if you want to keep up, you'd better have excellent irrigation services or you will lose accounts," Dautel said. "The last few days, we've picked up a quarter million dollars work in irrigation. Other contractors couldn't perform the services well."

Good irrigation technicians are few and far between, he said. "It's a specialty. Guys that are good at it aren't paid enough. If they're really good at it, there's the potential they will find another management position that pays."

Bob Broughton, owner of Empire Landscape Contracting in Hamilton, Mont., said his company's irrigation business is doing

"phenomenally well." He has heard mixed reports on how other irrigation service companies in the Midwest are faring.

Hydroseeding and concrete curbing and edging are areas of growth in the Midwest and Central regions. Eric Olson, owner of The Lawn Co., Boise, Idaho, finds residential customers are beginning to ask for hydroseeding service, particularly for larger properties. "Sod prices are still relatively reasonable. It gets expensive on larger properties, however," he said.

Broughton is considering hydroseeding, but has already tapped into niche markets in artscaping, curb-

(continued on page 28)

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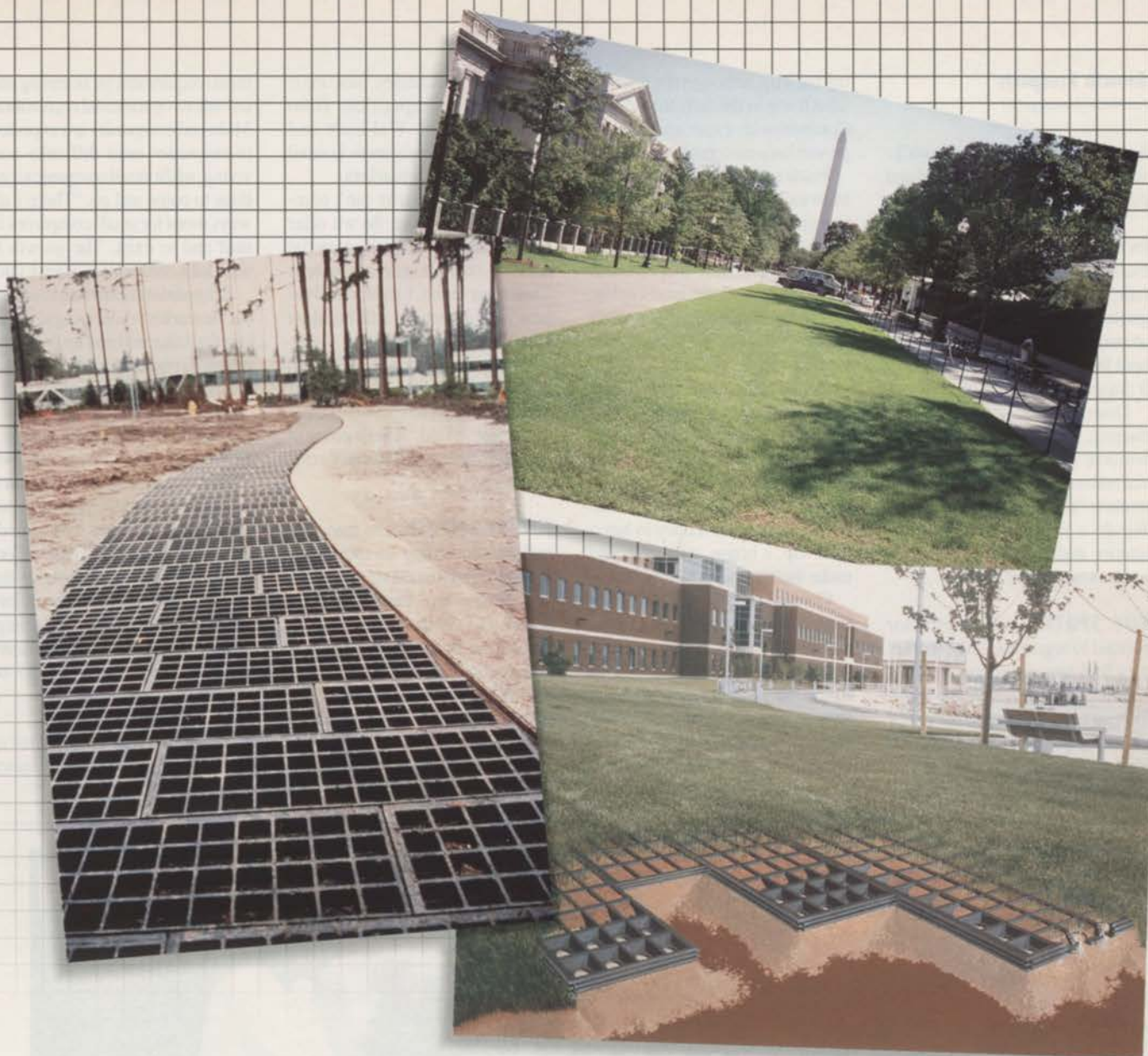
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Growth Prospects

(continued from page 26)

ing and building concrete walkways and patios for residential and some commercial clients.

"We're seeing more of a demand for water gardens—a little oasis off the patio, or fountains and waterfalls," he noted. "We have a display garden, and put in a mountain stream. Water bubbles out of a large boulder and streams down to a pool. It draws a lot of attention."

David J. Frank Landscape Contracting, Germantown, Wis., finds seasonal decorating for commercial and residential clients a fruitful market. "It's not hard to promote. We do a real business, both for interior and exterior," said company owner David Frank.

HOT SPOTS. Each contractor pointed to segments of the market they find most troublesome or rewarding. Dautel noted that commercial lawn and landscape maintenance, particularly for office complex properties, is on the rise in Austin, Texas. "Real estate is pick-

ing back up, although it's not near what it was in the early to mid-80s. Companies are experiencing more growth because construction is up."

Frank noted a similar trend in the Milwaukee area, but said it was due to a glut in office and retail space. "Office buildings are only renting half of the available space. Rather than cutting back on landscaping, they are trying to make the property look two times better to attract potential tenants," he said.

Dautel contends housing is generally going up throughout the nation, which increases the call for professional landscaping. "As housing and food costs lower, taking up a lower portion of overall income, people have more money to buy a nicer car, a house, whatever, and make their property look better."

Construction in California is "way down," except in public works and single-family homes, according to Lebo Newman, owner of Redwood Landscaping in Santa Rosa, Calif. Companies offering lawn, landscape and irrigation services are building markets in renovation, modification and upgrades.

Nursery businesses face mass marketing competition from superstores like Wal-mart and Kmart, forcing companies in retail to corner specialty markets.

"Our garden center can't compete with Wal-mart. So we offer bigger material, specialty material not found at the large retail centers. That's our niche. I think our five-year plan is that we will build on that," Hoerr said.

Commercial business, at least in the mid-Atlantic area, has stagnated and will remain so for two to three years, Reeve said. "That's going to keep the whole growth pattern very, very tight."

FUTURE GROWTH. The five-year outlook, according to most contractors, is continued slow growth. The professional status of the industry will continue to elevate as companies become more service and product oriented. And consumers will become increasingly aware of the value of lawn care and landscaping.

Larger companies will increase in number, particularly as govern-

ments require stricter licensing and enforce environmental regulations. Midsized companies are expected to encounter most difficulty surviving, while small companies continue to come and go. "There's always room for small companies to start and to exist. The growth is what kills companies," Reeve said.

Companies continuing to undercut the market while trying to maintain their size will end up dropping prices 30 percent, driving the market even deeper into tough times.

The overall message? "It's a tougher market. More demanding," Reeve said. "A lot of companies floated along for a number of years, just kind of doing work and not paying attention. Now they're finding it difficult to exist. There's more regulation, more concern for the environment, more competition, less work, more need for training, more liability, more risk in the marketplace. You've just got to be sharper."

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

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USE READER SERVICE #44



Tracking Business Trends

Things are looking up, report contractors, despite pressing issues hindering the lawn and landscape industry.

CONTRACTORS IN the lawn and landscape service industry remain optimistic about their short- and long-term economic futures, despite pressing concerns about government regulations, price cutting, insurance and high costs of doing business.

A recent *Lawn & Landscape Maintenance* market trends survey showed that 83 percent of the contractors responding to the survey are optimistic about their businesses' short-term economic future, and 84 percent look for a bright long-term future. Last year, 83.6 percent of respondents believed their firms would pick up in the short term — six to 12 months — while 89 percent anticipated good growth in the long term.

After a slow start this year, most service contractors made up ground in the critical summer months. Although flooding in the Midwest, drought up and down the East Coast and a generally erratic economy rightfully raised some anxiety, many categorized 1993 as a good sales year overall.

While the economy and the weather can't always be forecasted, other concerns — regulatory, business and peer-related — are generally manageable, but nevertheless keep cropping up. Case in point: Contractors responding to the survey believe lack of professionalism, government regulations, finding and retaining good workers and price cutting hinder the industry's overall growth. Other barriers pinpointed include insurance, high costs of doing business, too much competition, taxes, worker's compensation costs, refuse disposal and the negative image of the profession.

Some progress has been made this year in improving the green

industry's image. Various state and national associations are working proactively to prevent onerous legislation from enactment. Perhaps most noticeable this year was the lack of a spring lawn care media blitz in the consumer media. Sen. Joseph Lieberman's, D-Conn., much anticipated lawn care hearings never came to pass, and well-placed industry sources have handled much of the criticism from the press.

Throughout the green industry, groups are also working to place articles and broadcast spots about the benefits of a properly cared for landscape.

The industry has seen consistent, moderate to above-average growth over the last 20 years, in-

cluding about 12 percent annual growth during the recent recession. Many contractors anticipate current sales trends to continue through 1993 and the first half of 1994.

GROSS SALES. The largest percentage of survey respondents — 26.4 percent — expected their 1993 gross sales to finish in the \$100,000 to \$249,999 range, and 16.4 percent in the \$50,000 to \$99,999 spectrum. Slightly fewer than 15 percent anticipated grossing less than \$50,000. About 16 percent predicted their 1993 gross sales will top \$1 million.

Companies surveyed average 8.5 employees year-round, with six added during peak season. The largest percentage of respondents, 26.1

percent, reported their companies were founded between 1986-90; 20.6 percent between 1976-80; 17.8 percent between 1981-85; 11.1 percent between 1971-75; 9.4 percent between 1961-70; 8.3 percent before 1960; and 6.7 percent between 1991-93.

Percentage-wise, gross sales across the board remained about the same, although the upper level categories — namely \$500,000 to \$999,999 and \$2.5 million and above — increased significantly.

The green industry is still extremely fragmented with million-dollar companies, medium-sized firms and small, specialty shops highlighting the lawn and landscape profile. Industry downsizing is evident in the 1990s with some erosion of the medium-sized companies taking place. The trend of the million-dollar companies buying out smaller firms will continue; but the existence of the neighborhood service operation is generally not in danger.

The highest revenues for lawn and landscape contractors still come from single-family and commercial/industrial properties. Contractors indicated, on average, that 51.3 percent of their revenues come from caring for single-family homes, 33.1 percent from commercial/industrial, 7.8 percent from government/institutional and 7.8 percent from multi-family clients.

Contractors pointed to single-family and commercial/industrial properties as the largest total acreage they maintain. Firms that responded maintain an average of 2,156.5 acres annually for commercial/industrial sites. On single-family properties, respondents said they maintain an average of 1,806.7 acres annually.

SERVICES OFFERED. Lawn and landscape service professionals con-

ACRES MAINTAINED

Please estimate the total acreage you maintain in each of the following categories.

	Average per respondent (Weekly)	Average per respondent (Annually)
Single-family	31.8	1,806.7
Multi-family	8.9	190.6
Commercial/Industrial	33.9	2,156.5
Government/Institutional	5.6	93.7
Total	80.2	4,247.5

Commercial/industrial properties offer most acreage for maintenance.

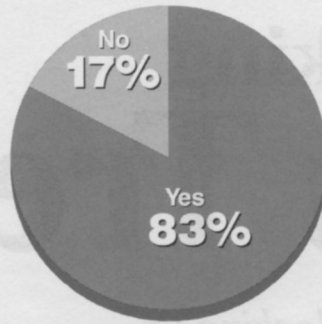
tinue to offer a wider range of services to become more competitive in the marketplace. "Property managers who had a narrow scope five years ago have broadened their services. That's good for the industry and stimulates growth," said David Frank, owner of David J. Frank Landscape Contracting, Germantown, Wis.

Based on overall dollar volume, firms estimated that most of their business revenues are derived from mowing (25.8 percent), landscape installation, (17.9 percent), fertilization (11 percent) and pruning/trimming (9.9 percent). Other services ranked highest to lowest are: pesticide application, landscape design, fall cleanup and seeding.

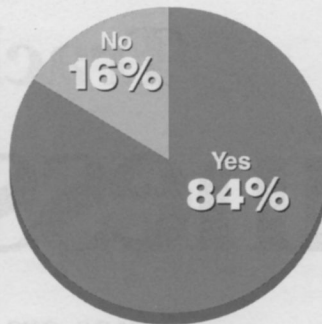
Although hydroseeding fell low on the list of service revenues (0.6 percent), a number of contractors are analyzing its potential value. "Hydroseeding is just coming into demand here for reclamation areas, some highway things. A lot of homeowners are asking for it, which surprises me," said Bob Broughton, owner of Empire Landscaping, Hamilton, Wis. "As a landscape

BUSINESS OPTIMISM

Are you optimistic about your businesses' short-term economic future?



Are you optimistic about your businesses' long-term economic future?



Most contractors remain optimistic about their economic futures.

architect, it is something I specify quite a bit. There are a lot of advantages as long as you have a large supply of water."

Companies indicated that irrigation installation and maintenance, aeration, lighting and nursery stock top the list of services that will most likely be added in the next two years. As contracting companies

struggle to find their niche, some services like mowing and pesticide applications are just as likely to be added as discontinued.

Fewer than 15 percent of the respondents own greenhouses for nursery operations. But more than one-third have set aside holding areas for nursery operations, slightly higher than reported last year. The

11.7 percent whose companies include growing nursery operations average 24 acres for holding areas.

Pesticide use remained consistent. Approximately one-half of all survey respondents indicated that in the past two years, there has been no significant change in the overall volume of pesticides applied.

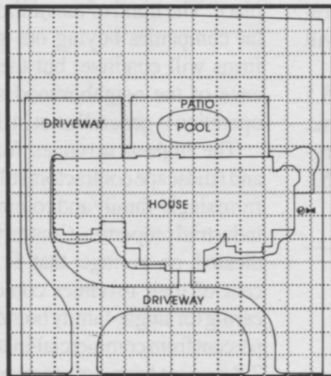
Of those who did report a change, however, herbicides (for turf) was the only category of pesticides where more respondents saw their applications increase rather than decrease during this time period. For most of the other categories, especially insecticides and fungicides (for trees and ornamentals), respondents reporting decreased applications outnumbered those reporting increases by a margin of more than two to one.

More than half the respondents believe use of drip irrigation is increasing throughout the industry, although only about 24 percent offer the service themselves. Just under 25 percent install low-volume drip irrigation, and slightly fewer than that maintain the systems.

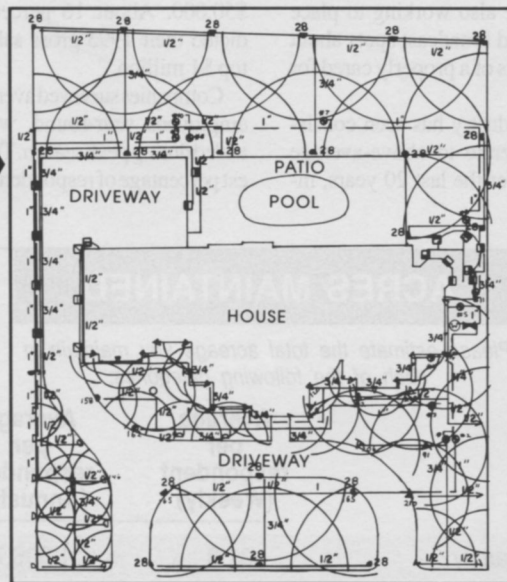
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USE READER SERVICE #32

CLIPPINGS DISPOSAL

Do you, the majority of the time, pick up grass clippings or leave them on the ground?



More grass clippings are left on commercial properties than residential.

Business Trends

(continued from page 30)

In the arena of alternative products and treatments, 50.3 percent offer organic fertilizers. Of those who offer organic fertilizers, 18.6 percent said customers request their use. About 41 percent offer biological pesticides, based on 8.2 percent customer requests. Only 16.2 percent of all respondents believe biological pesticides are as effective as traditional products and 32 percent of respondents believe organics work as well as traditional products.

A majority of the firms (69.9 percent) do their own pesticide applications. Just under one-third subcontract, mostly because they don't have a license or are concerned about liability, high insurance, strict regulations and safety.

Composting remains low on the totem pole of services offered. While nearly one-third of the firms claim that 90 percent of their waste is com-

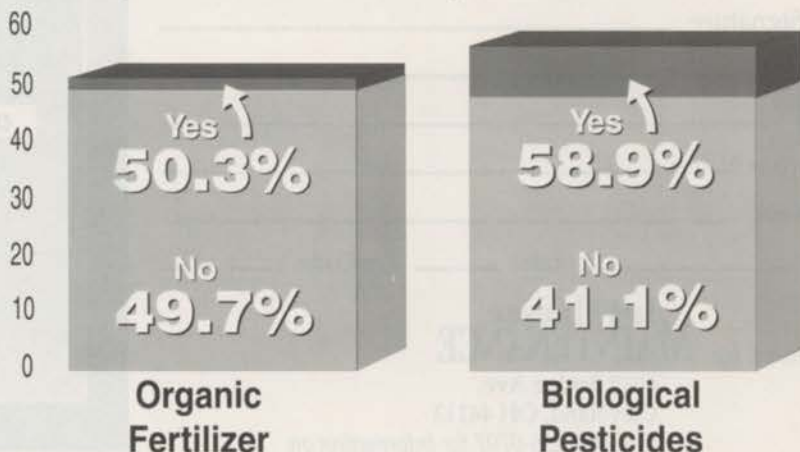
posted, less than 1 percent of the respondents' revenues is derived from yard waste compost services.

On a positive note, the number of contractors getting involved in composting is gradually increasing, as is the number of companies leaving clippings on the ground. Contractors are more likely to leave clippings on commercial properties (68.2 percent) than on residential accounts (55.4 percent).

A growing number of contractors seem to be accepting public work. Twelve percent said they maintain an average of 1.8 municipalities. Another 20 percent of the firms are considering delving into that market because they can make more money, it's steady work or they felt the need to diversify. Others said they won't break into that field because it's too competitive, doesn't pay enough money, municipalities don't pay on time or the municipalities have their own in-house maintenance. ■

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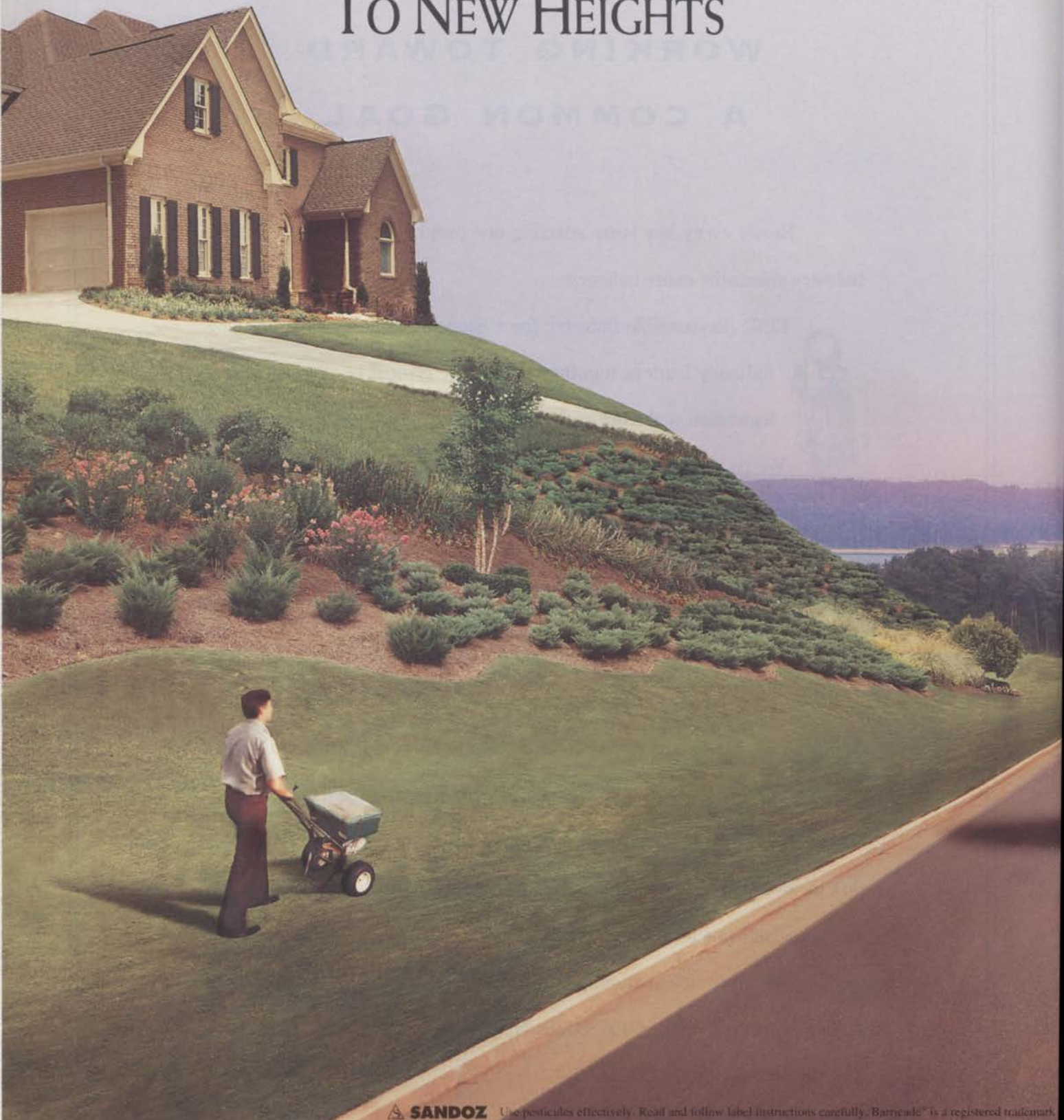


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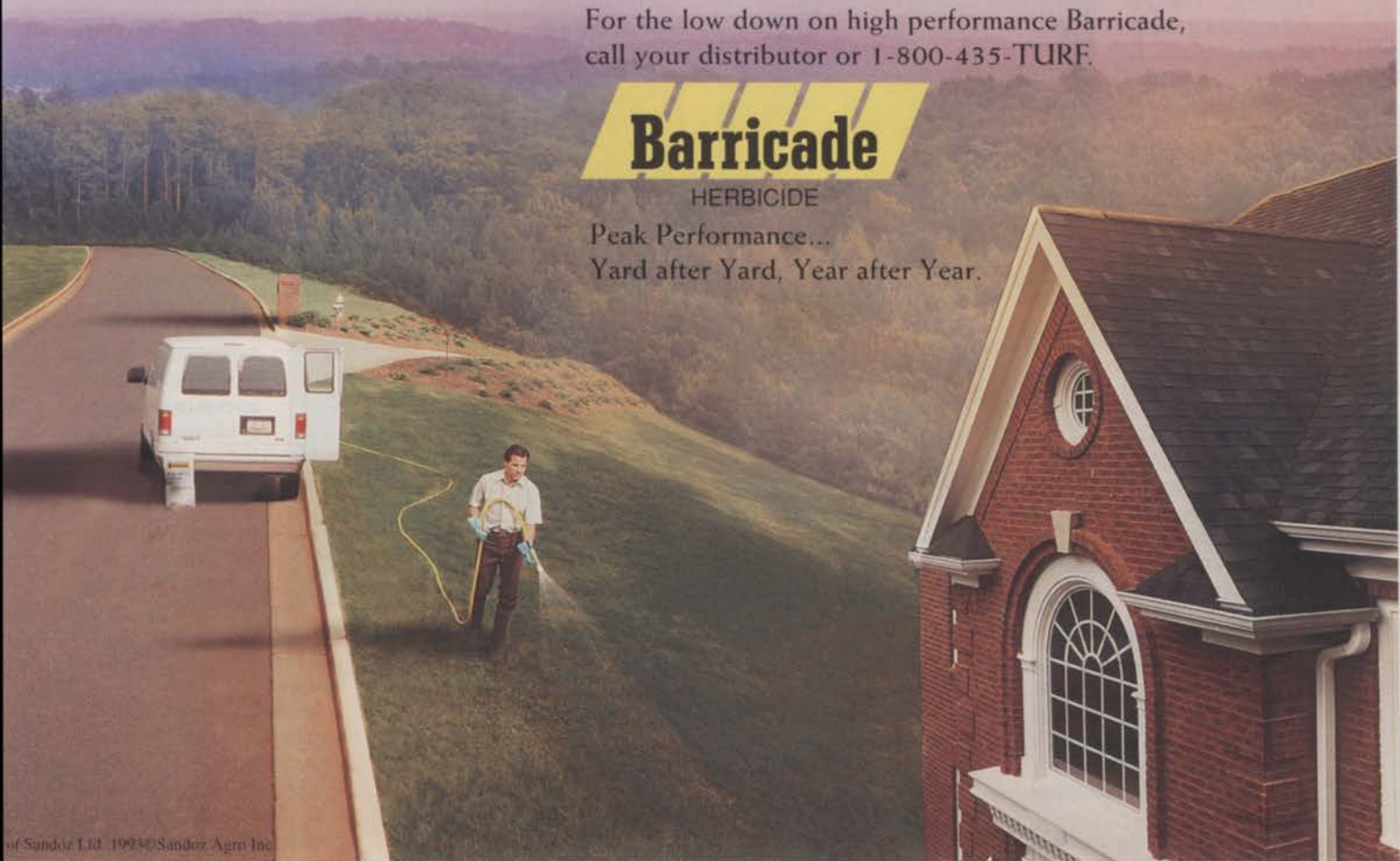
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USE READER SERVICE #68



Fusing Green Industry Alliances

ASIDE FROM SOME predictable expansion through buyout on the part of large maintenance firms such as Environmental Care Inc., based in Calabasas, Calif., this year's mergers and acquisitions are almost all going on in the specialty pesticide side of the business.

That's not to say there isn't any fallout to maintenance contractors.

As ServiceMaster's TruGreen/ChemLawn, Barefoot Grass, Lawnmark and others continue to build their organizations — in other words, as chemical applications become more and more tied up with a few, strong players — the likelihood increases that the reputable lawn and landscape maintenance contractor will get cut in on joint bidding exercises, in conjunction with the sprayer. It's already become a way of doing business, and will probably grow, according to executives representing some of the industry's leading chemical companies.

And then there's another matter to think about.

Although some big chemical applicator firms made enormous mistakes trying to add mowing services, and have since gotten out of that line — ChemLawn's failure is



Consolidation and mergers are fairly common in today's green industry. Photo: The Lawn Co.

public record; they've admitted the error themselves — there is still the possibility that the revived, organized, merger-driven conglomerate, once it settles down and gets its core act together, may take a more controlled, educated foray into maintenance.

Many landscape professionals, eyeing greater financial security, or looking to retire, may want to spruce up a class act even more and thereby command an attractive sale price.

According to Patrick Norton, president of Barefoot Grass, Columbus, Ohio, "We might look around for good maintenance companies to acquire. We

don't know that much about that business."

Norton's admission is probably directly related to Barefoot's awesome financial health (it's publicly traded). Because knowledge is key. These traditional chemical companies now know they have to buy the expertise; maintenance contracting is a whole other ball game.

(continued on page 38)


When an industry reaches a level of maturation that makes it difficult to grow through first-time customers, what better way to grow than to acquire established businesses with legitimate customers?

By Bob Gitlin



A confusing – often conflicting – web of local pesticide regulations is making landscapes unfriendly in municipalities across the country. Keeping pesticide regulation authority at the state and federal levels is a major goal of AAN.

How AAN is fighting the one pest worse than aphids, mites and Japanese beetles.



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as other issues that affect your ability to do business: Such as proposed changes to the Noxious Weed Act, which threaten to restrict your use of non-native landscaping plants.

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American Association of Nurserymen

USE READER SERVICE #14

Mergers & Acquisitions

(continued from page 36)

Barefoot Grass this year acquired Ever-Green's lawn care business, providing it with about 100,000 new customers in nine cities.

Additionally, some much needed buyouts are taking place among equipment manufacturers. To name a few: LESCO bought out Atwater Strong, Ariens acquired Gravely, Simplicity bought out Tornado, Monsanto purchased the assets of Chevron Chemical Co.'s Ortho Consumer Products Division; Fiatallis North America and a private investment group acquired Fiatallis' Woods Division — the list goes on. Elsewhere, manufacturers carried out streamlining and consolidation to stay lean.

CROSS-MARKETING. As some of the big spraying organizations potentially take an educated look at offering lawn and landscape maintenance services, the aggressive landscaper looking to sell his operation should bear in mind that certain benefits may accrue.

Such an arrangement, according to Norton, would probably involve cross-marketing between the chemical application and lawn and tree care aspects of the business.

The reason consolidation is not taking place to any significant de-

tion of the trustworthiness of the proprietor.

"In mergers and acquisitions in the landscaping business — the general, broader industry of landscape contractors — valuations tend to be a lot lower. Most buyers look at a landscaper's business as the landscaper — that's the value. The value is in the owner, who generally speaking is the salesman and the boss and the head service guy," he said.

Lawnmark itself has expanded to new size through intelligent acquisition including the purchase of Nature's Helper.

Never fear, there is a shakeout to maintenance contractors in all this merger and acquisition activity among chemical applicators, Erbaugh added.

"Landscapers who also do spraying may now — seeing what they can get for a well-run operation — want to unload that part to one of the big boys, and stick to their core talent."

"We have tried in the past entering the maintenance area, and for us it just didn't work. It was a little too

labor intensive," said Paul Anderegg, president of All Green Corp., another weed-feed-and-insect-control sprayer, based in Marietta, Ga., that's grown considerably due to acquisitions. "With the exception perhaps of the commercial sector, we saw no point being in it. Certainly not in the residential area."

SERVICEMASTER CONFLICT. Interestingly, the industry's biggest conglomerate — TruGreen/ChemLawn, which finally fell into place after years of often tortured corporate jockeying for ownership (previous owners, Waste Management and Ecolab, respectively, have fallen by the wayside) — caused some acrimony among franchisees.

ServiceMaster, a huge conglomerate itself mostly involved in chemical lawn spraying, basically shut down its own spraying operations in order to run its new properties, TruGreen (which it first acquired) and ChemLawn (which came next). Some ServiceMaster franchisees brandished promises of non-competitiveness as their

"As far as ChemLawn is concerned, that wounded animal is up on its feet. We're not going to take any guff anymore."

gree within the lawn and landscape maintenance industry, explained Marty Erbaugh, president of Lawnmark, Hudson, Ohio, is that, to a large extent, the marketability of the landscape company begins and ends with the customer percep-

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USE READER SERVICE #31

BUYING A BUSINESS

THERE IS NO end to the errors of commission and omission made in the buying of businesses. It's a complex procedure and you don't get to practice — most people do it only once. How do business buyers most frequently undermine their chances to succeed as owners?

- By acting under pressure and buying a company that's a poor personal fit.
- By paying too much money up front, leaving insufficient working capital.
- By placing too much faith in existing management and failing to bring in new blood.
- By assuming that sales will remain stable after the acquisition — not realizing that competitors view a change in ownership as an opportunity to strike at existing customer base.

- By acquiring a business in which the buyer has neither experience nor, ultimately, any real interest.
- By assuming that the technology is proprietary and therefore cannot be duplicated.
- By underestimating how difficult it is to change an established company's culture.
- By assuming unwanted inventory, divisions or real estate can be quickly disposed of to reduce debt.
- By failing to realize that the market is more mature than it appears, leaving little room for growth.
- By learning too late that the seller, by retaining title to real estate or equipment, can continue to extract serious capital from the business.
- By relying too heavily on a contract with the seller, leaving the legal system as the main recourse in disputes. — *Inc. magazine*

franchiser set up shop down the road from them.

"We had 123 complaints," said Don Karnes, president of TruGreen/ChemLawn based in Memphis, "which have all been resolved except for two. Some franchises went independent. Some we bought. Some we traded territories for. I don't see how you get that done

without being reasonable."

The part of the transition that was the real bear, he said, was dealing with the PR beating ChemLawn had taken for years from environmentalist activists. The company, once gleaming with brilliant executive talent and fast on its feet, was dingy and in disarray.

"Their overhead was outrageous.

Throughout the business, we installed incentive pay for salesman and specialists; that helped. We installed a new computer system throughout the company. As far as ChemLawn is concerned, that wounded animal is up on its feet. We're not going to take any guff anymore. ChemLawn is the largest profit contributor within Service-

Master as of today," Karnes said.

The lawn service powerhouse's 1993 sales projections approximate \$420 million, he said.

Guys like him — looking at less-than-fortuitous results of mowing forays taken by both ChemLawn and TruGreen — know better than anyone: labor-intensive maintenance requires veteran expertise.

"Our philosophy right now is: we like to work with large maintenance companies. This involves subcontracting agreements. Those gentlemen know and understand that business. They work in it every day, and they're good at it. ChemLawn knew nothing about it, didn't price it correctly, and didn't have the equipment to even take care of jobs that they were selling."

Though Karnes is proud of the renewed vibrancy of the firm he's heading up, Don Smith, president of Square Four Inc., Oklahoma City — a ServiceMaster franchisee, and one of the two still-unresolved dispute complainants — is unhappy with Karnes' suggested

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USE READER SERVICE #16

resolution to Smith's competitive conflict complaints. He feels as if the no-compete contract he has is worth about as much as a century-old Indian treaty.

"Their office is within two miles of my office," Smith said. "Karnes was operating TruGreen activity out of Oklahoma City from 1988-90 and losing money. In 1990 they merged with ServiceMaster, which asked me if I would take it over and do something with it. I said yes, stipulating the non-compete clause to protect me, within 100 miles. They agreed to this, wrote it up and I signed. Within three months I had it turned around. A year later they bought a ChemLawn branch in Oklahoma City."

ServiceMaster has pulled support from Smith's business. He wants them "to at least be honest" and stop competing with him. "Let me operate the branch here in Oklahoma City, or do something along those lines. They just want to return the money I paid for the franchise and make it go away."

"I got nailed," said former Chem-

Lawn franchisee Doug Birkhead, who still runs a lawn care business, Town & Country Services, in Charlottesville, Va. "They said they were going to stay there, and they had more money than I did to fight them. I got bought out at terms I would not have sold for under normal conditions."

At one time, he said, TruGreen was competing with his ChemLawn franchise, which was fine. "But then ServiceMaster, which owned TruGreen, bought ChemLawn from Ecolab. At that point, they owned us, and they were competing with us, and I told them to get out because my contract forbade that. They said no. They said they'd offer to buy my customers at whatever they felt was right. Our lawyer said it would be a hell of a fight and we could run out of money before we won."

BUYING ASSETS. Pest-extermination-based Orkin, which since the 1950s has also been spraying Florida lawns, has — through an acquisition campaign begun 10

years ago—expanded into 13 other states, according to a spokesperson at Atlanta-based Orkin Lawn Care. The company hasn't made any new exterior purchases since 1990.

But Orkin has made another foray in the green industry with a recent acquisition that vaulted it into a leading role in interior landscaping.

Dick Ott from 1973 to 1990 ran The Botany Center, a prestigious company based in Knoxville, Tenn., which had contracts across the United States. Ott became vice president and regional manager of Orkin Plantscaping. His is a case study in how a manager's dirty-fingernail experience can be folded profitably into a big, 92-year-old corporation's administrative efficiencies.

"I feel like I'm getting my Ph.D in plantscaping," he said. "Orkin knows way more about administration systems, routing and business systems; we know way more about plants, installations and design. Having a boss is something to get used to. On the other hand, I'm out

of the business of worrying about cash flow."

He sees more people like him moving from jobs to careers within the green industry, enjoying new salary and benefits security.

"It's painful on the front end. Lots of people and companies have run their companies visually. We document everything on paper. You have to get used to more paperwork. But the information generated enables and empowers people to make much better decisions. I didn't know all this stuff existed for multi-branch management."

Obviously, a similar learning curve — and similar benefits — would accrue to the maintenance contractor who, in a conceivable scenario, is bought out by one of the big chemical-based conglomerates.

Competing with Orkin's interior landscaping business is a British-run operation known as Rentokill Tropical Plants, based in Riverwoods, Ill. The United Kingdom company, having dabbled in that business for two years already, de-

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cided to buy some potent capacity and expertise. Rentokill assumed control of Jerry Leider's Tropical Plant Rentals in 1988, and Leider became president of Rentokill's U.S. interior plantscaping operation. Rentokill Tropical Plants is doing work in 14 countries.

"Things have to change before

exterior landscape contractors become attractive purchases, Leider said. "There's a lot more turnover in exterior maintenance contracts. Who'd want to buy them?"

Takeover artists look for some level of consistency.

"In the exterior business, what you do in Texas is a lot different

Barefoot Grass has solidified its position by offering stock options and acquiring new firms.

from what you do in Illinois or California," Leider said. "Besides, there are geographic differences in the jobs you do, supplies, etc. It's complicated."

Environmental Care Inc. (which had already bought out Oyler Brothers, a landscape construction firm out of Orlando), has, more recently, purchased the irrigation and maintenance divisions of Marvin's Garden & Landscape Services, Sarasota, Fla.

Marvin Gross kept his design/build landscape contracting business. He said the sale solved cash flow problems. We wanted to downsize and become more profitable in what we felt was our expertise."

David Minor, owner of Minor's Landscape Services, Fort Worth, Texas, echoed the observation that there is little merger and acquisition activity in exterior maintenance. "The landscape business is the

owner. Sure, maybe they did \$1 million last year. But once you buy them, are all the customers going to go away because he's out of the picture?"

Nonetheless, Minor has done a little careful growing through acquisition. Five years ago he bought Grounds Tech; last year, Grain Expectations' exterior landscape maintenance business.

Many maintenance companies have flashed a leg trying to garner his interest, but Minor sees the "stubble under the hose."

"They're not talking to some virgin who needs to buy their expertise," he said.

"We get four or five calls a year from little guys wanting to interest us in the assets of their businesses. They always overvalue them. I know what it would take for me to go out and generate the same revenue, hire sales guys and do the marketing."

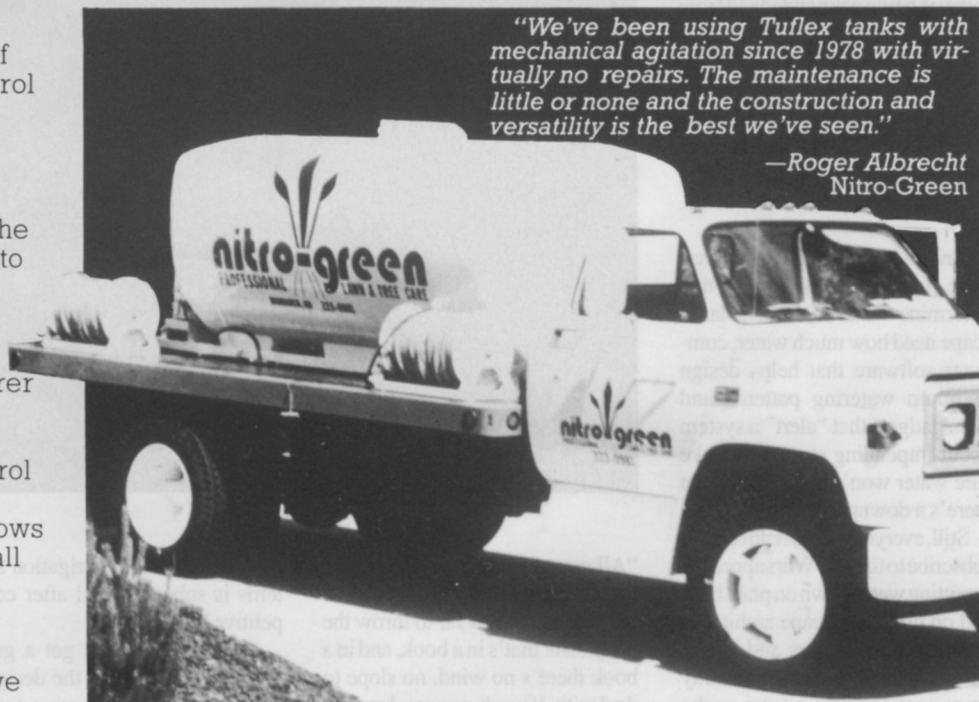
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USE READER SERVICE #34

Irrigation contractors and landscape professionals alike are becoming more proficient at selling and servicing the irrigation system in the residential and commercial environment.
Photo: Mickey Jones

THE DAY MAY be fast disappearing when an irrigation system is looked upon as a frill in the design of commercial and residential landscape projects. In fact, the perception of irrigation as a luxury may already be a thing of the past.

While in some parts of the country, a reliable irrigation system has long been viewed as a necessity to conserve precious water, the importance of irrigation to the continued health of a landscape design today is being acknowledged from coast to coast.

"If you're spending \$15,000 to \$20,000 on landscaping, spend a little more to protect your \$15,000 investment," said Michael Ritgert, field manager-designer with Chapel Valley Landscape Co., Woodbine, Md.

Irrigation today certainly has gone high tech with gizmos that determine what areas of a landscape need how much water, computer software that helps design optimum watering patterns and even gadgets that "alert" a system about impending storms to make sure water won't be wasted when there's a downpour.

Still, everyone in the field doesn't subscribe to the Star Wars approach to putting water down on plant beds and on turf. Landscape architects, landscape contractors and irrigation specialists, however, generally agree on the basics and also on the fact that no two installations are ever the same.

"You can never do it by a 'cookie-cutter' approach," said Eric Keesen, executive vice president of Allen Keesen Landscape Inc. in Denver.



"All manufacturers provide tables and charts to show how far to space the heads and how far to throw the water. But that's in a book, and in a book there's no wind, no slope to deal with. If we discover a dry spot, we're just going to put in another head anyway."

Keesen's company began performing irrigation work in Denver in the 1940s, and has evolved into a design/build/maintenance opera-

tion. Installation of irrigation systems is subcontracted after competitive bidding.

"We've found we get a good product when we do the design," Keesen said. "The irrigation design is part of the proposal. It's not always expected (by the client), but it's part of our basic package."

BUDGET CONSIDERATIONS. About 60 percent of Keesen's busi-

ness is commercial installations, but that commercial/residential split usually varies according to economic conditions, he said.

According to Keesen, it's commercial customers who are likely to be more resistant to spending when it comes to the design of their irrigation systems.

"There's usually less money to put into it," he said. "Where we might want to put in six heads (for

Is Irrigation Becoming A Standard?

As the importance of water conservation stretches across the country, contractors are finding irrigation an easier and necessary sell.

By Arnie Rosenberg

"Homeowners want a little more of the flexibility a detailed system will give them," Keesen said.

Moreover, the amount of money spent in initial commercial installations and the care an irrigation system gets on an ongoing basis may also vary, explained Pam Sandlin, irrigation supervisor for Environmental Care Inc., Sarasota, Fla.

"Commercial accounts are sometimes the hardest to get to go with an underground system," Sandlin said. "They're more budget conscious."

Out-of-town ownership can create a problem, she said. "A lot of shopping centers are owned and managed by companies on the other coast (of Florida). I've been trying for six years to get one center to upgrade its system."

Still, larger, local projects will often commit the resources necessary to keep an installation well irrigated. Sandlin said a large, local mall recently contracted to have an irrigation supervisor monitor its system full-time to make sure its investment in its "plush" landscape is protected.

Even in non-drought areas, more attention is being paid to the intricacies of irrigation systems than ever before.

"We definitely are more detailed in the areas that are covered," Ritgert said. "It's not efficient to do broad-based coverage, to water 360 degrees and get walks and patios along with lawns and bushes. We manage the water supply we have, not dump it."

Detailing is critical if an irrigation system is to meet the objectives

set out for it, according to Ritgert. Drip irrigation is generally installed between mulch and the soil surface to provide water to root zones of the plant material. Over-watering, so that the plant material itself is drenched, encourages rot development, he said.

"In general, people are trying to move away from spraying plants," Ritgert said, "although no one I know uses a drip system on turf. They are doing that in Israel and in the Far East, however, but I'm not sure if we're technologically that far along yet."

MARKETING BENEFITS. Office buildings constitute most of Ritgert's irrigation business, and in selling a project, "our job is to explain to the client how it will benefit them and how (their landscaping) will look year after year. Irrigation is a standard feature."

For residential customers who see their water bills every three months, though, conservation is a selling point. Where allowed by the local water authority, Ritgert will install a submeter on an irrigation job to measure the amount of water that goes into the landscape rather than in the sewer.

"I try to have customers realize their sewer bill could be twice their water bill if they pay for the water that's used on landscaping. Over a period of time, the (submeter) pays for itself."

Although water conservation is a paramount concern in California, potential customers don't have to be sold on the concept of including an irrigation system in their overall

landscaping plans, according to Rob Lane, owner of Rockrose Landscapes in Santa Barbara, where rainfall averages only about 18 inches per year and is mostly concentrated in January and February.

"We now have had two rainy years, and the local reservoirs in Santa Barbara are pretty full," Lane said. "But just because we're out of the fire doesn't mean we're not still in the frying pan. No one knows how deep the scars of the drought are."

Most Californians remain concerned with water conservation either from ecological awareness or because of rising water prices, he said. Irrigation is not a matter of "if" it is installed, but a determination of what kind of system will be used.

MAKING CHOICES. Lane, a landscape contractor who does some landscape and irrigation design as well, primarily services residential customers, and uses drip irrigation on most jobs. Xeriscaping — or using both plant materials and irrigation methods which are suitable to drier climates — is a concept which has gained acceptance in other parts of the country after beginning in California.

In addition, said Sandlin of Environmental Care in Sarasota, xeriscaping includes educating clients about proper plant materials for a given environment, how and when to water and the most effective irrigation methods, such as low-volume irrigation.

In California, Lane said, irrigation is a "critical component" of landscaping. "I don't even think about

(continued on page 46)

an area), they'll just have one to cover the same area. In commercial work, you'll generally have larger expanses of grass."

Residential customers, on the other hand, are more likely to agree to try out an intricate system. Spray heads are used more often than a rotary system for turf areas, and it's more common to design separate zones for irrigating plant beds and expanses of turf.

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Irrigation Sales

(continued from page 43)

pushing it. I won't guarantee any landscaping unless I either install the irrigation or approve the plan."

Even when a landscape uses drought-tolerant plant materials, it still needs adequate irrigation to get started.

Generally, Lane said, pop-up or conventional spray systems are a part of turf areas and expanses with high concentrations of annuals, perennials, ivy and certain shrub varieties which spread their roots along the surface.

Drip irrigation is both more appropriate and more efficient to use on deep-rooting plants.

"Unless you need real full-surface coverage, I encourage drip," Lane said. "But drip has really been overused because of the drought. Everybody has been putting it everywhere, except lawns. People haven't been trained properly in its applications."

In addition, he added, drip irrigation systems have unique problems. Breakage and blockage of



lines and damage to surface emitters can all diminish the effectiveness of a drip-irrigation system.

Other problems can plague drip systems as well, according to Keesen. Spray systems can be more easily checked, for instance. "If

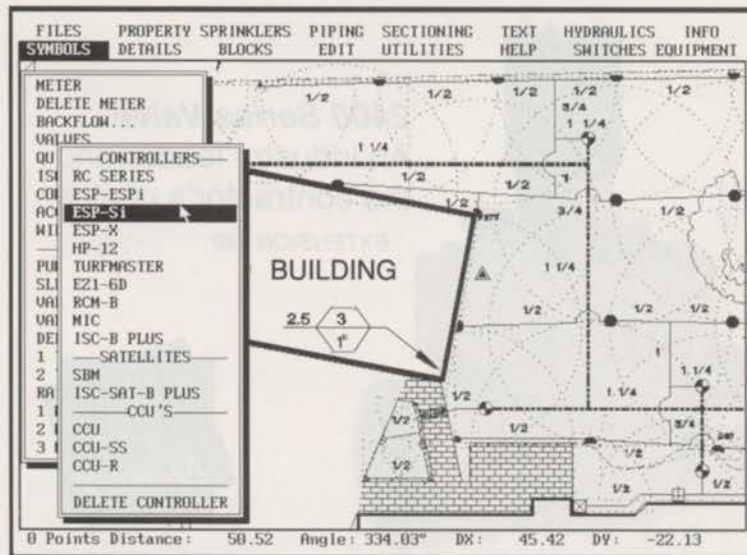
water is coming out (of a spray system), it's generally working. But if a plant being watered by a drip system dies, it's difficult to determine if the irrigation failed or if other factors were at work. Furthermore, when crews dig up the dead

Today's irrigations systems are more likely to include parts from a variety of suppliers. Photo: Mickey Jones

plant and replace it, they may accidentally, and unknowingly, cut the irrigation line. When the new plant

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USE READER SERVICE #27

dies, everyone is still confused as to why it didn't make it."

Homeowners, like professionals, can just as easily damage a drip line, Keesen said, "or a valve can be stuck open and run for 24 hours straight. Tubes tend to get clogged in some applications, too. There's just not enough comfort in monitoring it yet for me."

Weather is yet another variable to be taken into account not only when an irrigation system is being installed, but when it's being maintained as well, according to Dennis Axelrod, owner of A & D Greenworks in Santa Barbara.

"The homeowner or gardener has to be attuned to the weather, and seasonally re-program the controller or modify the computer program. You can't install it and forget it."

In Lane's experience, homeowners will generally purchase a less-expensive irrigation system, although a dependable controller is still part of the package.

He'll draw the line, though, at using do-it-yourself type irrigation systems, choosing instead to purchase materials from a certified irrigation supplier even for the most budget-conscious client. That quality, he said, helps him stand behind his one-year guarantee on materials he uses.

HIGH TECH. Technology of the 1990s isn't lost on the irrigation industry. Today, such systems are already moving on from basic half-inch polyethylene tubing.

Radio-controlled remote controllers are already in use in many applications because they make maintenance and service easier and more

**State of the art
today is centrally controlled irrigation installations that can spot mainline breaks.**

efficient. Instead of checking a system with two technicians — one at the controller and one watching each individual zone — one person can move the controller through each zone by remote signal, and save either manpower or the time it takes to walk back and forth from the control box.

Some systems can now be designed with rain gauges to determine if an area has received enough rain to skip a watering cycle, and low-volume drip systems let customers keep more control of their water management. Above-ground emitters are becoming more common with drip systems to help identify problems more readily.

Yet, what is now state of the art are centrally controlled irrigation installations with terminals whose screens can spot mainline breaks and stuck valves as well as identify their locations. Star Wars, indeed — it's even connected to a

weather radio which receives warnings of severe storms and bypasses a watering cycle to avoid unnecessary watering and the spectacle of sprinklers running during a heavy thunderstorm.

Some irrigation contractors, like Eric Keesen in Denver, still shy away from the newfangled in favor of the old reliable.

"I don't sell what I'd call a 'Cadillac'," he said. "I don't sell the whistles and bells. I go for systems that I know do the job...that do well and last," Keesen said.

On the other hand, Sandlin said, she'll put in top of the line if that's what the customer wants. "We try to sell the customer the best possible product that will do the job for them. It may have

more zones and more applications, and we'll have to teach the customer all about it. It may cost more, but in the long run, it will be worth it."

For Lane of Rockrose Landscapes in Santa Barbara, the opportunity to sell that 'Cadillac' doesn't present itself that often.

"If someone wants the best, I'll give them top of the line componentry and they'll get more flexibility vs. a system that's very adequate.

"If I can, I'll sell that," he said. "It's more expensive, but I'll make a little chunk more on it too."

The author is a University Heights, Ohio, freelance writer.

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USE READER SERVICE #46





IRRIGATION
TRAINING SERIES

THE HIDDEN MENACE

Sometimes an irrigation glitch is not easily recognizable and requires the maintenance contractor to perform troubleshooting measures before arriving at a solution.

By Larry Keesen

PROPER REPAIR AND maintenance of irrigation systems is critical for efficient operation and longevity. Systems that lack continued maintenance will undoubtedly have to be renovated or replaced.

Irrigation systems are similar to automobiles or heating/cooling systems as they require regular maintenance by competent, knowledgeable and well-trained individuals. It's sad to say, however, that the irrigation maintenance industry is lacking properly trained individuals. Many system maintainers think they know it all, when in reality they have much to learn about the latest techniques.

Photo: Cypress Gardens, Florida

As you read this article, make a mental note of the items not currently being performed by your firm or those items that aren't being carried out correctly. (Refer to last month's article on preventive maintenance for check lists.) Be honest. Are you really following these maintenance guidelines, or could you provide a better service for the owner of the irrigation system?

Depending on the age of the system — how well it was designed and installed and if it has been properly maintained — the system should be operated, and every head inspected on weekly or monthly intervals.

IRRIGATION TROUBLE-SHOOTING.

Heads. Breaks in the irrigation system allow soil to enter the structure and cause plugged valves and heads. City water supplies can often transfer rust and soil into the irrigation system as well as non-potable water quantities. Likewise, if the water has a high mineral content, deposits can build up restricting the flow of water and leading to clogged nozzles. As the flow is restricted, pressure will increase, uniformity will deteriorate and water will be wasted.

If the wiper seal on a head is leaking, operate the head and gently step on the top of the nozzle to force it down a few times. This may dislodge debris around the wiper seal and within the nozzle. If the seal is still leaking, remove the top of the head



from the body, clean out the debris and replace the seal if it's damaged. Suspended solids in the water can cause abrasive action. This can enlarge the nozzle resulting in reduced

operating pressure and radius and poor uniformity of coverage. An inconsistent pattern may appear as a dry donut within the configuration. Use a set of drill bits to verify the

(At Left) Here, two heads are causing problems in the landscape. One head is broken and the second is set too low in the ground.

nozzle size. Install a new, correct-size nozzle if the current nozzle is too large.

Be careful when cleaning nozzles. Remove the nozzle from the head before cleaning, and flush the head with a jet of water to remove any particles. At the same time, force foreign particles from the nozzle by spraying in both directions. If the nozzle is still clogged, take a stir stick or other small plastic device to pick out the object. If it's still plugged, replace the nozzle with a new one of the same origin. Operate the head again and check for proper radius, arc of coverage and performance.

Using a knife, wire or screwdriver to clean a nozzle may score the inside of the nozzle surface. It may also disturb the distribution pattern and ruin the nozzle.

When replacing heads be sure to match the performance to the previous head or to existing zone spacing and precipitation rates. Don't remove sod from around the head to help the spray trajectory. Not only is sod removal a real eyesore to the landscape, but the heads will plug easier if they are sitting in a mud puddle. Raise the heads or install new heads with a higher pop-up height.

Valves. Slow-acting electric control

valves won't open or close and may have a plugged orifice blocking the flow of water to and from the top of the diaphragm. To clean, remove the valve bonnet and use a small copper wire to clean the ports in the bonnet and body of the valve. Next, rinse with water. If possible, re-assemble and test.

If the valve won't open, check the flow control to see if it is open. Next try the manual bleed valve. If this operates the valve, check the solenoid and the controller for power with a volt meter or a good solenoid. If a clicking noise is heard when the power is applied at the solenoid, the solenoid is probably working. If no noise is heard, the solenoid should be replaced. If the solenoid is good and voltage is sent from the controller, the system most likely has a problem with the wiring between the controller and the valve.

Seeping valves are usually caused by particles imbedded in the rubber seat of the diaphragm or lodged between the diaphragm and the valve body. Over time, the diaphragm may stretch out or develop cracks which will cause it to seep and eventually stay in the open position. A weak spring can also be the culprit.

Repair or replace? The decision of whether to repair or replace equipment is dependent on costs, adequate performance and repairability. For instance:

1. Replacement is necessary if the

irrigation system components can't be repaired due to unavailability of parts.

2. The age and performance of the equipment may require replacement. Older heads that don't pop-up, and early model pop-up heads with a one-to-two-inch pop-up height are often blocked by the height of the turf and soil buildup. This results in blocked trajectory spray which causes wet and dry spots and runoff. Replace it with a head that will pop-up 3 inches or more depending on the rate of soil buildup and the height of the turf prior to mowing.

An example of age and quality was quite evident when Keesen Water Management evaluated the irrigation system for a medical facility and found several leaks in the lateral lines. When repaired, another leak occurred within the same zone.

If the lateral line leaks in a different location every time repairs are made, then the pipe may be defective or the pressure too high. We discovered that the pipe was splitting because of a manufacturer's defect in the late 70s. The only solution for us was to replace all of the pipe. If the pressure is too high, install a pressure-reducing valve to control it.

3. Repairing and/or replacing equipment usually depends on the cost of repair parts and labor vs. the cost of new equipment. The greater the cost of the equipment, the more likely it will be repaired. A well-trained, expe-

rienced service person is worth a minimum of \$15 to \$20 per hour; costs which may bill out at \$30 to \$40 per hour or more.

Using an hourly rate of \$30 per hour, let's compare repair vs. replacement costs. A new 4-inch pop-up spray head with check valve and plastic nozzle costs about \$3 plus 15 minutes (\$7.50) to replace for a total of \$10.50, plus markup on materials and travel time. Repairing a 4-inch pop-up with a broken riser stem may cost as much or more than the cost of a new head (\$3) and 10 minutes labor (\$5) for a total of \$8.50 compared

to \$10.50 for replacement.

Don't buy repair parts for inexpensive heads, buy new heads and use them for parts. If you're not sure what's wrong with the head, pull the pop-up assembly out of the body of the head and insert a new one.

Small- to medium-radius internal drive rotors cost about \$15 new and 15 minutes to replace (\$7.50) for a to-



tal of \$22.50. These types of rotors are often more difficult to repair, may take 30 minutes or more to repair the assembly and cost more than the price of a new head for a to-

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(At Left) Don't remove sod from around the head because the heads will plug easier if they are sitting in a mud puddle.

tal of \$30. I would suggest buying a new head and inserting the assembly into the old body. The same size impact rotors cost less and are usually easier to repair.

Repair large radius rotors as well as valves, if possible, because of the increased equipment cost and labor. This is particularly true when replacing a valve. Electric 1-inch control valves range from \$15 to \$35 and it may be more cost-effective to cannibalize new valves for parts. Valves running 1 1/2 to 2 inches may amount to \$45 to \$70, and may take several hours to replace costing a

minimum of \$75. Buy the parts and make the repairs to save on costs.

Next month, lesson 17 will further discuss repair and maintenance issues such as verifying pressure, pressure reducing valve functions, pump maintenance and more troubleshooting and repair tips. ■

The author is vice president of Keesen Water Management, 10700 E. Bethany Dr., Suite 103, Aurora, CO 80014.



IRRIGATION QUESTIONS

1. How often should an irrigation system be inspected?

2. Can city water supplies plug irrigation equipment?

3. What causes nozzles to become oversized?

4. When replacing heads what performance characteristics are important?

5. What's causing the problem if the valve won't open, the flow control is open and the manual bleed valve opens the valve?

6. Should 1- to 2-inch pop-up heads be replaced?

Answers appear on page 69 of October LLM.

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Trees & Ornamentals

PREPARING TREES AND SHRUBS FOR WINTER

IF YOU DON'T act now to prepare trees and shrubs for dormancy, they could be irreparably harmed. Most winter injuries are not apparent until spring, and by then it's often too late to repair damage. Prevent winter damage by preparing trees and shrubs for storms and low temperatures in the fall.

"Proper moisture, mulching, fertilization and pruning are the best ways to prevent winter injury," said Bal Rao, Ph.D., manager of research and technical development for The Davey Institute, Kent, Ohio.



Mulch helps moderate soil temperature. Mulched soil does not get as cold as quickly in the winter as unmulched soil. Photo: Davey Tree

MOISTURE. Too much water in areas that receive heavy winter precipitation can weaken plants, making them more susceptible to insect infestation and disease, Rao said. Planting trees and shrubs in well-drained areas can help prevent damage to plants.

To determine if an area suffers from poor drainage, dig a hole next to an existing tree or shrub or at the site intended for planting. Fill the hole with water and let it drain. Refill the hole with water and gauge how long it takes the water to recede. If drainage averages less

than one inch per hour, there is most likely a problem.

If good drainage is not readily found, either install drains or "mound up" topsoil where new plants will be established. Mounds drain much more easily than the surrounding soil.

Proper drainage includes making sure there isn't excess water, Rao said. Too much water can cause disease-generating fungi to spread.

Installing drains helps prevent water from pooling around the plants. The two major types of drains are horizontal and vertical. Drainage tile or a French drain moves water laterally toward an outlet or a

more permeable soil. The bottom of the trench should slope 1 percent to 3 percent toward the outlet.

A vertical drain can penetrate an underlying hardpan within 3 feet of the soil surface.

(continued on page 56)

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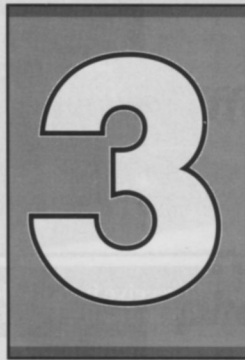


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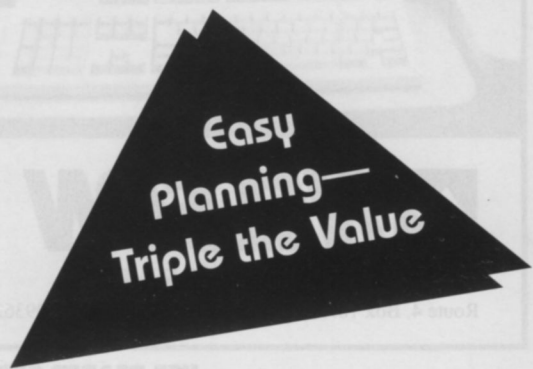
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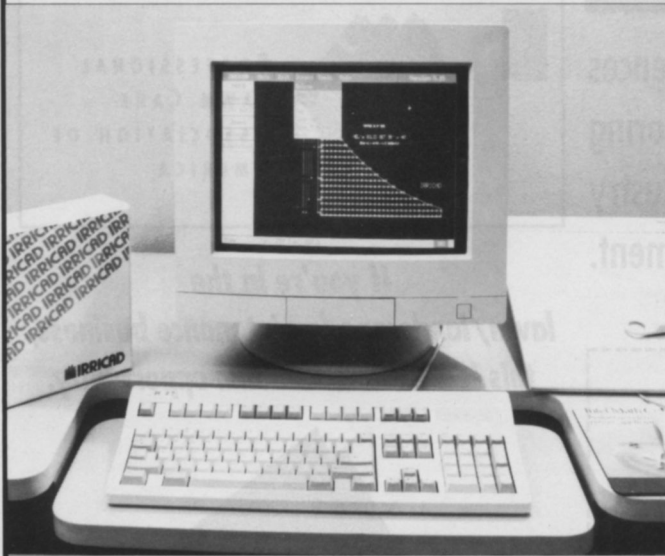
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Trees & Ornamentals

(continued from page 54)

Holes should be dug or drilled through the hardpan and filled with soil slightly coarser than the native soil. Proper spacing of holes varies depending on soil texture and depth. For individual trees, one vertical drain may be sufficient; for groupings of plants, recommendations are usually every 6 to 10 feet.

Insufficient amounts of water during winter may harm plants, as well. Winter conditions can produce frozen soil which prevents plant roots from taking up water.

Evergreens — both needle and broadleaf — are particularly prone to drought damage because their foliage requires water even during dormancy. On a bright, sunny day the exposed plant part loses more moisture than it can take from the frozen or dry soil.

Rao recommends watering evergreens 1 to 12 inches deep in late November before the soil freezes. To ensure roots receive adequate moisture, place a can in an area being watered with a sprinkler. When the can has filled to 2 inches, enough water has been added. Evergreens should be watered any time during the winter that the ground thaws.

MULCHING. Mulch acts as insulation, protecting the plants' root systems from low and high temperatures. "Mulched soil does not fluctuate temperatures as fast as the surrounding soil," Rao said. Mulch slows soil cooling in autumn, extending the time roots can grow. This is important because most plants' root systems do not take up water and mineral elements efficiently in cold weather.

Mulching conserves soil moisture by increasing water absorption and decreasing evaporation. Mulch should be applied no more than 3 to 4 inches deep. Excessive mulch can "suffocate" plants by preventing oxygen from flowing into the soil and carbon dioxide from moving out.

Pile mulch 3 to 6 inches away from the trunk, rather than at the tree's base, to prevent rodent activity. Mice in particular will nest in the mulch and injure the plant's trunk. Piling mulch around the stem also allows an environment in which fungi can grow, which can lead to decay.

Although mulch doesn't completely eliminate weeds, it helps suppress them. Make sure a mulch is selected that doesn't contain herbicides, since the product will be taken up by trees and shrubs. Popular mulches include shredded hardwood bark, pine bark, composted leaves and pine needles. Don't remove fallen leaves under the tree where there is no grass; they'll provide nutrients for the tree as they decompose.

FERTILIZATION. Timing is critical when fertilizing trees and shrubs. "Do not fertilize in mid- to late summer using a quick-release

source because it may promote lush growth," Rao said. Plants may then fail to harden before lower temperatures set in. Quick-release fertilizers can be applied in late fall, but may cause burning if used improperly.

Subsurface liquid injection is one of the most common methods of fertilizer application. Be sure to dilute the fertilizer with water before application. The mixture of fertilizer and water under pressure should be injected directly into the root system. The small injection site will not disturb a landscape's appearance.

LOW TEMPERATURES. Frost may occur any time there is a sudden decrease in temperature. Unhardened plant tissue is most susceptible to frost injury. Frost damages leaf buds, leading to defoliation or distorted leaves. It causes the most damage in late spring when leaves have not replaced carbohydrate reserves used in leaf development.

"If there is not enough stored carbohydrates, it can weaken the tree, and nutritional stress results," Rao said. "Trees and shrubs are then subject to insect and disease problems."

In areas that receive snowfall, deicing salt can leach into the soil. Salt kills plants by suppressing water uptake or even draining moisture from the plant tissue. By the time salt damage is apparent in late spring and summer, it may be too late for treatment.

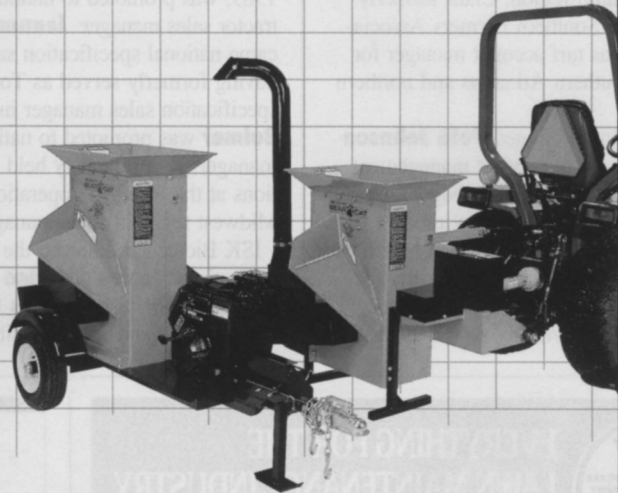
To help minimize damage from deicing salts, shovel snow and ice away from plants. Trees and shrubs should be planted about 30 feet away from the edge of streets to avoid spray from road salt. In areas this is not feasible, try planting salt-tolerant species. Gypsum (Calcium sulfate) can help alleviate the effect of sodium chloride, the most common deicing salt. Gypsum is slowly soluble and should be applied to the soil during the period when deicing salts are applied, not after injury symptoms appear.

STORM PROTECTION. Trees and shrubs should be reinforced to withstand winter wind, snow and electrical storms. Flexible steel cables help increase a tree's structural integrity. Multi-stemmed trees and those with narrow, V-shaped forks are especially susceptible to damage.

A professional arborist should prune and inspect trees before cables are installed, Rao said. Thinning a tree's crown by removing dead and injured branches helps ensure proper wind movement. Decreased wind resistance means wind will blow through, instead of against, a tree's canopy.

Trees can be equipped so that lightning will be conducted harmlessly into the soil. Lightning protection does not guarantee that a tree won't be struck by lightning, however. Trees that have been well maintained hold more potential for recovery. — *The Davey Tree Expert Co., Kent, Ohio* ■

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People

LEBANON ANNOUNCED the following appointments: **Dennis Faith** was promoted to general manager of its Danville, Ill., chemical manufacturing and distribution facility. Faith formerly served as division sales manager for the WonderGro Division. **David Campodonico** was named account manager of retail products, assisting in retail and consumer product sales; **Todd Lineberger** replaced Campodonico as Southwest account manager, in charge of sales in North Carolina, South Carolina, Georgia and Florida; and **Randy Clark** was named territory account manager, responsible for expanding regional and lawn care product sales in a newly defined South/Central region. Clark formerly worked with the Southern Farmers Association and served as turf account manager for Agra Turf in southern Arkansas and northern Louisiana.

Hardie Irrigation promoted **Pete Johnson** to general manager of product management and development at its Laguna Niguel, Calif., facility. Johnson spearheads new product development and directs marketing, research and development and manufacturing efforts for turf, retail, agricultural and international product lines. He previously served as mar-



Lineberger



Painter

keting manager for the retail division.

The Toro Co.'s irrigation division added three national sales managers to its operations in Riverside, Calif. **Mark Painter**, Western regional business manager since 1989, was promoted to national and contractor sales manager. **Jeanne Cantu** became national specification sales manager, having formerly served as Toro's regional specification sales manager in Texas. **Don Bulmer** was promoted to national golf sales manager. He previously held various positions at the Riverside operation, including Midwest regional sales manager.

ISK Biotech announced the following appointments: **James Amodeo** as process engineering supervisor; **James Boden** as operations manager, responsible for man-

aging four manufacturing areas and plant-wide maintenance; **Bryce Anthony Danna** to chlorothalonil II unit superintendent, in charge of production; and **Scott Kuhn** to unit superintendent of isophthalonitrile, responsible for supervising the overall operation.

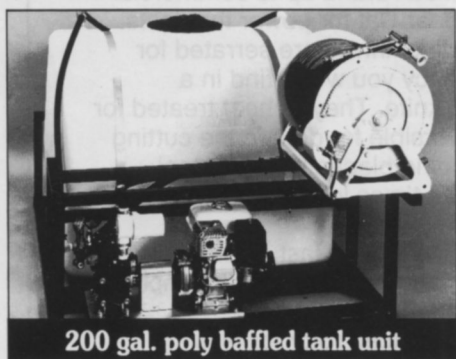
Additionally the following were named to new positions: **Stephen Hamm**, unit superintendent of chlorothalonil I, responsible for production; **Kurt Schwartau**, business manager for ISK Biotech Europe Ltd., in charge of business in most of Europe and Africa; **Stephen Halter**, formerly corporate manager, was promoted to North American marketing manager, responsible for all United States and Canadian agriculture chemicals business; **Geoffrey Jarrett**, technical and business development manager in Orpington England, in charge of technical development and expansion; and **Sangeeta Khattar** received expanded duties as registration specialist, responsible for Environmental Protection Agency product registration.

Norand promoted **Alan Bunte**, director of strategic planning, to the new position of vice president of strategic planning. Bunte joined Norand in 1981 as project and account manager. ■



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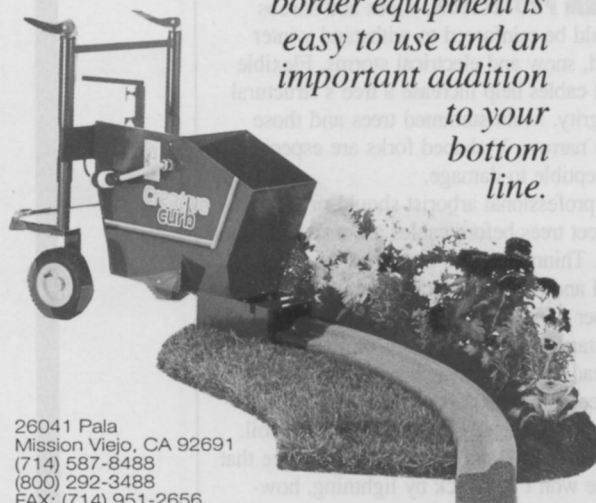
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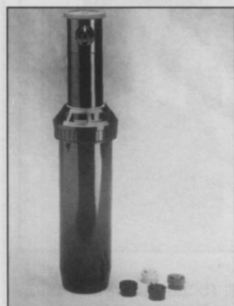
USE READER SERVICE #52

Products

The Tazmanian Devil commercial mulcher/chipper from **V.M. Industries** is constructed with a 3/8-inch steel plate and 12-gauge steel. Driven at 3,000 rpm by an 18-h.p. or 20-h.p. engine on a two-inch shaft, 24 hardened steel hammers quickly convert yard waste to compost.

A chipper/shredder with dual-edged, carbon-treated blades is also available for branches and lumber up to 6 inches by 6 feet. A powerful exhaust system delivers compostable material to the truck, trailer or supplied nylon catch bag.

Circle 126 on reader service card



Rain Bird's

Falcon series rotors, designed for sports fields, parks, schools, cemeteries and other large turf areas, are water-lubricated and gear-driven to irrigate 38 to 62 feet. The rotor's

Rain Curtain nozzle delivers large water

PRODUCT SPOTLIGHT

The S22CB1 Vari-Mulch mower from **Yazoo Manufacturing Co.** features a mulching deck that allows operators to match the mower to mowing conditions. A lever is used to control the rate at which grass clippings are returned to the turf. Additionally, the mower can be adjusted to mow in heavy, wet grass without bogging down or stalling.

The S22CB1 is powered by a 5-h.p., Briggs & Stratton I/C engine and features a 22-inch cutting deck. It also offers four-wheel height adjustment and positive traction differential.

Other features include 16-inch rear wheels, steel ball-bearing front wheels, a self-adjusting idler system and a heavy-duty cord belt.

Circle 125 on reader service card



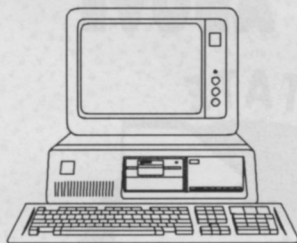
droplets uniformly over the turf, even in windy conditions. It also reduces maintenance time since no stator bushing change is needed when switching nozzle sizes.

Falcon Rotors are available with wet or dry arc adjustment, pressure-activated wiper seal and color-coded nozzles.

Circle 127 on reader service card

American Lubricating Co.'s No-Smoke, Two-Stroke, Two-Cycle engine oil is billed to meet or exceed global specifications for air-cooled, two-cycle engines.

Widespread oil problems such as inconsistent quality, frequent equipment failures and polluting exhaust smoke prompted the creation of new, strict international specifications.



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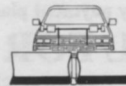
VEE



ANGLE



SCOOP



STRAIGHT



Boss Products Division, M.J. Electric, Inc., P.O. Box 788, Iron Mountain MI 49801
 U.S. PATENT NUMBERS: 4,074,448 4,658,519

USE READER SERVICE #53

The global specs were developed by the United States, Japan and Europe and are based on lubricity, detergency, exhaust smoke and exhaust system clogging criteria.

Circle 128 on reader service card

The LDT 500 trencher from the **Wag Co.** can be attached to a tractor's three-point hitch or mounted on the front end. Using the LDT 500



on the front end and a Little Dipper backhoe on the back, a tractor operator can trench and dig connections simultaneously. Both the backhoe and trencher are easily detachable.

The LDT 500 is available in 4-, 6-, 8- and 12-inch widths.

Circle 129 on reader service card

Mycogen Corp. received approval from the Environmental Protection Agency for a number of turf and ornamental uses of its MVP® biopesticide.

MVP, an encapsulated bioinsecticide based on *Bacillus thuringiensis (Bt)*, uses a Cell-Cap® Encapsulation System to improve residual activity and field performance.

MVP is approved for use on bedding plants, flowers, ornamentals, turf, shade trees and nursery trees. Labeled pests include armyworm, buckmoth caterpillar, diamond-back moth, fall armyworm, loopers, omnivorous leafroller, tent caterpillar and tortix. MVP can be used alone or in a tank mix.

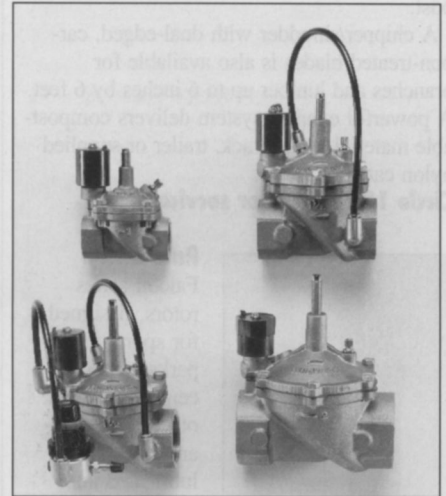
Circle 130 on reader service card

Bosmith's Non-Stop SL200 Series drip emitter is a single-outlet device designed to be field installed on standard 1/2-inch mpt risers. A barb connector for connecting to PE or flexible PVC tubing is optional.

The heart of the SL200 is the continuously self-flushing Non-Stop emitter cartridge for clog-free operation.

Circle 131 on reader service card

Champion's Metalist Brass Inline Valve Series is available in 3/4-inch, 1-inch and 1 1/2-inch sizes. The valves come configured



as standard, dirty water, reclaimed water and pressure regulating. Features found on all

(continued on page 64)

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USE READER SERVICE #57

Buyers' Market



Weather-matic offers the LMC series of commercial controllers, which includes 14-, 19- and 24-station models.

The series features an industrial gray, high-impact, thermoplastic housing which is U.L. and CSA listed for outdoor use. The housing includes a continuous hinging system that opens 240 degrees and a stainless steel latch.

Other features include a heavy-duty terminal strip with quick-disconnect ribbon cable to allow fast removal of the operational panel and an easy-to-read, LCD information center with mode and station selection dials for quick programming.

The LMC series is available with remote sensor circuits, two independent programs, water budgeting, multiple start times, stack timing and a weekly/interval calendar with true odd/even watering.

The list price for the LMC14 is \$397. List price for the LMC19 is \$462.

Circle 140 on reader service card



■ Irricalc Water Management Software from Rain-Bird Sales offers incredible power combined with unprecedented ease of use. Irricalc includes three applications in one with advanced scheduling, average demand analysis and annual water use estimation. Irricalc runs on virtually any DOS-based computer with VGA graphics (Mac version available soon.)

Circle 141 on reader service card



■ Send for information about Mini-Clik II, a rain sensor from Glen-Hilton Products, which keeps sprinklers from watering in the rain. This inexpensive control for most automated systems saves water and money. It's so reliable, it saves service calls. Glen-Hilton Products makes a new vandal-resistant enclosure for Mini-Clik, and produces other easy-to-install controls, freeze sensors, surge protectors and bypass switches.

Circle 142 on reader service card



■ An illustrated, two-page flyer from OETIKER details the firm's clamps which can be used in the irrigation industry. The flyer includes the most recent developments in the evolution of clamps, the OETIKER Stepless Ear® Clamp. The Stepless Ear Clamp provides a 360-degree seal that is state of the art in clamping. The flyer also details the basic OETIKER 1-Ear Clamp, and includes clamp specification, application ideas and tools needed for installing OETIKER clamps.

Circle 143 on reader service card



Engage PCNB Fungicide

■ New Engage PCNB from TURFGO stops turf diseases before they start — brown patch, helminthosporium leaf spot, dollar spot, snow mold and more. Engage PCNB is the effective preventive fungicide you need to protect your turf investment. Engage PCNB is a control fungicide, too. If a disease outbreak occurs before treatment, an application after the outbreak will engage the disease and wipe it out.

Available exclusively from United Horticultural Supply.

Circle 144 on reader service card



■ Amsoil Inc.'s AGGRAND natural and organic sprayable liquids are effective, convenient and economical. AGGRAND Natural Lime Plus is extremely fine lime with chelated iron. Rapid pH adjustment. Quick green-up.

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Circle 145 on reader service card

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USE READER SERVICE #65

Products

(continued from page 60)

models include low-pressure loss, rugged brass construction, manual, non-removable bleed screws and flow control.

The valve line is compatible with most automatic controllers.

Circle 132 on reader service card

Impact Equipment's Electracart is a quiet, self-contained, portable spraying system consisting of a 5-gallon removable tank with a quick-disconnect suction filter. Operating on a 12-vdc, deep-cycle battery, the cart is designed for minimum power consumption to allow maximum spraying time per charge.

The Electracart comes with lightweight pneumatic tires, a 30-foot hose and a 15-inch adjustable spraying wand with locking trigger.

Circle 133 on reader service card

The HEFTEE 2000 Service Lift from **McCanse Engineering**, powered by a 110-volt hydraulic unit, can lift machines up to 60 inches wide, 67 inches high and 2,000 pounds.



The unit has fully adjustable, self-locking wheel cups and forks that reverse for open access to front or mid-mounted motors. Attachments are available for easy lifting of axles, engines, front-floating decks and walk-behind mowers.

Circle 134 on reader service card

Intermatic offers shell-style and cobra-style landscape lights for flower beds, patio borders, driveways, walkways, paths and other landscaped areas.

Both the CL612 and CL613 lights feature 18-watt, bayonet base bulbs and 18-inch high, cast-aluminum fixtures with black ena-

(continued on page 67)

Product Profile

BRINGING LANDSCAPES TO LIFE THROUGH CAD

LIKE SMART BUSINESS people everywhere, the employees at Mountain States Landscapes, a Lafayette, Colo.-based design/build firm, are always looking for ways to increase revenues and improve operating efficiency.

So when Don Reese — the self-described company controller, estimator and office manager — suggested that the company computerize the landscape design process, owner Dennis Bulliung told him to go right ahead. Reese brought in his own home computer (a 386-based IBM compatible, with a 280 megabyte hard drive and 4 megabytes of RAM), purchased LandDesignerPro® landscape design software from Green Thumb Software and got to work.

That was two years ago. Since then, Reese — who also does all the designing — has completed numerous residential landscape designs on the computer. LandDesignerPro enables Reese to automate the entire landscape design process, from start to finish. And it plays an important part in tracking, estimating and ultimately containing overall design costs, which is a key concern of his. Having earned a degree in accounting, Reese is understandably focused on the bottom line.

According to Reese, using CAD offers a wide range of benefits. Most immediate is the freedom from time-consuming, labor-intensive re-draws when the client wants to change some aspect — large or small — of the proposed design. With the design on-line, Reese can quickly call it up, make the necessary changes and generate a new printout for further review. His design time for a typical 6,500 square-foot residential lot has decreased by more than 50 percent, shrinking from more than half a day to approximately two hours.

Reese uses LandDesignerPro's integrated sprinkler design and test capabilities extensively. With this feature, he can combine the sprinkler with the landscape layout and display actual coverage patterns on the screen, saving time, money and potential headaches for the homeowner.

QUICK RESULTS. The Front Range of Colorado, where MSL is located, is currently experiencing a significant housing boom. As a result, Reese and his co-workers are doing a lot of work for homeowners in new subdivisions. In most cases, the homeowner must secure formal approval for the landscape from the local homeowners' association before installation begins.

By giving the homeowner a complete and professional-looking proposal, the design is more likely to be endorsed by the association, and MSL is more likely to get the installation



Don Reese brought computerization to Mountain States Landscapes and a new standard to the company's image.

business. A high-resolution computer output — of the plan or various elevation views — is an advantage when it comes to selling an idea, especially with customers who have trouble visualizing the finished landscape. (Reese used an Okidata 400 laser printer with his system; the software supports more than 300 different printers, including color.)

In addition, Reese submits a detailed materials list, plant list and cost estimate, so customers can see "exactly what they're getting for their money," he said.

As seasoned designers know, the difference between making and losing money on a particular project depends upon the accuracy of the materials and cost estimates. In fact, tracking costs is a critical part of Reese's function at MSL, and an important reason why the business has grown from annual revenues of \$85,000 in 1990 to \$675,000 last year. LandDesignerPro helps Reese accomplish this by allowing him to record and maintain pricing information in the system, and by automatically calculating quantity and cost for all materials used in each design.

Every time Reese makes a change in a specific design, the associated cost and materials lists are instantly updated. For example, if Reese has designed a kidney-shaped area to be filled with 3 inches of bark mulch, the software will calculate for him the exact quantity of mulch required, and the correct cost — to the penny.

Simplifying the bidding process gives Reese an edge. That's important when bidding as many jobs as MSL does. Reese figures the company gets about 10 percent of total jobs bid.

"The more you bid, the more you're going to get and the more selective you can be," he explained. And the more accurate the initial estimate, the better chance of coming in on budget, clearing a profit and making the customer happy. MSL places a lot of emphasis on customer satisfaction, because about 85 percent of business comes from referrals. ■

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Calendar

NOV. 1-2 Southwest Outdoor Power Equipment Show, Arlington Convention Center, Arlington, Texas. Contact: The Service Dealers Association, 1946 S. IH-35, Suite 100-A, Austin, TX 78704-3693; 512/443-7999.

NOV. 5 Drip Irrigation Systems for the Professional Landscaper, Athens Masonic Lodge, Davis, Calif. Contact: University Extension, University of California, 916/757-8777.

NOV. 6 Professional Women in Horticulture's 5th Annual Conference, The Sweetbrier Inn, Tualatin, Ore. Contact: Darlene Galster, Update Management, 503/236-9740.

NOV. 9-10 Business Short Course: Strategies for Tomorrow's Business Climate, Marriott Hotel, Worcester, Mass. Contact: John Bragg, Massachusetts Nurseryman's Association, 508/534-1775, or Kathleen Carroll, University of Massachusetts Cooperative Extension System, 413/545-0895.

NOV. 11-13 Fifth Annual Equipment and Supply Show, Delta Resort Hotel, Orlando, Fla. Contact: Landscape Maintenance Association, P.O. Box 9125, Winter Haven, FL 33883; 813/965-8604.

NOV. 9-12 Turf and Grounds Exposition, Rochester Riverside Convention Center, Rochester, N.Y. Contact: New York State Turfgrass Association, 800/873-TURF or 518/783-1229.

NOV. 14-18 Green Industry Expo, Baltimore, Md. Co-sponsored by the Associated Landscape Contractors of America, the Professional Grounds Management Society and the Professional Lawn Care Association of America. Contact: GIE, 1000 Johnson Ferry Road, NE, Suite C-135, Marietta, GA 30068-2112; 404/973-2019.

NOV. 17-19 Composting Council's Fourth Annual Conference, Vista Hotel, Washington, D.C. Contact: CC, 114 S. Pitt St., Alexandria, VA 22314; 703/739-2401.

NOV. 22-25 1993 Brighton Conference — Weeds, Brighton Centre, Britain. Contact: Sherrie Simpson, Conference Associates and Services/British Crop Protection Council, Congress House, 55 New Cavendish St., London W1M 7RE; 071 486 0531.

NOV. 29-DEC. 1 North Central Turfgrass Exposition, Pheasant Run Resort, St. Charles, Ill. Contact: North Central Turfgrass Exposition,

111 E. Wacker Drive, Suite 200, Chicago, IL 60601; 312/616-0800.

DEC. 1-3 40th Rocky Mountain Turf Conference and Trade Show, Currigan Hall, Denver, Colo. Contact: Rocky Mountain Regional Turfgrass Association, P.O. Box 29, Franktown, CO 80116; 303/688-3440.

DEC. 5-9 CSMA Annual Meeting, Fort Lauderdale, Fla. Contact: Chemical Specialties Manufacturers Association, 1913 Eye Street, NW, Washington, DC 20006; 202/872-8110.

DEC. 6-9 Ohio Turfgrass Foundation Conference and Trade Show, Columbus. Contact: Phyllis Selby, OTF, 2021 Coffey Road, Columbus, OH 43210; 614/292-2601.

DEC. 7-9 Georgia Turfgrass Conference and Show, Georgia International Convention and Trade Center, College Park. Contact: Georgia Turfgrass Association, 5198 Ross Road, Acworth, GA 30102; 404/975-4123.

DEC. 14 Roadside and Right of Way Vegetation Management short course, New Brunswick, N.J. Contact: Office of Continuing Education, Cook College, Rutgers University, 908/932-9271. ■

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Room cost: \$110 single, \$20 additional person, 50 rooms have been reserved at a special rate of \$97.75 for government employees. Please call the Vista Hotel at (800) 847-8232 for reservations. 93

FOURTH ANNUAL CONFERENCE

WASHINGTON, DC • NOV. 17-19

USE READER SERVICE #58

Products

(continued from page 64)

mel finish. Cable connectors and ground stakes are also included.

The lights require 12-volt current rather than the standard 120-volt, making them safer to use around pets and children.

Circle 135 on reader service card

The Compact Controller from **Plastro Irrigation**, one of the first computerized irrigation systems to use Windows graphic software, includes necessary functions for remote control irrigation of parks, golf courses, public gardens, turf, nurseries and resorts.

The Compact Controller can be programmed with numerous instructions, including when to start and stop the watering cycle (up to 225 start and stop times are programmable in any 24-hour period); duration time of each watering cycle which can vary from one minute to 24 hours; water flow rate; and how much fertilizer, if any, should be added in each cycle. The system also can be programmed for different cycles on different days of the week.



Additionally, the controller can instantly identify any breaks in the water line, and retrieve and list the last 200 functions performed. It handles 16 or 32 different watering stations using the AC model, and 12 or 24 different watering stations using the DC model. Each system can be adjusted to any valves, pumps, filters and fertilizer injectors.

Circle 136 on reader service card

The Hustler 4100 mower from **Excel** features a dual-hydrostatic drive system with independent pumps and direct drive wheel motors. This drive concept eliminates the need for high-maintenance chains, sprockets and transaxles.

Combined with twin-lever steering, the mower provides zero-degree radius turning. The operator can control speed, power, turns and braking with one hand.

The Hustler 4100 can be matched with one of Excel's decks including the 60- or 72-inch three-way decks which offer the option of side discharge, rear discharge or mulching. Other attachments for the 4100 include the Hi-Lift BAC-VAC grass catcher, hydraulic edger, snow removal equipment and ROPS cab enclosure.

Circle 137 on reader service card

The SRS-2100 Aggressor tree trimmer from **Echo**, powered by a 21.2 cc engine, can remove 4 1/2-inch diameter limbs up to 14 feet in the air.

A 71-inch shaft houses the four-strand cable drive. The throttle control grip is foam covered, as is an additional grip halfway up the shaft from the throttle.

The Echo trimmer weighs 11.3 pounds and includes a 14.2-ounce fuel tank, purge pump-equipped carburetor and die cast aluminum gearbox.

Circle 138 on reader service card

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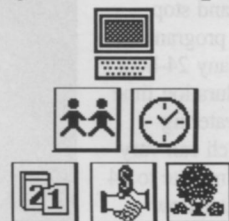
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- STEINER turf tractor hydraulic reel mowers: Used once. Same as new. \$5,200 or best offer.

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IRRIGATION TRAINING SERIES LESSON SIXTEEN

Answers to questions on page 53.

1. Every week or up to every four-week intervals, depending on the quality of the system.
2. Yes, rust and other particles can plug heads and valve ports.
3. Suspended solids in the water can cause abrasive action which will enlarge the nozzle.
4. Match the performance to the previous head or to existing zone/head spacing and precipitation rates.
5. A bad solenoid or lack of electrical power from the controller.
6. Yes, if the turf height and soil buildup blocks the trajectory of spray.

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Cover Story

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affected by the Midwest flooding, the European economy (said to be in its worst shape since the end of World War II) and the California economy.

He anticipates Hunter will experience growth in 1994, but that the sluggish economy will take another 12 months to straighten itself out. San Diego, for instance, had fewer housing starts this year than in 1947.

"The business has become more competitive. People who have focused on the DIY hardware industry are now trying to get a better toehold in the professional market," Huston said. "To survive and grow, we're going to have to offer a lot more value-added education programs to support the industry."

Rain Bird Sales Inc. of Glendora, Calif., introduced more than 60 new product models this year, representing 12 to 15 product families (both new products and product enhancements).

The privately held company had a challenging year, and continues

to strive to grow faster than the market, said Eric Pollard, marketing services manager for Rain Bird's contractor division. The residential market is said to be improving; even California is showing glimmers of hope. On the commercial side, recovery has been slower and is said to be heavily weighted to the sunbelt states.

"We still see lots of opportunity in the irrigation industry and we're investing in our research and development," Pollard said. "Customers expect a reliable product."

Pollard said Rain Bird is starting to see some new challenges in the irrigation industry. The competition is getting more intense and former niche players are fighting to gain a bigger piece of the pie. Rain Bird, too, has gone through a restructuring to place its business in a more competitive position.

"It's a much more complex business to manage. There are more variables, more competitors and more competitive pressures," he said. "It's a balancing act among needs, requirements and risk; not just domestically, but internationally."

Pollard expects the irrigation industry to grow more than 10 percent domestically in 1994, but the market hasn't recovered from 1991 and sales are now adjusting themselves to two years ago.

"We used to rely more on just a few key areas for sales," he said. "These days it's a highly globalized marketplace. We spend more time and energy focusing on regional markets."

SHRINK OR GROW? Still integral to the success of the lawn and landscape professional, diversification must be approached with extreme caution. The landscaper needs to identify the right market segment, the employees and the customers who can deliver a company vision.

In Florida, Yahn predicts renovation work will turn into a big market over the next decade. The firm has recruited a well-known landscape architect to head up its new design/build group which will provide all types of design, but primarily for renovation. The firm hopes to sell renovation work which is linked to multi-year maintenance

contracts.

Andrews said his firm has no immediate plans to diversify. In fact, he's noticed a retrenching of sorts occurring in which firms are going back to their business roots. In essence, paying attention to the services that made them money in the first place.

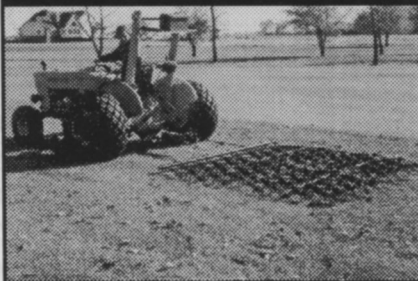
While end-users are expanding to fill niches, some manufacturers are hoping for consolidation on their side of the business.

"We're hoping for consolidation at the supplier level," Masters said. "And we're hoping we can push some of it. We're looking to make some moves to boost our presence in the West and South."

Deciding whether or not to diversify is a huge job. Knowing your market and your customers' needs and wants are two ingredients. More importantly, knowing how to price current and new services can make the difference between success and failure.

The author is Editor/Co-Publisher of Lawn & Landscape Maintenance magazine.

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