

Lawn & Landscape MAINTENANCE

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DRIVEN TO SUCCEED

An independent streak and inherited aggressiveness enabled David Snodgrass to grow Dennis' 7 Dee's Landscaping from a company division to a multimillion dollar business in its own right.

In this issue:

Seed R & D

Mulching Mowers

Retaining Walls

Pesticide Trends

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Lawn & Landscape MAINTENANCE

VOLUME 15, NUMBER 6

JUNE 1994

FEATURES

Cover Photo: Steve
Cridland, Portland, Ore.

24 Cover Story: Driven To Succeed

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versatile tools geared for specific commercial uses.

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Editor's Focus

IF YOU'VE been reading any newspapers lately or watching the evening news, you've surely noticed a recent surge in stories about landscaping. I'm not talking about the benefits of a beautiful property. Rather, an abundance of stories about the dangers of pesticides and, more recently, excessive emissions caused by outdoor power equipment.

These stories are bound to anger you, as they do me. They also make me contemplate the role of each and every professional in the lawn and landscape industry. Isn't it incumbent upon each individual to be held accountable for the actions taken on any given property?

Unfortunately, there's generally a lot of finger-pointing when it comes down to claiming responsibility. When in reality, it's critical that each and every lawn and landscape professional honestly and accurately represent the products being sold and used on each customer's property.

Sure, the industry has associations which do a fine job of representing the industry on a national level, but they cannot be expected to carry the entire load.

You may recall hearing about some of these stories in the consumer press, but let me recap a few for you. The cumulative effect is astounding.

The Responsible Industry for a Sound Environment, manufacturers of specialty pesticides and the Golf Course Superintendents Association of America took quick action to mollify the effects of a preliminary university pesticide study which reported a possible connection between golf course superintendents exposed to certain pesticides and elevated levels of non-Hodgkin's lymphoma.

But the damage was done. Word spread like wildfire.

First, Paul Harvey reported that a link had finally been established between pesticides and golf course superintendents. Pesticides do cause cancer, he reported.

Secondly, *The Wall Street Journal* headline last month: "Golf Courses Are Denounced as Health Hazards." Caretakers of the environment — whether it be golf courses, landscapes or sod farms — were viewed as "dumpers" of pesticides and fertilizers onto the land.

According to the article: "At least some golf courses in the United States pound the planet with so many chemicals that they make more widely vilified offenders such as farmers and crabgrass-killing homeowners look harmless."

Yes, the study was commissioned by the GCSAA and yes they chose to present the preliminary results, but the study was conducted in an effort to obtain an overall view of occupational health and safety issues that affect its members. The report was only phase one of an in-depth look at pesticides



and applicators of the products.

They should be commended instead of lambasted for their efforts to provide accurate information to their members. The situation brings to mind the steps ChemLawn (before becoming TruGreen/ChemLawn) took seven years ago when they entered into a study with the National Cancer Institute to determine long-term health effects of 2,4-D on ChemLawn employees. Further, ChemLawn agreed to stop using 2,4-D, at least until the study is complete.

Then came two unrelated reports in *USA Today*. On the editorial page, a point/counterpoint column ran with the first view being "Monitor pesticides better" followed by an industry view which suggested "Using pesticides is safe." More recently, a story on the top of page one of *USA Today* reported, "Washing still leaves pesticides on produce."

The story told readers that even if you scrub and/or peel fruits and vegetables you can't get out all the pesticides in produce.

While all of these stories have a damaging effect on the industry in general, none contain as much damage as this last story I'm going to share with you. It's about a homeowner who decided to turn his lawn over to a professional after years of maintaining it himself.

When he asked the contractor about pesticides, and the safety of his children and pets on his lawn, the contractor said, "Worst thing that happens is the wind shifts suddenly and you all black out for a couple hours, that's all." After seeing the puzzled look on the face of his new customer, he quickly added, "Hey, that's a joke."

It's no joking matter.

It all comes down to taking responsibility for each and every action you take. It's your job to accurately represent the products you use on your customer's properties and to answer each and every question presented to you honestly and fairly. — *Cindy Code*

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The Irrigation Association

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Business Watch

A CONTINUED INCREASE in sales of previously owned homes could stir additional renovation business for lawn and landscape professionals this summer. Sales of existing homes rebounded 5.7 percent in March, due to improved weather, a boost in employment and rising interest rates which have helped propel the "fence sitting" potential buyers into action, say economists.

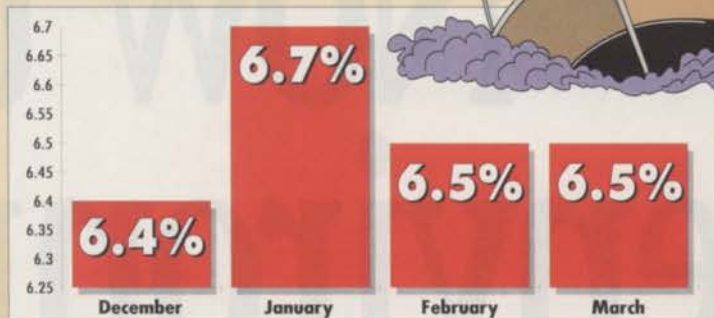
Single-family, existing home sales rose to 4.06 million on a seasonally adjusted, annualized basis from a revised pace of 3.84 million in February, according to the National Association of Realtors.

Regionally, sales volumes remained strong in the South and Midwest, where economic conditions did not deteriorate as drastically as in other parts of the country. The coasts also began seeing recovery, with sales up 28 percent in the West and 14 percent in the Northeast from a year earlier.

The Federal Reserve's 30-year, fixed rate mortgage jumped a percentage point to about 8.5 percent. Some economists worry that the higher rates will price many prospective home buyers out of the market. Others predict that rates might actually come down a half percentage point or more by year's end.

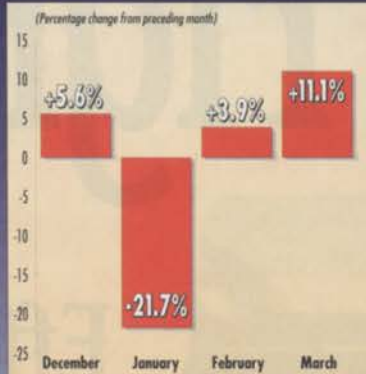
SMOOTH SAILING

The U.S. unemployment rate held steady in March at 6.5%.



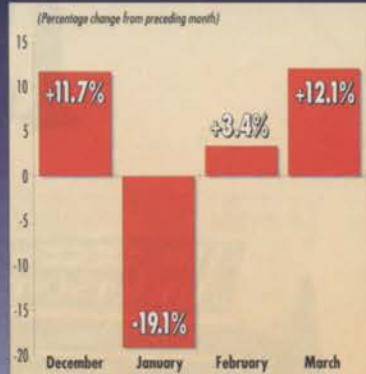
Source: Bureau of Labor Statistics

NEW HOME SALES



Source: Bureau of the Census

HOUSING STARTS



Source: Bureau of the Census

SALES OF EXISTING HOMES

DEC.	JAN.	FEB.	MAR.
+6.7	-5.3	-9.6	+5.7

CONSUMER PRICE INDEX*

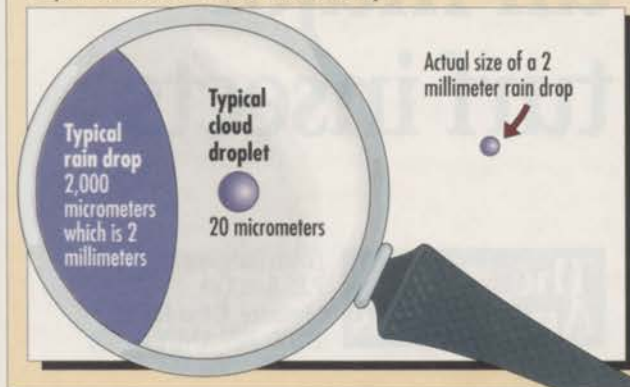
JAN.	FEB.	MAR.	APR.
+0.3	+0.3	+0.3	+0.1

*Percent change from preceding month (seasonally adjusted).

WEATHER WATCH

SIZING CLOUDS, RAIN DROPS

A typical cloud droplet and a rain drop magnified around 300 times looks like this under a magnifying glass. A million such cloud drops are needed to make one rain drop.



Source: American Meteorological Society

The National Weather Service's 60-day outlook calls for at least a 55 percent probability of below-normal temperatures from north-central Montana to western Kansas and northeastward to upper Michigan. Probabilities exceed 60 percent in much of the Dakotas and northwestern Minnesota.

At least a 55 percent chance of above-normal temperatures exists for the far West and Southwest, including western Washington, Oregon and Nevada, California, most of Arizona and southwestern New Mexico.

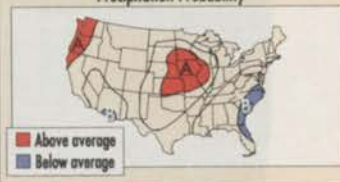
A 55 percent chance of above average precipitation is predicted for the central Plains including all of Iowa, major portions of Kansas, Nebraska, Missouri and Illinois.

60-DAY OUTLOOK FOR JUNE AND JULY

Temperature Probability



Precipitation Probability



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Environmental Forum

CHANGING PUBLIC OPINION? Responsible reporting is something the news media seldom are accused of when it comes to the pesticide issue. Yet ABC News might have reached a milestone in its April 21 television special "Are We Scaring Ourselves to Death?"

Reporter John Stossel examined the way both broadcast and print media view the abundant risks that face Americans every day — crime, radiation, asbestos, smoking, driving, flying — and asked whether the public is getting a true picture of the relative dangers of these risks.

And when the subject turned to pesticides, ABC offered a spin that was refreshing in its objectivity.

"Scientists say many of our fears about chemicals are ridiculous, that just because scientists now can find microscopic quantities of poisons doesn't mean that those tiny doses hurt people," Stossel reported.

Added Dr. John Graham of the Harvard School of Public Health: "The evidence on pesticide residues on food as a health problem is virtually non-existent. It's speculation."

Lawn chemicals, specifically, may have taken a bad rap by the media in the past, Stossel said in the broadcast. There is risk, he conceded, "but have we kept things in perspective? I don't think so."

Even such a small dose of open-minded reporting can have a long-lasting impact on the landscaping industry, according to Debra Atkins, executive director of the Associated Landscape Contractors of America.

"It's got to be a help to the industry," Atkins said. "Any time you have an angle like that, that is shown to the entire country, it helps. The public has seen only one side of the pesticide issue, and that's the 'bad' side."

The press, said Stossel, agonizes over risks like flying, toxic waste and, specifically, pesticides. "Yet these risks don't shorten the average life nearly as much as mundane things like driving or smoking or just being poor. So if safety regulations require billions to be spent on small risks like those, do we inadvertently kill people by making this worse?"

If pesticide use is restricted, he pointed out, food costs more and people have less to spend on other things. The impact on the poor, too, is more pronounced, Stossel said.

Moreover, said William Reilly, former director of the Environmental Protection Agency, "Some problems were much less serious than we thought they were. It shouldn't surprise us that we have set policy according to what the public's been most alarmed about."

Stossel, in closing the program, put the issue into a bigger context: "What's length-



ened lifespans by 30 years just this century is the very technology we now fear so much."

INFLUENCING CURRICULUM. Lawn care professionals, landscape contractors and 18 other related groups, companies and institutions in Wisconsin have formed a consortium to make sure that environmental benefits of pesticides are an important part of youngsters' science curriculums in school.

Wisconsin Interests for a Sound Environment started small earlier this year, with the ambitious goal of telling the industry's side of the pesticide story to school children across the state.

In addition to lawn care and landscaping, nurseries, sod growers, pest-control operators and the University of Wisconsin are among members of WISE, according to Terry Kurth of Madison, the owner of five Barefoot Grass franchises and a WISE organizer.

"A lot of science teachers know just enough to be dangerous," Kurth said. "High school students as well as grade-school students can be swayed. We need to get them to understand all the benefits of turf that make it worth the risk of using pesticides."

WISE works with a standardized class outline — and a videotape of a class Kurth taught in December — so that any speaker is able to present the same information to any school class and that any talk addresses the organization's five goals:

- Educational outreach with principal focus on schools;
- Creation of dialogue and interchange among pesticide user groups;
- Fostering of communication with the media;
- Promotion of integrated pest management as part of plant health care; and

• Promotion of environmentally and economically viable pesticide use.

"We hope that WISE can show and influence teachers about pesticides," Kurth explained. "We talk about myths and mistruths that have been spread, and hope the kids will influence their parents. We also hope we influence students to go into the green industry as future employees or to become our future customers."

TREE TALK. The green industry has long touted the environmental value of well planned landscaping. Turf helps clean the air, filter runoff water and control erosion. Likewise, trees are a major contributor to clean air, and can help reduce energy consumption substantially.

But until now, there's been little thorough scientific research to back up much of the argument. That, however, has changed, with the release of a study by the U.S. Forest Service.

Though the three-year study focused on the environmental benefits of trees, the findings will help bolster the arguments in favor of all areas of landscaping.

The study, which centered on two Chicago-area counties — Cook and DuPage — estimated that planting 95,000 trees would result in a net benefit of \$38 million over 30 years, according to *The New York Times*.

According to the three research foresters who conducted the study, planting and maintaining the trees over 30 years would cost \$21 million; benefits received from the trees would reach \$59 million. Net benefit per tree would be \$402, they reported.

Like any investment in landscaping, tree plantings must now demonstrate their cost-effectiveness, according to the report, rather than merely their aesthetic value. Home owners, according to the report, are beginning to question whether fallen leaves, invasive roots, turf-killing shade and broken branches are worth the trouble. Moreover, public officials are looking more closely at the cost-benefit equation when it comes to expenditures such as urban reforestation.

However, according to *The Times*, the study found that in 1991 alone, the value of removing pollutants like carbon monoxide, sulfur dioxide, ozone and particulate matter from the air by trees was about \$9.2 million just in the two-county Chicago study area.

Energy savings could exceed costs by 35 percent for trees planted near a typical two-story building, according to the study, and could top costs by 90 percent for trees planted near energy-efficient, wood-frame structures. ■

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News in Brief

NEWS DIGEST

Hako Minuteman Changes Firm Name

Hako Minuteman changed its name to Minuteman International, and adopted MMAN as its new trading symbol. Company officials hope the name change will dispel any confusion in the European market between its products and Europe-based Hako Werke's.

Hickson Kerley Acquires Triazone

Hickson Kerley acquired the Triazone Specialty Fertilizer Division of Arcadian, a move which provides the company with the patented controlled-release nitrogen technology, urea-triazone. The technology is marketed under the trade names N-SURE and TRISERT, as well as several micronutrient fertilizers: NZN, NMG and NFE.

Hickson Kerley has 11 locations throughout the United States and Mexico.

GIE Adopts '94 Slogan

The National Expo for Lawn & Landscape Professionals is the slogan for the 1994 Green Industry Expo slated Nov. 14-17 in St. Louis.

The GIE board approved the slogan unanimously. "We needed a tag line that was simple yet powerful," said Eleanor Ellison, trade show manager. "GIE is unique because it draws from three national associations and taps into the lawn, landscape and grounds management industries."

Ewing Plans Eastward Expansion

Ewing Irrigation Products completed its corporate relocation from San Leandro, Calif., to its new facility in Phoenix, Ariz. The move was prompted by the firm's desire to expand operations eastward.

Ewing branch offices are located in California, Arizona, Nevada, Utah and now Texas with the recent opening of its 35th branch office in San Antonio. The Texas opening follows the establishment of a new branch near Provo, Utah.

Census Bureau Predicts Growth for South, West

Huge increases in the number of Americans living in the southern and western states are projected by the Census Bureau. Numbers living in the midwestern and northeastern states will dwindle.

Texas has already replaced New York as the nation's second most populous state. By 2020, New York will drop another notch when Florida becomes number three.

Expo Enters Its Second Decade; Increased Exhibit Space Benefits Attendees

AN ADDITIONAL 231,000 net square feet of exhibit and meeting space will benefit attendees as well as companies seeking to exhibit at the 11th annual International Lawn, Garden & Power Equipment Expo, slated July 24-26 in Louisville, Ky.

More than 40 potential exhibitors were kept on a waiting list for last year's sold-out show. Show coordinators anticipate leasing more than 260,000 net square feet of indoor exhibit space at EXPO 94, but don't expect a sell out. "The available space has increased so much, we expect to have room for everybody," said Polly Moter, communications director for Seller Expositions, the EXPO management firm.

Recently completed renovations at the Kentucky Exposition Center, where the show is held annually, include a modern conference center for meetings and receptions.

The additional floor space has enabled some long-time exhibitors to expand their booth space. The Toro Co., for example, added nearly 2,000 square feet to its '94 indoor exhibit.

"The visitor survey done after EXPO 93 showed that commercial equipment is becoming more important at the show, which is a help to several exhibitors that have increased their booth sizes for the '94 show," said Dennis Warner, manager of customer development for Toro. "So we added space to display more commercial equipment as well as to expand our consumer equipment."



Changes at EXPO include revamping the outdoor demo area to bring the 500,000 net square feet closer to indoor exhibits.

More than 550 exhibitors are expected at the show, including at least 348 (the number that had committed at press time) companies displaying commercial products. As of mid-May, 516 exhibitors had contracted for indoor booths, and more than 100 companies had signed up to exhibit outdoors.

Also at press time, 103 companies had committed to exhibit that did not display at last year's show.

All of the larger manufacturers that exhibited last year appear to be returning this year. "We have a tremendous rate of return at this show. As far as I know, we do not have any major companies dropping out from last year," Moter said.

Show organizers anticipate a slight increase in attendance over last year, based on the number of early commitments received, according to Moter.

More than 25,000 dealers, retailers, commercial end-users, rental equipment dealers, distributors, mass merchants, manufacturers' representatives — including exhibitors — are expected to attend from 60 countries worldwide.

In 1993, 2,754 landscapers/commercial mower companies attended EXPO. About the same number are expected this year. At press time, the number of commercial operators registered to attend was up 8 percent from the same time last year, Moter said.

According to an Outdoor Power Equipment Institute survey of 1993 attendees, about 15 percent go to EXPO to find new sources of supplies; 24 percent attend to learn what's going on in the industry; 38 percent go to see new products; and 34 percent go to see specific manufacturers or products. New products at the show will be highlighted with blue banners.

For the first time this year, seminars are divided into two series: the Retail Educational Advantage Program, a business management program for outdoor power equipment dealers, and a second program for commercial end-users. The two end-user seminars are "It's More than Mowing," slated for Sunday, July 24, 3 to 4:30 p.m., and "Bidding to Build a Successful Business," Monday, 3 to 4:30 p.m.

Other seminar highlights include "Global 2000 — Doing Business Internationally," July 24, 4 to 5:15 p.m., and "Re-Engineering the OPE Industry," July 24, 8 to 9:30 a.m. In addition, the National Service Dealers Association plans to hold its Outdoor Power Equipment Technicians Certification Update Panel Discussion on July 25, 8 to 9 a.m.

Indoor show hours are 9 a.m. to 5 p.m. Sunday and Monday, and 9 a.m. to 3 p.m. on Tuesday. The outdoor demo area is open 8 a.m. to 5 p.m. on Sunday and Monday, and 8 a.m. to noon on Tuesday.

EPA Considers OPE Standards

The U.S. Environmental Protection Agency proposed the first phase of a national emission standard calling for 70 percent emission reductions for two- and four-cycle products including walk-behind mowers and other outdoor equipment powered by small, spark-ignited utility engines.

The EPA said total air emissions from lawn and garden products accounted for about 5 percent of total emissions in the United States.

The proposed federal regulations would reduce average emissions of hydrocarbons plus nitrogen oxides, which are considered smog contributors. The new standard would be 30 percent of average emissions produced by equipment manufactured in 1990.

Utility engines used in other outdoor power equipment would also have to achieve substantial reductions. Donald Purcell, president of the Portable Power Equipment Manufacturers Association said new air quality regulations present the "most difficult and complex technical challenge ever faced by our industry." PPEMA will act as a partner in helping the nation achieve cleaner air.

EPA also called upon the Outdoor Power Equipment Institute, Engine Manufacturers

Association and other groups to debate long-term regulations for overall emissions of utility engines. Evaporation and spillage from gaso-line containers are also subject to regulation.

DowElanco Dedicates Global Headquarters

DowElanco recently completed construction of its new 24-acre world headquarters. The 600,000 square-foot complex is the site for the company's research and development center, the world's largest pest management and plant breeding research complex.



DowElanco officially dedicated its 24-acre world headquarters in Indianapolis.

DowElanco — a joint venture started in 1989 — stems from a combination of the specialty chemical and agricultural businesses of The Dow Chemical Co. and Eli Lilly and Co. DowElanco reported worldwide sales of \$1.6 billion in 1993.

The new site is said to demonstrate the importance of the turf and ornamental industry to DowElanco in shaping new technologies.

"Our customers can look forward to exciting changes affecting their industries," said Dave Morris, group marketing manager for DowElanco's turf and ornamental and technical products business unit. "Within the next decade, they'll see even more effective, versatile and environmentally sound products."

The research and development center enlists more than 450 of the 1,600 employees at the DowElanco headquarters. About 100 laboratories and 30 greenhouses are located at the research center supporting, among other things, research, new compound discovery and registration.

"This complex is our springboard into the future," said John Hagaman, president and chief executive officer. "The need for the products this facility is designed to provide grows greater with every passing day."

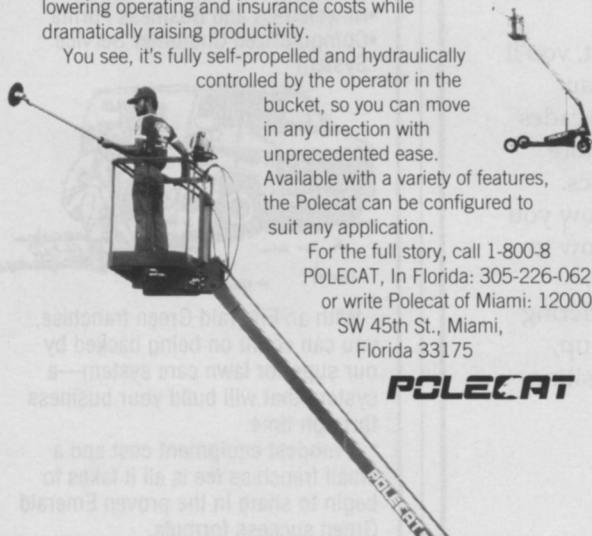
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For the full story, call 1-800-8 POLECAT, In Florida: 305-226-0621 or write Polecat of Miami: 12000 SW 45th St., Miami, Florida 33175

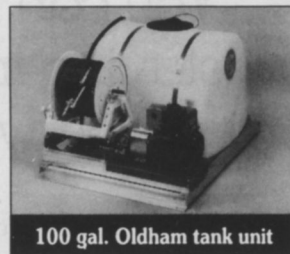
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- Manual rewind reel with 150ft. 1/2" hose.
- Air gap system (optional).



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Nursery Industry Is \$3.67 Billion Business

Michigan's nursery and landscape industries produce \$3.67 billion in annual sales, according to a state survey.

The economic study, conducted by Mary Zehner of the Department of Agricultural Economics at Michigan State University, surveyed 4,900 certified nursery stock dealers and producers. Results show the state produces wholesale nursery crops worth \$711.3 million on 11,000 acres, and pays out \$954 million annual compensation to 134,000 Michigan workers directly employed in the industry. The figures do not include Christmas trees or turf.

Of those surveyed, 42 percent reported they were growers/producers; 25 percent, landscape contractors; 12 percent owned retail garden centers; 7 percent ran landscape management firms; 4 percent were re-wholesalers; 1 percent, mass merchandisers; and 9 percent marked "other."

Based on gross sales, most indicated they were small operators. Twenty-nine percent reported 1990 gross sales of less than \$10,000. Overall, the companies reported an average of 22 employees in their nursery businesses, and an average business lifespan of 16 years.

Twenty-six percent reported adding a nursery, landscape services and/or garden center business less than five years ago, while one-third said five to 15 years ago.

Landscape-related companies appeared most optimistic about growth potential; 86 percent reported room for expansion.

Have Graffiti? Landscape

Have a client whose urban property is plagued with graffiti? Landscape it to hide exposed walls and other graffiti-prone areas, advised one urban horticulturist.

Non-landscaped block walls seem to invite graffiti, while landscaped areas appear graf-

fit-free, said Ted Stamen, urban horticulturist formerly with the University Cooperative Extension Service in Riverside, Calif.

Stamen and two volunteers conducted a two-day study examining 31 sites throughout Riverside, a city of 230,000 located about 60 miles east of Los Angeles.

According to the study, about 90 percent of the landscaped areas showed no graffiti, while 90 percent of non-landscaped areas bore scrawl.

In particular, vertical trees and heavy ground cover appeared effective graffiti deterrents, while weedy areas were targets.

National Course Offers Credits in 10 States

Ten states have recognized the joint University of Georgia and Professional Lawn Care Association of America turf certification program as meeting the requirements for pesticide recertification credits, according to PLCAA.

Florida, New Jersey, Pennsylvania, Delaware, Wyoming, Nebraska, Maine, Rhode Island, West Virginia and Georgia now grant varying degrees of pesticide recertification credits when a course is successfully completed. Six other states — Colorado, North

(continued on page 16)

You can make more money staying indoors on July 23rd than you would working outside.

If you're a lawn care specialist, landscaper, or arborist, you'll want to attend a remarkable seminar July 23rd in suburban Long Island, NY. The day will begin with experts with decades of experience teaching you how to make your business more profitable and successful in the expanding field of organics. Then a team of marketing and sales professionals will show you how to attract new customers. And finally, you'll learn how to get more business out of the customers you already have.

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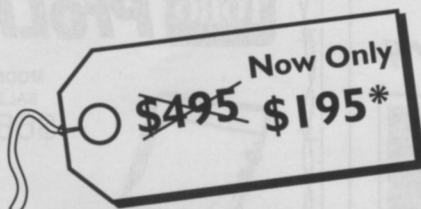
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USE READER SERVICE #46

News in Brief

(continued from page 14)

Carolina, Connecticut, South Dakota, Oregon and Indiana — are considering adopting the course.

The Principles of Turfgrass Management Course, introduced at the end of 1993, is a home-study correspondence course covering mowing, irrigation, pesticides and customer relations, among other topics, for all regions of the United States.

Disaster Assistance May Be Extended

Congressman Fred Grandy, R-IA, introduced bipartisan legislation to extend disaster assistance to nursery owners affected by natural disasters. The bill was drafted as a result of last year's Midwestern floods.

Under the bill, growers of ornamentals and nursery trees would qualify for assistance, as would perennial plant growers, regardless of when the last crops were harvested from a crop-producing perennial. Assistance would also be offered to growers of trees planted prior to 1992.

Additionally, the bill would change the

(continued on page 86)

PERSPECTIVE

Quotes from the lawn and landscape maintenance industry...

...on composting:

"Two questions to ask when starting a compost site are what is the tipping fee and can I get sufficient raw material at cost? We look at whether it generates enough revenue to make it worth the investment of time and capital. It's like baking a cake — if you know how to do it, it'll turn out, if you don't, it won't. Once the public is offended by composting in an area, you can kiss that compost facility goodbye." — Bob Gillespie, president, DK Recycling, Lake Bluff, Ill.

...on landscape construction:

"Bid as much as possible. It's a numbers game: If you bid more, you get more, just by being there. Look for quality projects. Don't overbid. Pay your overhead and keep your staff. There's enough work out there for people who do good work." — Richard Sperber, chief operating officer, Valley Crest Landscaping, Calabasas, Calif.

...on exterior companies doing interior work:

"It's not the same market it was even four years ago. It's become a question of who goes first, the plants or the people. We probably wouldn't be in business today if we hadn't gone into exterior." — David Muessel, owner of Inner Gardens Landscape, Houston.

...on holiday decorating:

"Holiday decorating is a great source of revenue. We keep our landscape crews busy until January. There's a real need and nobody fills that niche. Orkin has a national decoration coordinator...We sell that service year-round." — Brent Totman, general manager, Orkin Plantscaping, Knoxville, Tenn.

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1/94 • LKD

Association News

RIEVA LESONSKY, editor in chief of *Entrepreneur* and *New Business Opportunities* magazines, and Mark Shields, nationally syndicated columnist and television personality, will keynote the 1994 **American Association of Nurserymen** Convention and Mid-Atlantic Nurserymen's Trade Show slated July 12-16 in Baltimore, Md.

Lesonsky's and Shields' presentations will open the AAN Convention general session on July 12. Lesonsky, who has appeared on numerous national television programs including "Good Morning America," "The Oprah Winfrey Show" and "Financial News Network," will offer insight on how small businesses in other industries achieve success in challenging times.

Shield will share an insider's view of the fast-changing national political scene, which he has gleaned as a talk host on the award-winning "MacNeil/Lehrer Newshour" television program, CNN's "Capital Gang" and ABC radio's "Look at Today."

David Bohardt resigned as executive vice president of the **American Society of Landscape Architects**. Karen Niles, ASLA's deputy executive vice president, is serving in that po-

For more information...



AAN

1250 I Street, NW
Suite 500
Washington, DC 20005
202/789-2900

PLCAA

1000 Johnson Ferry Road, NE
Suite C-135
Marietta, GA 30068
800/458-3466

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sition in the interim. The association hopes to name a new executive vice president by Sept. 1.

ASLA is restructuring under a new strategic plan which calls for stronger public policy, as well as leadership in cultivating diversity of services within the industry.

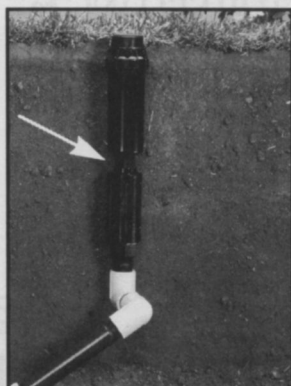
Candidates for the position of executive vice president must demonstrate the ability to implement the new strategic plan while maintaining membership support and building current programs and services, according to Jan Rothschild, spokeswoman for ASLA.

"We surveyed our membership and adopted a strategic plan to meet their needs and expectations. The new executive vice president would have to be able to focus both externally and internally within the association to meet those needs," she said.

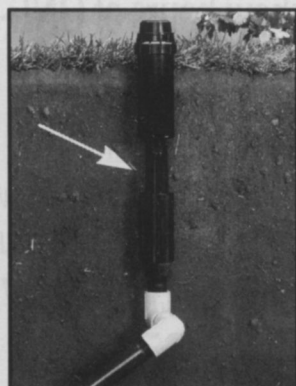
The Professional Lawn Care Association of America released the "Department of Transportation Guide for the Lawn Care Industry" manual which provides a comprehensive over-

(continued on page 20)

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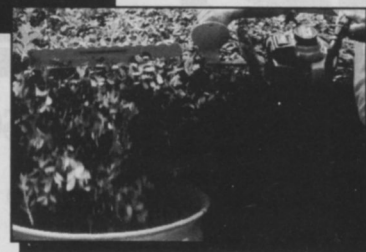
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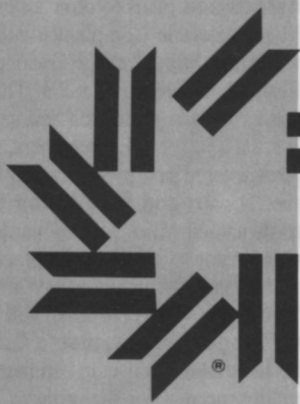
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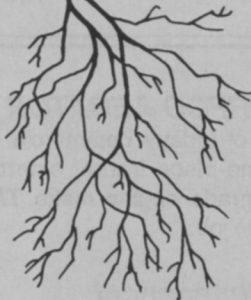
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Association News

(continued from page 18)

view of regulations affecting the industry.

The 34-page report outlines hazardous material issues such as classifications, placarding and marking requirements and loading and unloading rules, as well as federal motor carrier safety regulations such as reporting incidents involving accidents and hazardous spills.

The DOT Guide costs \$25 for PLCAA members and \$40 for non-members.

In other news, PLCAA hired Cris Shue as membership coordinator. Shue, a graduate of the University of North Carolina at Wilmington with background in sales and administration, replaces Karen Weber who became director of communications.

Deadline for the 22nd annual Professional Grounds Maintenance Awards applications is Aug. 5. The awards recognize excellence in 12 categories of landscape design and construction, according to the **Professional Grounds Management Society**.

Landscapes entered in the competition must be at least four years old and under the applicant's continuous maintenance for at least two years. Categories for the competition are: industrial or office park; condominium,

apartment complex or planned community; hotel, motel or resort; amusement or theme park; park, recreation area or athletic field; school or university grounds; government building or complex; shopping area; hospital or institution; small site (budget under \$80,000); residential landscape; and cemetery or memorial park.

Entries must be submitted to the Professional Grounds Maintenance Awards, in care of PGMS. Awards will be presented during the association's annual meeting in November.

The **Associated Landscape Contractors of America** has pegged Aug. 19 as deadline for receiving Exterior Landscape Award applications, and July 1 for Interior Landscape Awards. Entries should be submitted to ALCA.

In other news, ALCA released a revised "ALCA Publications Catalog" featuring more than 50 publications for the green industry. They include manuals on topics ranging from improving financial performance to creatively training employees.

ALCA also released its "1994 Who's Who in Landscape Contracting" membership directory, which lists addresses and phone numbers of interior and exterior landscaping firms, and cross-references members by specialty and geographical area.

IN BRIEF...The **Georgia Turfgrass Association** plans to offer a Pesticide Management in Compliance with the Law workshop July 14 at the Gwinnett Technical Institute, Lawrenceville, Ga. The workshop covers worker protection and safety training. It costs \$50 for GTA members, \$75 for preregistered non-members and \$80 on-site...The **Oregon Association of Nurserymen** named Miles McCoy garden project coordinator to direct development of a world-class botanical/display garden in the Willamette Valley. McCoy will work with the **Oregon Nurserymen's Garden Foundation** to raise an estimated \$15 million needed for the project...The **Pennsylvania Nurserymen's Association** released "Recycling and Resource Conservation: A Reference Guide for Nursery and Landscape Industries," which contains comprehensive articles on composting landscape debris and using fertilizers and pesticides...The **National Arborist Association** released a tree care training video, "Ropes, Knots and Tree Climbing," covering new techniques for using carabiners and other equipment, as well as some basic instruction. More information can be obtained by contacting NAA, 800/733-2622. ■

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THINGS THAT DON'T WORK WELL TOGETHER.



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On the other hand, some things are meant to go together: beer and pretzels, football and Thanksgiving, peanut butter and jelly, kids and puppies.

When it comes to disease control on turf – especially brown patch, leaf spot, dollar spot, and summer patch – there are two products that go together pretty well, too.

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Leaf Spot
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Summer Patch

So well, that it's as if they were almost created to be used in a tank-mix combination: Banner® and Daconil 2787®.

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- Broader control
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- Lower rates

Banner and Daconil 2787, when used at their lowest labeled rates, provide excellent control of all major diseases (except Pythium) on a 14- to 21-day program.

Better control, in fact, than you can get with the highest rates of either when used alone.

These low rates minimize the amount of active ingredient applied to the turf, yet provide both longer disease control and a spectrum of control that would not have been possible otherwise.

Because this tank mix offers two different modes of action, there is less chance of disease recurrence. It also minimizes the development of insensitivity.

And the results are based on extensive research conducted all across the country.

Tank mixing Banner and Daconil 2787 can let you stay ahead of diseases – while you use the lowest labeled rates for cost efficiency.

If disease becomes established, you often have to throw a lot of money at the problem to make it go away. Many times, using a lot of different individual products to control the various diseases.

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This alone is reason enough to try a Banner plus Daconil 2787 tank mix to prevent disease from ever getting a foothold on your turf. And it's available for both golf courses and professional lawn care.

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Driven To Succeed

David Snodgrass evolved Dennis' 7 Dee's Landscaping Inc., spun off a brother's garden center, into a dynamic enterprise based on the belief that clients deserve to be surprised by service beyond their expectations.

By Cathy Hoehn



EVEN FAMILIES NEED to go their separate ways once in awhile.

When David Snodgrass spun a landscaping firm off his older brother Dennis' garden center business, it was an act of independence and subtle ambition that trademarks the 40-year-old president of Dennis' 7 Dees Landscaping Inc., Portland, Ore.

"I wanted to start my own business. I thought I could take the landscaping division somewhere," he said.

And that he did. Beginning in 1977, he slowly bought out the residential design/build division—which contributed \$70,000 to total annual revenues—of his brother's garden center, Dennis' 7 Dees Nursery Inc., and grew it into an almost \$5 million enterprise that includes residential and commercial lawn and landscape maintenance, irrigation and color rotation.

David became partners in Dennis' 7 Dees Nursery in 1977, in charge of landscaping. He soon realized that running a landscape business requires a different type of set up, focus and organization than a garden center. After a little prodding, Dennis agreed to let him divide it into a separate company.

"I got my enthusiasm and optimism from my dad. They're what have helped me grow the company," David explained. "Dad started a nursery business with all the kids in mind. He dreamed of all of them owning nurseries."

ALL IN THE FAMILY. David's grandfather, Bernard Esch, started a one-man lawn care company in 1927. His grandmother opened a rhododendron nursery shortly thereafter.

"When Bernard went out to mow lawns and take care of clients' yards, he would sneak some heads of rhododendrons and give them to his wife, and that's how they started propagating rhododendrons," David said.

David's father, Robert, bought the nursery from his parents in 1946 and raised his family on the property, located in the heart of Portland. "He built our home on that property. It was about a 4-acre nursery. That was our growing-up environment."

Robert opened a garden center in 1947, at which time he named the company 7 Dees, after his seven children whose names all began with the letter D.

Well, except for one.

"They named Daryle and Dennis, then John Drake. I'm not sure how far they got down the chain before they decided to name the company after the kids, but they had to go back and change John's name to Drake."

The other Snodgrass family members are named Dan, Dean and Drew.

In 1974, Robert sold his two 7 Dees garden centers (he had opened a second location across town a few years later) to the two oldest sons, Dennis and J. Drake. Both companies—Dennis' 7 Dees Nursery Inc. and Drake's 7 Dees Inc.,

David Snodgrass' 12-acre nursery provides Dennis' 7 Dees Landscaping with ready plant stock. Photo: Steve Cridland, Portland.

DENNIS' 7 DEES LANDSCAPING INC.

HEADQUARTERS: Portland, Ore.

FOUNDED: 1977 by David Snodgrass

The company diverged from Dennis' 7 Dees Nursery Inc.

OWNER: David Snodgrass, president, owns 40 percent; Dean Snodgrass, vice president in charge of operations, owns 30 percent; Drew Snodgrass, vice president in design/build sales, owns 30 percent.

PRIMARY SERVICES: Residential and commercial design/build and full-service lawn and landscape maintenance, including pruning, bed care, color rotation, low-voltage lighting and irrigation installation and maintenance.

EMPLOYEES: 100 full-time, 160 in peak season

1993 SALES: Just under \$5 million

EXECUTIVE SUMMARY

THE CONCEPT: Lead by example. Strive to achieve a level of service that continually goes beyond client expectation.

PROJECTIONS: Continued growth at 20 percent to 25 percent, reaching revenues of more than \$6 million in 1994.

FUTURE CHALLENGES: Heightening public awareness about the professionalism of the industry. Convincing municipalities, home owners and commercial property managers that the lowest bid is not automatically the best choice for landscape services.

THE PRESIDENT

DAVID SNODGRASS

AGE: 40

FAMILY: Wife, Pam

EDUCATION: Studied marketing at Oregon State University.

JOB HISTORY: Became a salaried employee at age nine, working as a water boy for his father's wholesale nursery. Beginning wages were 5 cents an hour. Has worked at one family green industry business or another ever since.

AVERAGE WORK WEEK: 50 to 60 hours

EQUITY HELD: Owns 40 percent of this company.

Co-owns with his wife a 12-acre, wholesale nursery.

which also offers design/build, irrigation and lawn care, still operate in Portland.

David bartered an agreement to buy out Dennis' portion of the landscape division over time, while involving two younger brothers, Dean and Drew, as partners. The agreement included rights to the landscape division's equipment and staff. David ran his landscaping business from Dennis' nursery facility until it outgrew the property. In 1984, he bought the facility where Dennis' 7 Dees Landscaping is now located.

Oddly enough, running a landscape business in the same town as Drake creates little conflict of interest, claimed David.

"Drake's business is located on the other side of town. So, our companies don't often compete for the same jobs," David said. "The only thing we have in common is our childhood and ethics. Once we're in the business world, we're very individualized. I've shared my philosophies with Drake sometimes. But he is a competitor.

We're friends and have friendly competition."

Dennis' 7 Dees garden center is located within a five-minute drive of David's landscape operation. The companies continue to exchange job leads, but the business cross-over ends there.

"If one of the garden center clients need service, they come to us. And if someone comes to us who just needs to purchase some plants or sod or whatever, then we turn them over to the garden center. It works back and forth," David said. "But we have totally different business philosophies. He's conservative; I'm optimistic. So we run totally separate businesses."

But David reinstated family business ties when Dean, 37, and Drew, 39, joined the company in 1983. Dean owns 30 percent of the company and serves as vice president of operations; Drew, who also owns 30 percent, is vice president in design/build sales.

David maintains that working with family can be both challenging and rewarding; in this case, it's usually the latter.

"I think our relationships are real strong. We have good work ethics and respect for each other. I think as siblings during childhood, there is a certain amount of competition that exists. That could be a bad thing to carry into the work environment. In our situation, we work well together. Even when we get together socially with the rest of the family, it's not like we're tired of seeing each other."

BUILDING THE BUSINESS. At the time David took over the landscape business, that division represented only a small portion of Dennis' 7 Dees overall services.

"The landscaping portion was strictly residential design/build work generated from garden center customers. "It was definitely a landscape business, in that it had trucks, managers, etc. But it was not a go-out-and-build business based on landscaping," David said.

The new landscaping company slowly evolved into a full-service firm as client demand dictated. "Shortly after our start-up, we began offering irrigation in-house, and then started pursuing commercial work in about 1980. It was still a while before we did maintenance."

Those commercial jobs essentially fell into their laps, David said. "We started pursuing them because



people would come to us with projects to bid on. We kind of got pulled into it."

The commercial work, now 25 percent of business, helped balance the company's workload in the off-season, since residential jobs tend to be more cyclical. "In residential, spring and fall are very busy, and then summer and winter are slow. It's super tough on a company," David said. "The biggest challenge has been trying to even out the season. Commercial work has helped us do that."

'In the early years, it was like leap frogging. It wasn't unusual to double or even triple sales.'

To the benefit of Dennis' 7 Dees, as well as its competitors, most districts in and around Portland require all new commercial construction jobs be landscaped and irrigated.

"They've helped our industry a lot. What they're saying is we don't only want you to landscape your business, we want you to maintain it as well. We want it to look good in the long run. I think what was

happening is that people would landscape and then not water, so that after a few years, it wouldn't look very good."

Residential design/build remains the pillar of the company, about 56 percent of its revenue source. The maintenance division for residential and commercial accounts, which now represents about 19 percent of business, evolved around 1985, David said.

The only real difficulty Dennis' 7 Dees Landscaping encountered in its first five years was keeping up with demand.

"In the early years, it was like leap frogging. It wasn't unusual to double or even triple sales. We also added employees at that rate for the first few years. We went from \$70,000 to \$200,000 the first year. Then doubled every year for about three years until we were just under \$1 million.

"When you get that big it's not reasonable to double anymore. Now we project about 20 to 25 percent controlled growth."

David attributes the company's rapid growth to strong, assertive management and sales teams.

"Our management style is not dictatorial; it's a team effort. There's a lot of potential in this market. We have to remain organized to continually increase our sales. Companies often, when they get to a certain level, start to see their percentage of growth dwindle and they settle for that. They think 'We're sitting on

Dennis' 7 Dees Landscaping prides itself on striving to continually surprise clients with added service.

top. We're as good as we can get so we'll settle for 10 percent growth. I don't think you have to do that."

Company growth slowed considerably in 1992 when a nationwide recession and a serious drought burned the area's landscape industry. "During those two years our sales were flat. The nation's economy was down as a whole, and Oregon had its first real drought. They restricted water use here for landscaping. For the first time in 17 years, we lost money. Last year, sales and profits were flat also."

This year, business is bouncing back. "I think there's pent-up demand because of the restrictions that kept business away from our industry. It will probably help us have a real good growth this year. Sales are up about 30 percent over last year."

POTENTIAL GROWTH. David said continued growth in the next few years will come only through hard work and careful planning.

"Even though the economy seems real strong, there are a lot of strong competitors in our market, and we see more coming in. We can't raise our prices at all. Our margins have been about the same the last two years."

(continued on page 28)

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Cover Story

(continued from page 26)

Part of David's growth strategy entails earning a larger share of the existing market. "There's new development, but we can't rely on that in the long run. There is always potential as we get better at what we do to pull business away from our competitors. This is an opportunity that continually challenges our company to improve."

He targeted color plantings and irrigation as the greatest areas of growth. "We do a lot of color planting. Our goal is to be the recognized leaders offering better color than anybody. The secret is to start with bed preparation, really spend money to prepare it right, and to use high quality plants. And then follow up with a really good maintenance program."

Dennis' 7 Dees holds an advantage in that David owns a 12-acre wholesale nursery, run by his wife, which enables the company to experiment with various plants. "You have to be good with color, know what plants are the easiest, which plants are the best performers. We've spent years testing combinations of various plants."

Recent strides in irrigation equipment technology may soon enable landscapers to afford the installation of a central irrigation control center and offer improved irrigation service at a price smaller accounts can afford.

"There was a study that showed prices on equipment are lowering so that the water savings will cover costs in about three to five years. Who knows? It's something that is really coming. It would allow us to control 1,000 systems throughout the city of Portland from one cen-

Initially a residential design/build firm, Dennis' 7 Dees Landscaping soon evolved into full service.



tral location. It's something our company is looking at."

The company is also considering offering interiorscaping. "I've always thought I was too busy with exterior work. But it would be a tie-in service. It wouldn't be that different. I don't know if there's all that much competition."

STRATEGIC PLAN. David's easygoing management style offsets an aggressive marketing strategy in which each employee plays an integral role.

"It's certainly not a dictatorial style of leadership here. It's a group effort. I truly delegate and rely on all the employees to participate in running the company."

The company's six managers, in charge of residential design/build, commercial estimating, maintenance, production, shop and accounting, are given full reign over their areas of expertise.

"If they have an idea they want to implement, there's really no question. They are given the authority to go ahead and make that change. The company has not relied on one person to make individual decisions to move departments forward. Really, we have empowered our management staff. They are loyal and work very well together."

Because communication and teamwork are vital to providing top service, Dennis' 7 Dees focuses on hiring employees based largely on personality traits. Technical training is important but often secondary, David said.

"I think you need to hire people who are like you. For example, I look back to when I was foreman and think, what was I like? Then I look for those characteristics in the other person. Strong work ethic, friendly and honest, personable, things like that. These are qualities

that you can't teach employees."

Dennis' 7 Dees Landscaping has been staffed specifically for servicing residential design/build clientele, which David contends takes a special knack.

"We've organized and staffed

'I truly delegate and rely on all the employees to participate in running the company.'

ourselves to properly service this type of client. If we were commercially based, we wouldn't need that much support. But when you're dealing with design/build, you need to be staffed so you can take projects through each phase and still be able to back up your guaranteed turn-around time. We have a staff of 31 people in office support. In a typical company that would be super top heavy. But it's required for our type of work."

CENTRALIZED SERVICES. The company's claim to fame is guaranteed quick estimating and design time, according to David. The key is a specialized system for selling and estimating residential jobs involving design/build.

"Our goal is to have a seven-day turn-around. That's from the time the client calls in to the final presentation. That's really fast, especially in the heat of the season. The way we can do this is the system we have set up—centralized designing and centralized estimating."

In this process, the salesperson, who is a landscape designer or landscape architect, contacts a residential client, gathers information and gives a rough estimate. "Then that person comes back, creates a conceptual plan and reviews the project with another landscape architect who simply provides technical consulting. Then it goes to a draft person who does a preliminary drawing for presentation purposes. (The company is just beginning to implement computer-aided design.)

"Then the salesperson steps back in, completes an estimate, presents it to the client and gets the client to

accept the budget.

"From there, the draft person does a final drawing, which goes to estimating. That's where we put together a firm bid. We have a very closed system for estimating so that one person estimates every project. Then the proposal goes to maintenance, and maintenance puts together a firm bid. The salesperson gives the final presentation, and if successful, signs a contract."

Because of the high degree of teamwork involved, a tight network of communication is imperative, David said. "It's taken a few years to get to that point. What we've accomplished is that the salespeople and designers are doing what they do best. They're out there talking to the client, looking for new prospects. We don't task our salespeople to be jacks of all trades."

The overall benefit of this elaborate system is quick turn-around and consistency between all projects, he added.

The company limits its design and build services to residential clients. "For commercial prospects we rely on independent landscape architects," he said.

BUSINESS PHILOSOPHY. David strongly believes in leading by example, instilling employees with a sense of shared openness, effort and accomplishment.

On a broader spectrum, he sees opportunity within the industry for heightening technical proficiency and general professionalism on both a regional and national level. As president of the Oregon Landscape Contractors Association, he promotes requiring state certification, and applauds national association efforts to provide a consistent landscape technician certification training program.

In the following interview, David shared with *LLM* his personal business philosophies, as well as his vision for the industry.

Q. What is your business philosophy?

A. I believe I should be an example of what I expect from others. My cornerstone philosophies are: Love your work and focus on quality. I would hate to compete on any level other than a quality level. That wouldn't be any fun. Believe in people—give them the right environment, then have high expectations of them. Accept and commit to goals.

(continued on page 86)

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Seed Firms Struggle to Carve Specialty Niches

Turf seed breeders hope pending federal legislation and increased NTEP trial fees will enable them to develop revolutionary varieties despite cutthroat competition.

By Cathy Hoehn

LITERALLY DOZENS OF new turf varieties are introduced annually in the United States, yet ask any seed developer what's new in industry research and the response will likely be "Not much."

The fact is, most seed companies come out with new varieties each year to maintain a competitive edge while satisfying purchase-happy consumers. But behind the curtains, research lab technicians are

working diligently to cook up revolutionary seed concoctions for a species, variety or variety characteristic not yet released on the market.

Few, if any, are optimistic that any earthshattering breakthroughs are just around the corner.

"Frankly, we're not going to see much change in the next five years. We'll just end up with more varieties," said Dennis Combs, vice president of Fine Lawn Research, Lake Oswego, Ore. "Perennial ryegrasses and tall fescues especially are dog-eat-dog. You look at the (National Turf Evaluation Program) trials, and seeds we're coming out with now compared to last year are not significant improvements. But in order to continually try to be number one in NTEP, we keep changing varieties all the time."

Some developers see the seed industry moving from a common proprietary market into a commodity free-for-all in which varieties get lost in the mass.

"I think we're about ready to start changing our tactics a bit. I think we'll end up with a commodity market where all varieties are created equal. Unless you have something extremely unique, we'll be into brand labeling rather than variety labeling," Combs said. "Ten years ago companies were making quantum leaps in improving varieties. Now it's very difficult to single yourself out from the pack."

Seed developers partially blame the lack of diversity in recent research on the extensive amount of time, money and resources needed. But they also point to loopholes in the Plant Variety Protection Act—a law enacted to prohibit a competitor from selling another firm's variety or using the variety's name on its own product—which fails to prevent the competitor from using the original developer's research and technology to produce and market a slightly altered, less expensive variety under its own name.

Other seed developers shrug off the legislative loophole as a standard in the industry. Those frustrated by it, however, curse the Oregon Seed Trade Association's decision not to endorse a proposal standing before Congress that would amend the PVP Act to require competitors to pay royalties to seed breeding firms for research used.

In other efforts to slow the proliferation of "me-too" varieties, NTEP trial officials a few years ago hiked the annual fee for submitting new varieties to \$2,000. They also attempted to prevent research pilfering by eliminating the requirement that varieties submitted in the trials must be reviewed by other seed firms, in addition to being monitored by a university or public agency.

"That's been a big sticky wicket in the national program. I come up with a phenomenal product and my competitors get to see what I'm doing. We object to the competition taking our variety and rating it. It's

Test turf plots allow breeders to experiment to produce enhanced characteristics. Photo: Seed Research of Oregon.





Growers check seed yield at Turf-Seed Inc.'s Pure Seed Testing Research Farm. Photo: Larry Kassell/Turf-Seed Inc.

hard for them to be objective," said Steve Tubbs, general manager of Turf Merchants Inc., Tangent, Ore.

Another concern of seed developers is the increase in "varieties not stated," which are those a company, usually due to a surplus, wraps in generic packaging and often markets at a lower price. The result is that buyers find the "generic" type works as well as the brand name product they used to buy, so they want it again the next year.

"It may appear to be a real advantage to end-users. But the long-term effect is that it encourages some good growers, particularly in Oregon, to get out of seed production because they can't make any money at it," said Art Wick, vice president of seed research and development for LESCO, Rocky River, Ohio.

Despite the intense competition, seed developers keep pumping out new varieties as fast as their budgets will allow.

"Quite a few entities have their own research and development groups working on the same kinds of projects. That's actually good because it gives the researchers measuring sticks to determine how good their work has been and incentive to go after somebody else to improve the product better than they have," Wick said.

FOREIGN INTERESTS. Two notable trends—foreign competition and both foreign and domestic acquisition—though seen as a threat by some, may infuse the U.S. seed industry with much-needed research dollars and resources.

Seed developers disagree whether foreign interest stirs or deflates market potential for U.S. firms.

Foreign-owned companies with deeper pockets, broader research bases and ready access to new selections of species hold an undeniable advantage, according to Don Herb, manager for Barenbrug

U.S.A., Tangent, Ore., the company that bought Normark about four years ago.

"It really helps to have somebody overseas with all those divisions in different countries. It gives us depth in breeding," he said. "We pull parenting plants from all over the world and bring them together at one or two breeding stations. It allows us to bring new, exciting characteristics to plants that a lot of breeders in the United States probably don't have."

Kenny Hignight, plant breeder for Advanta Seed West, Albany, Ore., a firm now owned by Holland-based D.J. VanderHave Corp., said Advanta's overseas counterparts enable the company to access germplasm that improves and expands its turf breeding base in the United States. "We draw from 30 to 45 different countries all over Europe and Asia. Not all the benefits are recognized yet," he said.

Another U.S. company, Interna-

tional Seed, was purchased by Van Englan, a Netherlands-based firm, and was then bought out by Zebecco Caden B.V., Van Englan's parent company, about one year ago.

Meanwhile, private U.S. firms struggle to carve specialty niches that allow them to stay atop of the national trials long enough to recoup breeding costs, Herb said. "A new variety is only good for four or five years. A lot of private U.S. breeding companies are having budgeting problems. Some of them are probably going to have to downsize a little."

Combs concedes that trying to produce a new species or variety stresses his company's budget. Fine Lawn Research's latest research endeavor, Super Nova poa supina, a little-known species in the bluegrass family introduced in the United States about four years ago, has kept the company on a financial tight rope.

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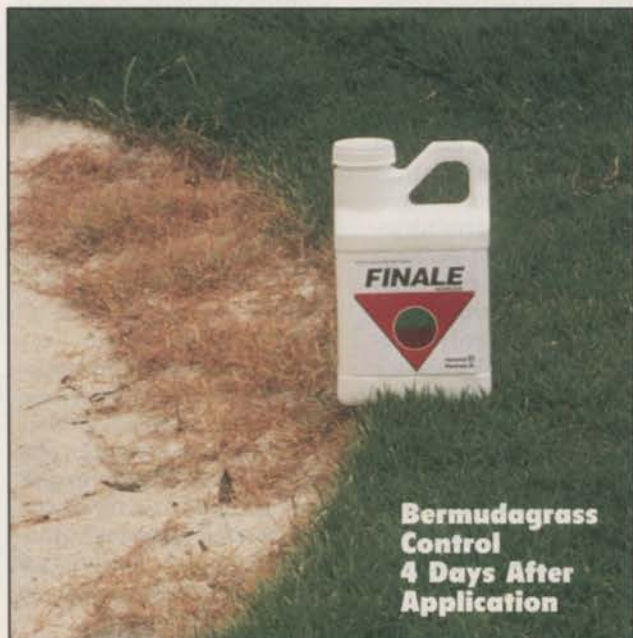
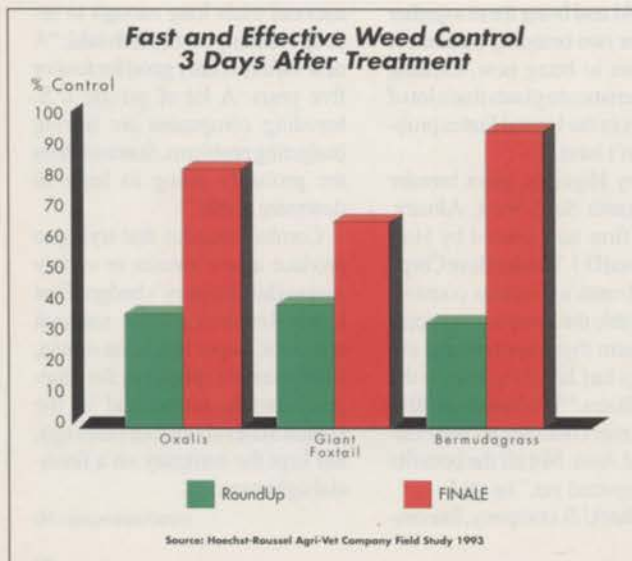
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USE READER SERVICE #99

Seed R&D

(continued from page 31)

"Poa supina will cost us more than half a million dollars. Maybe \$750,000. It may cost \$250,000 to get the zoysias to market. I can't look at too many new ideas right now. I can't afford the ones I'm doing," he said.

Contrary to Herb's prediction about American companies downsizing, however, domestic acquisitions have actually been increasing in recent years, giving those firms added advantage.

Turf Merchants, for example, was acquired by Warrens Turf Inc., Suisun, Calif. "When Turf Merchants became a part of the Warren's group in 1992, we significantly improved our position in the elite Kentucky bluegrass market by inheriting some top performing new varieties. We also improved our ability to produce and process them through our new sister company, Davenport Seed," Tubbs said.

In the same vein, Medalist America, formerly NK Medalist Turf, was purchased by members of the Jacklin family (who also share a vested interest in Jacklin Seed).

PRODUCT SPECIFICS. Each seed developer combats competition by trying to maintain an edge in its specific specialty areas. Every species has at least one or two characteristics that need improving, they say.

Overall, perennial ryegrasses, Kentucky bluegrasses and tall fescues are closest to peaking in varietal improvements. Tall fescues, particularly, have maxed out in achieving darker color and finer leaf texture, according to Ronnie Stapp, senior vice president of seed operations for Pennington Seed, Madison, Ga.

"Our company believes you can't go much further in dark color than we are right now. There's also only so much progress we can make in leaf texture on tall fescue without losing the good characteristics that we have, like drought tolerance and wear tolerance," he said.

Focus throughout the industry remains on improving drought tolerance, insect and disease resistance, reduced top growth and density among most seed varieties.

"Improvements will have to be made in the areas of disease tolerance or avoidance, and/or any other things that can be genetically engineered for improved root systems

or features of that type," Wick said. "At least we already have slower vertical growth rate bred into some varieties, so they don't grow quite as rapidly."

Steve Johnson, president of International Seed, Halsey, Ore., said slower growth is sometimes a detrimental trait for a variety. "This can be a problem for end users who, because of the time constraints and/or lack of access to equipment, plant grass under less than ideal conditions. To address this issue we are working on creating varieties that combine rapid, easy establishment and lower growth habit."

BLUEGRASSES. A prominent area of experimental work in Kentucky blues is using endophytes to develop insect resistance comparable to tall fescues. Test plots at Rutgers University have yielded disappointing results thus far, according to Virgil Meier, seed research manager for O.M. Scott & Sons, Marysville, Ohio.

"We believed that research would be a real breakthrough. Right now, the plots show a little resistance to billbugs. It would be a real help if they resisted ginger bugs and grubs," he said.

Seeking improved disease resistance seems a common theme among bluegrass developers. "We

have about as dark green as anyone would ever want to have. It's really down to a disease aspect of yield. We're also looking at heat tolerance in the southern transition zone," Wick said.

Advanta hopes to develop a high quality bluegrass with good seeding capability. "It's hard to get high quality with good seeding ability. It's the same for everyone. It will be a breakthrough when someone finds that," Hignight said.

Pennington Seed plans to enter the bluegrass market for the first time this year with Blue Star, a blend grass which begins production this year and will be available commercially next year. "We are acquiring more business in the northern part of the country. We needed a good bluegrass for mixes," Stapp said.

Doug Brede, director of research for Jacklin Seed, Post Falls, Idaho, continues working to develop a Kentucky bluegrass variety that combines winter green with elite summer performance.

"These grasses have outstanding summer performance, outdoing all other bluegrasses in density and quality during the midsummer period. But because of their northern genetics, these grasses go into a deep summer slumber. As winter approaches, they turn completely

off-color and go essentially dormant," he said.

Jacklin plans to conduct second-year testing on its line of year-round bluegrasses in 1995.

Turf-Seed Inc., Hubbard, Ore., claims to be a "couple of years away" from introducing a "new-gene type Kentucky bluegrass," said Tom Stanley, marketing manager.

Cascade International Seed Co. Aumsville, Ore., and Jonathan Green & Sons, Farmingdale, N.J., plan to jointly release three Kentucky bluegrass varieties in 1994, including an elite variety suitable for sod, a medium dark, broad-bladed variety and a medium green type with narrow leaves. Lofts Seed, Bound Brook, N.J., and E.F. Burlingham & Sons, Forest Grove, Ore., as well as other companies, also plan Kentucky bluegrass releases this year.

RYEGRASSES AND FESCUES. Perennial ryegrass joins tall fescues and Kentucky bluegrass in topping the list of turf types that have about peaked in terms of improvements, according to breeders.

"Ryegrass is approaching a plateau in improvements. New improvements will be in small increments," Wick said. New varieties offer such characteristics as increased resistance to dollar spot and red-thread diseases, fine texture and semi-dwarf growth habits.

E.F. Burlingham & Sons; LESCO; Seed Research of Oregon; Cascade International, in a joint effort with Jonathan Green & Sons; and Pickseed West, Tangent, Ore., among other companies, continue to brave the varietal tide in their efforts to offer the lowest growing, darkest, hardest, lowest maintenance ryegrass varieties. Burlingham claims the corner on hardiness, Seed Research boasts seedling vigor and Barenbrug insists it offers the most persistent ryegrass types.

Tall fescues, despite the onslaught of varieties, still offer significant breeding challenges. Thus, seed developers predict competition in that market will remain strong for at least a few years.

Mike McCarthy, director or research for Burlingham, reported there is no longer a surplus of tall fescue, and that there could actually be a shortage this year. "It's hard to tell this early in the season," he said.

Advanta Seed intends to reduce top growth for lower mowing and less watering of tall fescues, and

ENFORCING SEED PROTECTION LAWS

OREGON APPEARS TO be cracking down on perpetrators who violate seed protection regulations.

Emerald Commodities Inc., an East Coast grass seed grower and dealer, received a \$15,000 civil penalty for misrepresenting Titan proprietary tall fescue as Wrangler.

The Oregon Department of Agriculture determined that the dealership misrepresented about 80,000 pounds of Titan on the East Coast. The ODA, which turned the case over to the state Department of Justice, believes the dealership was attempting to avoid paying royalty payments to Smith Seed, Albany, Ore., which owns rights to Titan.

The case is one of the first involving the grass seed industry ever handled by the state Department of Justice, according to Bob Hawkes, administrator of the ODA's Commodity Inspection Division.

"We have put the word out to the seed industry that we are going to be turning these types of things over to the Justice Department, because they can get after it to a greater extent than we can," Hawkes told *Capital Press*, a local newspaper.

Seed developers welcome this type of news.

"Finally state agencies are getting a little tougher; not turning their heads the other way on people that don't follow the rules," said Art Wick, vice president of seed research and development for LESCO, Rocky River, Ohio. "That's a welcome change. It's tough to compete against people that are following a practice that is not acceptable and getting away with it."



Seed researchers try to discern what characteristics turf species will uphold under varying conditions. Photo: Jacklin Seed.

cultivate deeper roots for drawing from underground reservoirs. Companies offering tall fescues aim for lower-growing dwarf varieties, which unfortunately appear to be susceptible to brown patch.

"We're studying that. The com-

plication is that the pathogens vary by region. We might see a breakthrough in four to five years. We're also searching for resistance to brown patch and pythium in tall fescues," Hignight said.

LESCO is screening tall fescues

for pythium and brown patch in the Southeast. "Lower native pHs exist in Georgia and the Carolinas. We hope to bring to the marketplace tall fescues that withstand those combined stresses and survive better," Wick said.

Cascade International and Jonathan Green are offering niche varieties, from including transitional types for overseeding "to more persistent varieties that perform comparable to tall fescue in summer," said Steve Witten, plant breeder.

Barenbrug plans to launch a fine-textured, low-growing turf-type tall fescue for northern turfs that requires little maintenance. Future plans include marketing a turf-type tall fescue that repairs itself.

"Right now, none of them repair themselves very well. We're looking for one that will produce rhizome. We have not obtained that goal yet, but we have varieties in the pipeline right now that are looking better. I'm not sure if we have to go to genetic engineering right now," Herb said.

In other areas, Seed Research of Oregon claims to offer one of the few, if not the only, blue fescue.

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"It's very blue, much like sheeps fescue. There are blues for ornamentals. We've pulled that characteristic into the turf market. Our blue fescue will be available in the fall," Lynch said.

Zajac Performance Seed, North Haledon, N.J., offers a number of new fine fescues billed to provide brown patch resistance, adaptability, dark green color, density, fine texture and other qualities.

LESCO is emphasizing endophyte content and screening for improved red thread and pink snow mold resistance in sheeps and hard fescues. "Our sheeps fescue release this fall is a greenish-blue selection," Wick said.

A number of companies offer salt-resistant turf varieties. Turf-Seed's salt-tolerant slender creeping fescue is geared for use on the East and West coasts and in northern regions where salt is used on roads and parking lots to melt ice. The company also plans to release a chewings fescue for Northern shady mixes. Seed will be available in limited quantities this fall.

Quick establishment is the mar-

keting point for Advanta's newest hard fescue, claimed Hignight.

Other companies are releasing new varieties of sheeps fescue, hard fescue and chewings fescue.

ZOYSIAGRASSES. The jury is still out on how many zoysiagrass varieties the market can bear, Combs said. "We believe it's a fair amount because zoysias are very popular in the Midwest. And that can be a very big factor. But, then again, we've said that before."

WITH ALL THE varieties available on the market, how does a turf manager know which turf seeds to buy? Look at the national and state trial results, and work with a trustworthy supplier, say seed developers.

"I would encourage them to use (National Turf Evaluation Program) trials, but only look at states reporting data within their geographical area. Particularly on the first page or two of the trials on how the researchers maintained their plots," said Art Wick, vice president of research and development for LESCO, Rocky River, Ohio. "Let's say a guy mowed at 4 inches and didn't water all year. Another guy mowed 1 1/2 inches and watered to prevent wilt. They're not comparative trials."

Wick also recommended seeking out state trial results. "Some states don't bother reporting data. I would look to them for their data on trials," he said.

Dennis Combs, vice president of Fine Lawn Research, Lake Oswego, Ore., has only three words of advice for turf managers: "Trust your supplier. Nothing else. Don't be changing horses every time you think you can get a better deal elsewhere. Your distributor is knowledgeable. He can syphon details you can't get elsewhere."

Many companies are working to improve seeded zoysias which cost less, but don't establish as quickly as sprigs. LESCO is developing four varieties of seeded zoysiagrass that should "have good cold tolerance and improved turf characteristics of color and texture over common types presently available. We're still a couple years away from releases in zoysia," Wick said.

Fine Lawn Research plans to market two Southern improved seeded zoysia varieties with limited

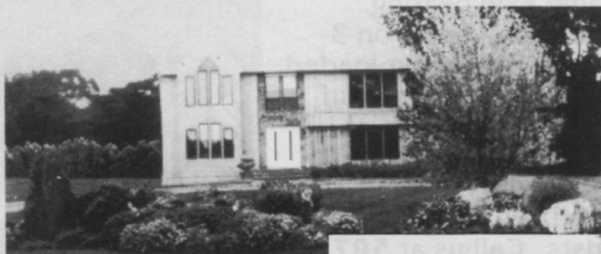
availability in the fall. "We have the harvest, but we don't know what the pounds per acre will be or how we'll handle sales commercially," Combs said.

Pennington Seed continues research on improving seeded zoysias and St. Augustine. "Our company expects seeded zoysia varieties in the next three years," Stapp said. ■

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

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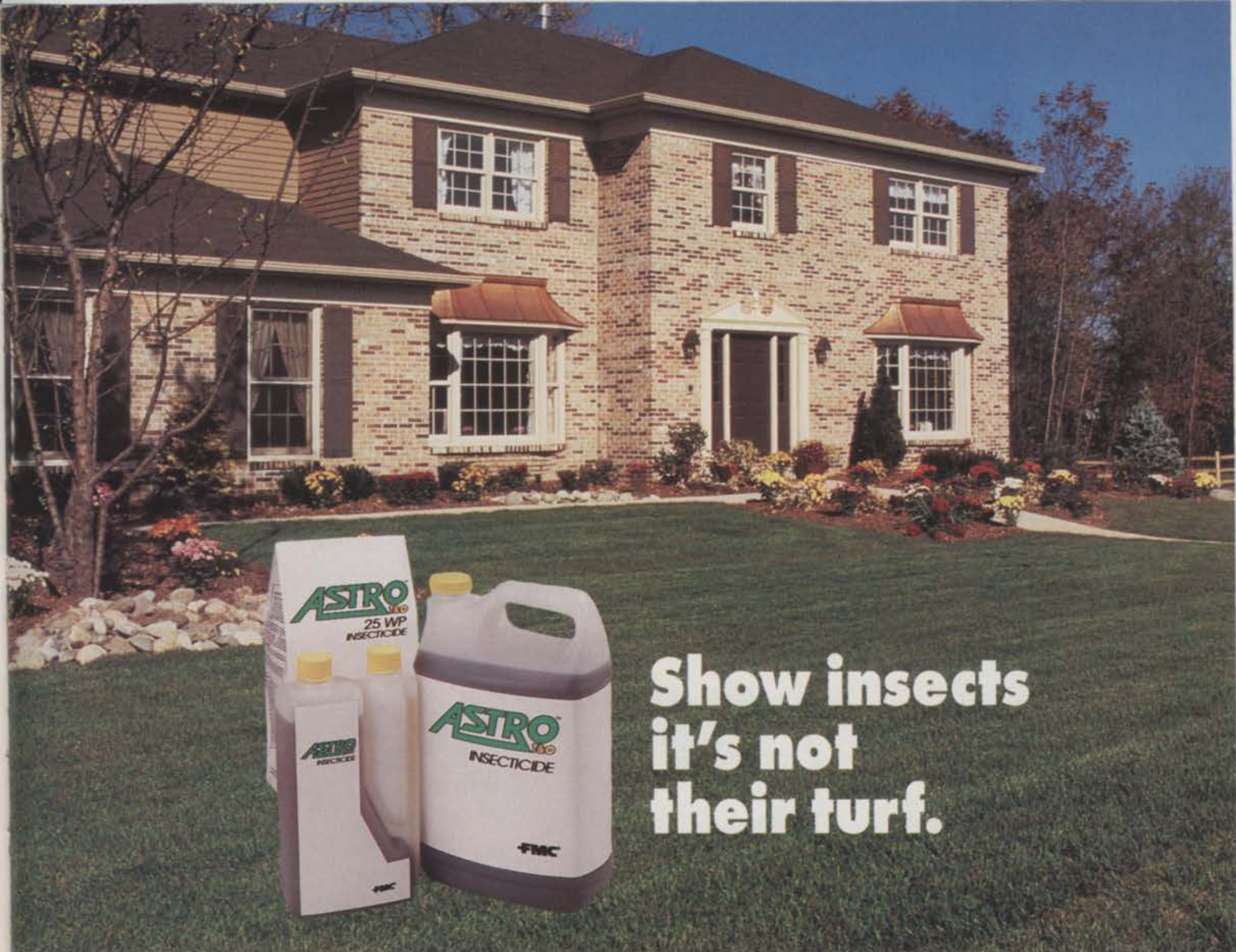


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LAWN MAINTENANCE professionals have increasingly turned to mowers that offer mulching options for at least two good reasons.

One is that they provide an alternative to landfilling grass clippings, since an Environmental Protection Agency directive will ban yard waste from landfills nationwide by 1996. Many states already prohibit it. The other is that it cuts labor and equipment costs, as well as eliminates landfill fees.

Different schools of thought exist on the effectiveness of mulching mowing systems. Maintenance operators and manufacturers of these systems did concur on one point, however: Mulching grass clippings—leaving them on the soil—is the direction in which the professional industry is headed.

DEBATING THE BENEFITS. Ron Burley, landscape maintenance supervisor at Colorado Landscape Enterprises, Westminster, Colo., said a majority of the company's mowing is mulching. "We catch the clippings on about 60 percent of the grass we cut."

He said Colorado Landscape was achieving a 40 percent increase in productivity, and a comparable reduction in the volume of waste material. Half of that economic savings he attributed to his crews not having to catch the grass; the other, to their not having to haul clippings to a master pile, which then has to be hauled to a disposal facility.

He did not regard mulching mowers, or mulching kits and attachments, unduly expensive. "Generally they'll probably recover their cost in a month."

Mulching units range in cost from about \$3,000 for top-of-the-line, 36- or 47-inch dedicated commercial mowers to \$25 for simple conversion kits.

Colorado Landscape crews employ high-lift blades, which Burley compared to "Bobcat blades." These enable crews to convert their mowers to mulching capability.



Snapper's double-cut mulching system (illustrated above) cuts grass into extremely fine pieces, which fall back down into the turf. The clippings then quickly decompose into a natural slow-release fertilizer, according to the company. Snapper's NINJA mulching system (left) double cuts clippings with each pass of the blades. The bottom blade determines height of cut and has a special air-lift to throw clippings into the path of the second blade. Illustrations: Snapper.

"A lip on the back side of the blade floats the grass up into the deck. Then the grass comes back down and the blade hits it again. A blade set up for, say, a 48-inch mower costs about \$20. They go to

something like \$30 for a whole set of blades."

But complaints from maintenance companies persist: You can't mulch wet grass, mulching decks don't chop grass fine enough to drop

through the live stand into the soil, dense high-end residential turfs require removal of clippings and mulching mowers spew the grass bits on concrete during slowdowns or turnarounds.



Mulching Mowers Clip Costs For Contractors

Lawn maintenance professionals debate the benefits of using mulching mowers, but most agree the savings in labor and landfill fees alone make it a viable option.

By Bob Gitlin

Burley cited a mounting demand from clients that clippings be returned to the soil, although most clients still only require that the lawns stay healthy and green.

If he's able to keep properties looking good with a mulching system, he goes ahead and does that. But aesthetics are a ruling consideration. "If the grass is thick enough to warrant us to catch it, we do that, because the mulching would not look good. We still have the option of going to the landfills."

According to Burley, "There are two benefits of mulching. One, it saves us time, and therefore money; and two, it's good for the environment. In that order."

Going full tilt across a dry lawn, mulching mowers (whether dedicated or retrofitted) do a good job

whipping cut grass into fine pieces. But once you stop — say at a sidewalk, apron or driveway — the momentum is broken and the clippings under the deck drop out.

"In smaller areas, we catch clippings because of the mess it makes on sidewalks and bay areas. On the other hand, in wide open areas, we're more likely to mulch."

Yet other factors discourage mulching.

For instance, cool-season bluegrass in spring grows at double-time. Mulching mowers can't handle profuse turf — not at the rhythm of what many maintenance professionals regard as the standard mowing cycle in the commercial industry.

Colorado Landscape waits until summer dryness sets in and root

systems go dormant, to start mulching, a practice Burley favors.

"Mulching does replenish nutrients in the soil. It's a big plus," he said.

Howard Mees, vice president of operations at Environmental Care Inc., Calabasas, Calif., estimated mulching had created a 20 percent productivity boon to ECI.

"We've educated the general public to believe that picking up clippings is the best way to go," Mees said. "Five years ago, mowers came on the market with some of the mulching units. We had played with it ourselves, just blocking off the chutes, but now there are technological advances to the blades... throwing the grass up in the chamber and cutting the clippings repeatedly. We started experimenting with them. Mulching mowers

started making inroads for us."

Some regions favor mulching more than others. ECI's Las Vegas operation is phasing in an all-mulching mowing fleet.

Mulching has made managing turf areas even more critical, he added. His foremen have to be on the lookout for mulching mowers that leave clumps lying on the turf.

"You still have to go back in and rake or blow certain areas. But that doesn't equal the cost of going out and dumping the clippings into another medium to be hauled away, or the increased dump fees, plus the emphasis on landfills not even accepting the material anymore."

Bruce Wiley, division manager of landscape maintenance at Yardmaster Inc., Painesville, Ohio, said his seven-day mowing cycle makes mulching impossible with current technology.

"Every Monday we cut the job. Mulching mowers only work if grass is a certain height. If the grass is very tall, you're cutting more than an inch and creating more cuttings than what that mulching mower can handle. To use a mulching mower in some cases you may need to cut on four- or five-day intervals."

There's a reason that \$700 or \$800 mulching mowers have taken off in the residential market. They work ideally in a residential situation. "If the grass needs to be mowed on a Tuesday instead of a Thursday, Joe home owner goes out and cuts it." Commercial operators don't have that luxury, he said.

"We have found that the under-the-deck mulching-type mowers do not work properly throughout the entire year," said Bob Grover, branch manager for Northwest Landscape Industries, Tigard, Ore. "Through most of the spring and a fair amount of the fall, the conditions aren't right for proper mulching. We get a lot of clumping and it creates problems. We return a fair amount of clippings, but not through newfangled 'mulching' mowers."

His crews return clippings on

MULCHERS ARE NOTHING NEW

more than half the turf they maintain, either side-chuting or using a reel mower. They go back with backpack blowers to disperse clippings evenly.

The Pacific Northwest is too damp most of the time to support mulching mowing. Between frequent rain and morning dew, wet blades resist the chopping action.

"There is tremendous pressure to not pick up grass clippings because of the cost and problem with disposal. Horticulturally, it's better to leave the clippings. In theory, if we could make it work and not have it cause a cosmetic problem, we would be all for it."

Grover likes the convenience of the conversion kits, which allow for seat-of-the-pants changeover decisions in the field. "You can do either. You can do mulching. And then you can take the mulching pieces off and you can bag or side-chute. That is probably the direction we'll end up heading."

His operators generally bagged or side-chuted in the spring. This summer, when it's drier, they'll use the mulching equipment as much as

MULCHING MOWERS actually were introduced in the 1970s by Bolens Corp., a company which determined that immediately returning grass clippings (which are 85 percent water) to the turf made sense and would save maintenance professionals money.

"They called it the Dome System, and it was an effective mulching mower," said Bob Tracinski of the John Deere lawn and grounds care division, based in Raleigh, N.C., which sold the Bolens mower line. "Our dealers said the mowers did a wonderful job."

But nobody bought them.

"Back in the 1960s and '70s, people had this idea that if you put the clippings back in the lawn you would add to a thatch problem."

The moribund marketing idea of mulching has been resuscitated in recent years, due to pending and existing landfill restrictions.

"Around 1989 it became apparent that this country was facing a crisis. States began passing laws forbidding dumping lawn debris into landfills," Tracinski said. "Twenty percent of everything that goes into a landfill is lawn debris. Half of that, or about 10 percent of the total stream, is grass clippings."

There are now about 5,500 landfills in the United States. "By 1996 half of those, by EPA estimate, will go out of business because they can't afford to meet the new regulations. And it's getting tougher to license and bring onstream new landfills, because nobody wants them in their backyards," Tracinski said.

possible. Finally, when it cools off and starts to rain again in the fall, they'll go back to bagging or side-chuting.

Though one maintenance professional said only a fraction of a percent of clippings comprise soil-returnable nitrogen, Grover contends

that places where his crews have to remove clippings require at least one additional fertilization per year.

CONVERSION OR DEDICATED?

The Toro Co. began offering its Pro-Line Recycler deck in place of a dedicated mulching mower, due to cus-

tomers' calls for increased versatility.

"It's all conversion decks for us now," said Jim Wallace, spokesman for the manufacturer. "The convenience of using the Recycler deck (on Toro's ProLine), but also being able to do regular mowing

(continued on page 46)

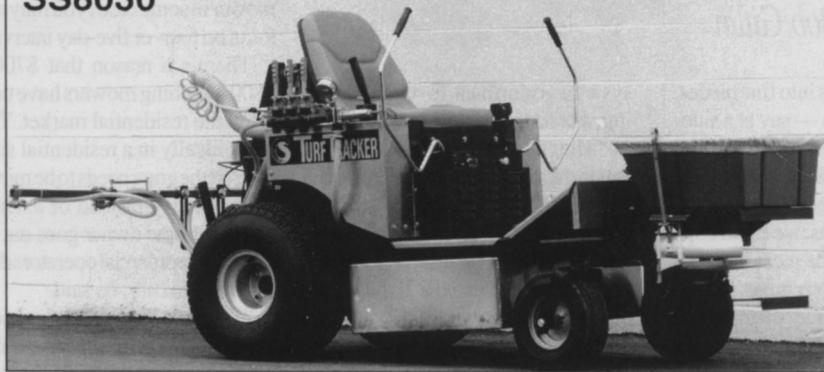


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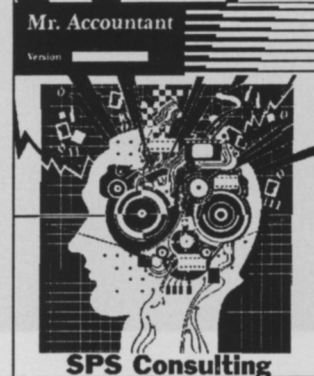
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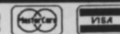
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Mulching Mowers

(continued from page 42)

was so evident that we've stopped making a dedicated mulching mower for the commercial market that doesn't offer the flexibility of the mulching deck."

Conversions offer undeniable advantages, said John Crowson, national sales and marketing manager at Scag Power Equipment. "You maintain that versatility. The guy might not want to mulch. He can side discharge or bag. Decks that can be converted have a pretty significant advantage over decks that can do nothing but mulch."

There are always going to be certain conditions — grass too tall from not being maintained frequently enough, or exceptionally wet — where the dedicated mulcher poses a problem. Upscale residential turfs, to retain their finely manicured finish, require bagging and removal of clippings.

Bob Tracinski, a spokesman for the John Deere lawn and grounds care division, based in Raleigh, N.C., said mulching decks offer

turf managers crucial flexibility.

Engineering mulching decks is like aerodynamics.

"You have to have good suction to make the grass stand up for a nice, uniform, even cut. Then you've got to hold the clippings in the chamber long enough so they're chopped several times to make small pieces, he said. Then you have to have a strong downdraft to blow those tiny clippings into the turf, where they disappear, so they're not lying on top, looking ugly and turning brown."

There are legitimate times when the commercial operator would want to use a rear bagger to collect clippings. In fall, if you have a dedicated mulching mower you're stuck, Tracinski said. "You'll distribute bits of leaves all over your lawn, which is not good for it."

The conversion option enables the operator to put a rear bagger on, collect the chopped-up leaves in the fall, and either use them in a compost operation or as a very inexpensive mulching material around trees and under shrubs.

Despite the strong sway toward

conversion decks, one manufacturer representative isn't necessarily sure that's the way the industry is heading.

"Regular mowers that convert to mulching are on their way out," said Chris Sharp, marketing manager for Yazoo Mfg., Jackson, Miss.

Instead, Sharp said, mulching mowers with adjustable blades "can cut in regular mulching conditions or be adjusted for heavy, wet grass, which is what a lot of contractors look for. We've had a lot of success with it." Yazoo began marketing its Vari-Mulch mower last year.

ECI's Mees sees the dedicated units, which also allow for versatility, to detach the mulching deck, as the best break to the corporate wallet. "You save money on the machine itself, because they've now put it into their manufacturing process; you don't have to buy the mounting kit and the catcher for \$250."

Regardless, any kind of mulching mower beats side-chuting, Tracinski maintained. "County extension agents tell people even a side-discharge mower from 20 years ago is a mulching mower if

you mow often enough and cut only a third of the blade," he said.

"But Texas A&M researchers compared doing that to using a specially designed mulching mower, and after three years they found the lawns mowed with the specially designed mulching mower were greener and healthier."

The thin layer of composting, achievable only with the special cutting action of the mulching decks, discourages development of fungus organisms, he said. "Most lawn diseases are believed to be caused by some kind of fungus."

Some lawn and landscape maintenance companies have gotten into the sideline of bagging and removing clippings, in effect making money twice on handling green waste. They are resisting the trend toward mulching mowers.

But the mulching momentum continues, fueled by continuing public education and the relentless squeeze of political change.

The author is Contributing Editor to Lawn & Landscape Maintenance magazine.

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environmental stewardship and reduce their chemical costs.



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The *environmental age* weed control program being used by Roger Albrecht is typical of progressive turf professionals.

Albrecht is president of Nitro-Green Corporation, which has 38 lawn care franchisees scattered over 15 different states, and he manages two locations in California for his own hands-on experience.

"Our goal is to eliminate all broadcast spraying of herbicides on the ornamental turf we manage, and replace it with spot treatment as necessary," says Albrecht. "We want to be proactive on environmental issues and be able to assure our customers that we are using the absolute minimum requirement of chemicals."

Albrecht goes on to explain that such a program takes time to implement because

the turf needs to be so healthy and thick that weeds cannot easily germinate.

"The elimination of the broadcast applications of pre-emergent herbicides is the critical step," says Albrecht, "because, no matter what, some crabgrass is going to appear, and since crabgrass is a major cause of complaints, we must be able to eliminate it fast with no discoloration."

Trimec Plus provides the safety net that enables Albrecht to eventually eliminate broadcast applications of pre-emergent herbicides. "We have absolute confidence in Trimec Plus to handle any crabgrass or nutsedge that shows up," says Albrecht.

And, of course, the same spot sprayer filled with Trimec Plus that Albrecht uses to control crabgrass and nutsedge also controls the other grassy and broadleaf weeds that can germinate throughout the year. "Having *one* herbicide for *all* of our spot treatments is a major factor in our program," says Albrecht.

But if Trimec Plus is ideal for spot treatments, it is also unsurpassed for broadcast applications when the need exists. Listen to George Toma, the executive turf consultant for the Royals, Chiefs, and NFL:

"My son, Chip, the groundskeeper for the Truman Sports Complex, used broadcast applications of Trimec Plus on the out-of-sight, unirrigated perimeters of the complex which was loaded with every conceivable weed, and Trimec Plus

absolutely took out everything except the bluegrass."

According to Toma, it would have taken four different selective herbicides to do the job that Trimec Plus was able to do . . . but even more important, Toma says that Trimec Plus did a better job on all of the individual species than a narrow spectrum selective could have done.

Now also approved for use in zoysia and tall fescue

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HERBICIDE 771-293

USE READER SERVICE #68

Price, Performance

Still Top Pesticide Priorities

IN MARCH, *Lawn & Landscape Maintenance* magazine asked manufacturers and researchers to report on industry developments and trends. This month, we asked pesticide users to explain how they felt about industry trends and whether new products were meeting their needs.

In general, pesticide users reported little to be excited about in terms of recent new product offerings, but most said they are willing to test new products after careful evaluation on a limited number of accounts.

Phil Fogarty of Crowley's Lawn Service, Cleveland, said he listens to research findings from independent sources at trade shows and also tries to find a peer in the industry who has used the product.

"I never make a major purchase of a newer product until I've compiled information from independent researchers, suppliers and someone who's used it," he said.

Fogarty also believes it's his responsibility to participate in Experimental Use Permit programs whenever possible. "When people complain that the products coming out don't fit their needs and they don't become part of the process and don't explain what it is they want to see, then they're not helping the situation. They're just complaining," he said.

"If someone has an opportunity to use an EUP then they owe it to the industry to be involved."

Most users agreed that performance tops the list of priorities for new pesticide products. But cost is always a factor, as is environmental impact.

By Julie A. Evans

John Buechner, director of technical services for Lawn Doctor, Matawan, N.J., also participates in EUP testing and studies field trials and university testing results. But that's not enough, he said.

"My philosophy is that we can look at university test plots under controlled conditions, but I like to see how the product does with home owners under different types of cultural care."

At TruGreen/ChemLawn in Columbus, Ohio, new products undergo rigorous testing at the company's 50-acre turfgrass plots. "We're involved in product evaluation long before EPA registration," explained Roger Yearly, vice president of health, safety and environment for ServiceMaster Consumer Services. (TruGreen/ChemLawn is a ServiceMaster company.)

"We look at many new products — any new molecule that comes down the pipeline. This may go on for two or three years before we

apply a new product on a customer's lawn," Yearly said.

Daryle Johnson, president of All American Turf Beauty, Van Meter, Iowa, said his company will use newly registered products on a small number of its accounts. "We may use it on one route for a year so we can see how it works under our circumstances," he explained.

Most users agreed that performance tops the list of priorities for new products. But cost is always a factor, as is environmental impact.

"We'll use a product that is less effective (than a competing product) if it offers significant improvement in risk reduction," said Dave Murphy, president of Green Valley Co. located in the Kansas City metropolitan area.

Murphy also said his company is waiting for more products that use less active ingredient and products that present less risk to the environment and to any incidental users such as people and pets.

CHANGING STRATEGIES. Blanket applications of pesticide products have seen better days, thanks in part to improved products that provide extended control at reduced applications rates; as well as new application techniques that emphasize spot treatments.

This year at TruGreen/ChemLawn, the company is implementing a dual line system of application in which the applicator can fertilize the entire lawn and selectively target those areas that receive the herbicide. According to Yearly, the application system has two separate tanks — one with fertilizer only and another with a herbicide.

The company plans to implement this method nationwide. The company also downsized its vehicles so they carry less liquid.

Ed Laflamme, president of Laflamme Services Inc., Bridgeport, Conn., said his company switched from blanket applications to an enclosed method which includes a wand system that sprays a very fine mist of concentrated chemical, 12 inches in radius, directly onto the targeted weed.

"It's such a simple technology but it's allowed us to reduce our chemical use by more than 50 percent," Laflamme said. "Our chemical costs went down, but our labor costs increased. It's costing the same, but the environment is winning," he said.

Laflamme said he uses few



postemergent products. "We're preventive people. I don't want to use a postemergent unless I have to."

Roger Albrecht, president of Nitro-Green Corp. in Fairfield, Calif., said his company no longer tank mixes pesticides. Instead, most of the company's franchises use an injection system for weed control at the time of fertilization. The change began about four years ago, but "more of our guys are switching over because we've perfected it."

Injecting pesticides is the preferred way to go, he added, because the applicator can be more selective, save time and money and be more kind to the environment.

Murphy has discovered another strategy for reducing pesticide use — wetting agents.

"With wetting agents, we can

go with the lowest rate recommended on the label and get better control than if we were to use the highest rate for broadleaf without the wetting agent. It doubles the effectiveness of the (herbicide) product."

2,4-D. Most companies appear to be using 2,4-D, despite the product's stormy relationship with the consumer press and environmental activists.

"The only time 2,4-D is a problem is when *60 Minutes*, *USA Today* or someone in the consumer press writes a negative article, making claims that may or may not be true. People are interested for a couple of weeks, then the interest fades," said Albrecht.

His company's overall reduc-

tion of pesticide use has included cutbacks on the amount of 2,4-D it uses. He does believe that 2,4-D alternatives are effective.

TruGreen/ChemLawn does not use 2,4-D but, Yeary said, he's not aware of any other major lawn care company that has stopped using the product. The company (ChemLawn) entered into a study with the National Cancer Institute seven years ago and agreed to stop using the product, at least until the study is complete. The purpose is to determine long-term health effects of the product on ChemLawn employees.

"It's frustrating for us because the study has been under way a long time. We had hoped to have (study) results by now," he said.

Still, Yeary said, his company has achieved effective treatment

Improved products providing extended control at reduced rates has resulted in fewer blanket applications. Photo: Monsanto

without using the product.

"What is different for those who made the switch is that you don't get the rapid curl of weeds that takes place with 2,4-D; things don't happen as quickly so there's that sense that you're not getting as good of control. But if you look at research plots, none of the people who express dissatisfaction (with non-2,4-D products) can tell one from the other after three or four days."

PACKAGING IMPROVEMENTS.

"Packaging is incredibly important to me," Fogarty said. "I'll pay more for effective packaging."

Fogarty especially appreciates

water soluble packaging because it has "no dust, no muss, no fuss," he said. "It's a great way to handle a dispersible granule."

But water soluble packaging has one downfall that Fogarty and others would like to see changed. It comes in sizes too large for smaller jobs. "It doesn't allow you to mix to the amount you need. The packages are premeasured for 100 gallons. If you only want to measure for 75 gallons, what are you supposed to do?"

Buechner said the larger size packets prevent Lawn Doctor franchisees from using them because they apply pesticides with small, interchangeable tanks.

Yeary added that not only were packaging sizes inappropriate for smaller jobs, but the cost remains too high.

Murphy agreed, adding that his employees are fully equipped with safety gear appropriate for other application methods. "I don't think we're going to be willing to forego the cost of that specialty packaging. Right now it's too expensive, when I can protect my people at a fraction of the cost using equipment they have to wear anyway."

In the area of plastic bottles, Fogarty said, manufacturers should either help users recycle them or make them returnable and reusable. He



Granular products are often the formulation of choice among today's contractors.

also would like to see tip-and-fill containers with measuring spouts available for all size bottles.

ALTERNATIVE PRODUCTS. Most contractors have been willing to at least try alternative (i.e., non-chemical) pesticide products, including nematodes, but few find the results encouraging.

"Biological products are not in our program," Buechner said. "We've taken a look at some of them like nematodes and some of the fatty acid weed controls, but we haven't felt they've given us the results that we'd like."

Yeary said his company has been looking at biological products for at least 10 years, but hasn't found many that it would consider effective. "We've used Bt toxins (*Bacillus thuringiensis*), but it's been for limited treatment for insects of trees, not lawns. We'd like to find use for biological products, but none have surfaced that have reliable results," he said.

Albrecht said Nitro-Green franchises don't use biologicals but they do use a lot of safer soaps in place of insecticides with good results. "We spray very little insecticide products," he said. "We use mostly horticultural oils and safer soaps in our tree spray applications because they're safer for the applicator as well as for people and pets."

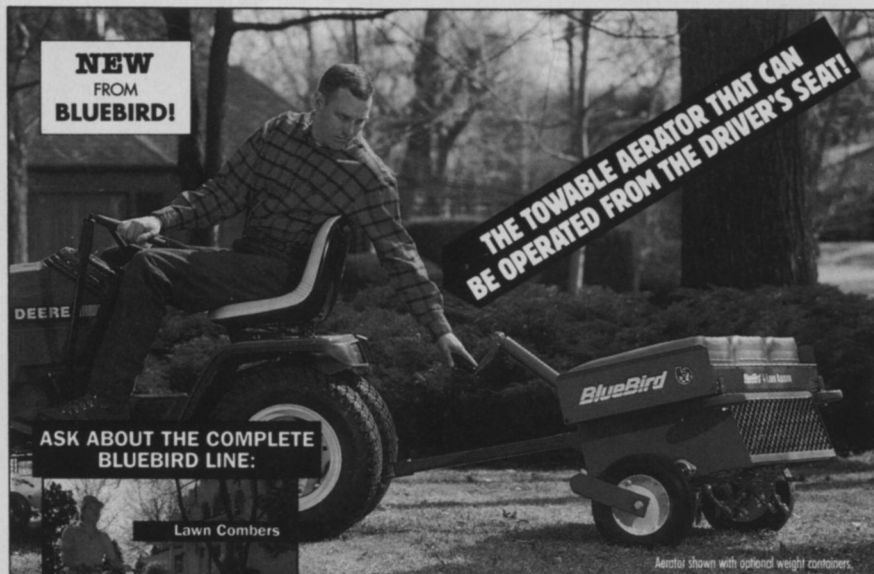
The trade-off, Albrecht said, is a shorter window of control. The company has moved away from large tree spraying because of problems with chemical drift.

Safer soaps have not proven effective for Johnson and All American Turf Beauty. "Safer soaps won't kill grubs and they won't kill sod webworms. People keep talking about biologicals, but there aren't any yet that deal with our problems effectively."

According to Fogarty, home owners still perceive biological products such as nematodes to be a chemical of sorts, minimizing their appeal as an "environmentally safe" product. "The image isn't good, the cost isn't there and they have nowhere near the efficiency of the current status quo," he said.

Fogarty does use horticultural oils on plants because they don't adversely affect predator pests, he said. "If you use too much chemical pesticides on plantings you can hurt the good insects as well as the bad. By using oils, I've seen good results in control without the negative aspect. And they're not more expensive to implement."

IPM. Integrated pest management has become a constant in the lawn and landscape maintenance



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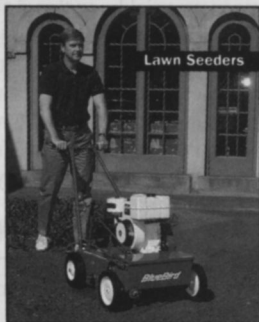
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USE READER SERVICE #85

vocabulary, but companies are somewhat divided on the concept's definition.

Fogarty would like to see a change in how people define IPM. "People should stop thinking of IPM as integrated pest management and start thinking of IPM as intelligent plant management," Fogarty said. "There should be more emphasis on plant health than on pests. If you manage the plant hardiness, then you can stop worrying about pests."

Yeary also said he doesn't like to use the term "IPM." Instead, his company prefers the phrase targeted pest management, which means "you only apply pesticides in areas where the pest is either known to exist at the time, or based on prior history, has a high probability to exist during that same growing season."

Not everyone is ready to toss out the "IPM" moniker. "The kicker is that some want to change IPM to plant health care," Buechner said. "A lot of time was spent informing people about IPM, and now they want to change the language. My feeling is we haven't done a good enough job educating the public about IPM. Why start confusing customers?"

Buechner cautioned that IPM is a much over-used buzzword. "People don't reflect on what they're saying. To me, IPM is the integration of different levels of management, whether it be cultural, chemical or biological. To a lot of people, IPM means pesticide as a last resort. I don't think that's true IPM."

"In the strict sense of the word, we don't follow IPM," Johnson said. "We define it as reducing the amount of chemical as much as practical. We spot spray (for example) in some cases rather than broadcast. But it's difficult to do a tremendous number of lawns and follow the strict definition of IPM."

WISH LISTS. Pest control users came up with a variety of responses to the question: if you could ask a manufacturer for improved product or service, what would you ask for?

Murphy said he'd like any new product to have a shorter half-life. He'd also want it to have low toxicity to fish, beneficial pests, people and pets. "And of course, I'd want it to be affordable," he said.

In the case of insecticides, Murphy said, he would expect a new product to control a wide range of insects without damage to the plants. For herbicides, he'd like to see products provide control on a wider range of plants.

"There are new products now that are very effective but they can't be used on this kind of grass or that kind of grass," Murphy said. "It's hard to use so many different products; there's no room on the truck for the driver."

Johnson had a different kind of request. He'd like to receive "meaningful" information sheets to pass on to customers in place of MSDS sheets. "Those are meaningless to the customer."

Sam Farison, Farison Lawn Care, Louisville, Ky., would like to see newer products in grub control, perhaps some that are safer to the environment and the user, he said.

At Lawn Doctor, Buechner said he'd like to

see the trend continue toward less active materials in formulations. "That's a positive selling point for environmental reasons, and it's positive in terms of employee exposure. As long as you're getting the same results, that's acceptable."

He cited some of the newer herbicides which call for 0.5 to 0.75 pounds per acre, a significant drop from some other competitive products.

One thing on many pesticide users' wish lists is speedier registration. In California, Albrecht has almost resigned himself to the fact that some products will take 10 years longer to reach users than in other states. But late registration is actually harmful to the environment, he said.

"The frustrating part is that there are new chemistries out there and new compounds which are safer for the environment and more effective, yet we have to use the old stuff that's not as safe and effective. It's politics, but it makes you wonder why," he said.

Another problem is that some manufacturers don't want to spend the additional money to meet California's requirements, Albrecht said. "Many times they don't feel one state is worth the added investment, when they're reaching 49 others."

The author is a Contributing Editor to Lawn & Landscape Maintenance magazine.

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USE READER SERVICE #89

Today's Edgers, Trimmers

Offer Versatility, Flexibility

Lawn maintenance professionals today call for lightweight, yet durable edgers and trimmers. Manufacturers have responded with an array of versatile tools geared for specific commercial uses.

AS WITH other outdoor power equipment markets, manufacturers of edgers and trimmers are continually fine-tuning their equipment offerings to meet market demand. Today's lawn and landscape professionals request tools that are not only more versatile, flexible and powerful, but which can provide added benefits without causing a huge increase in price.

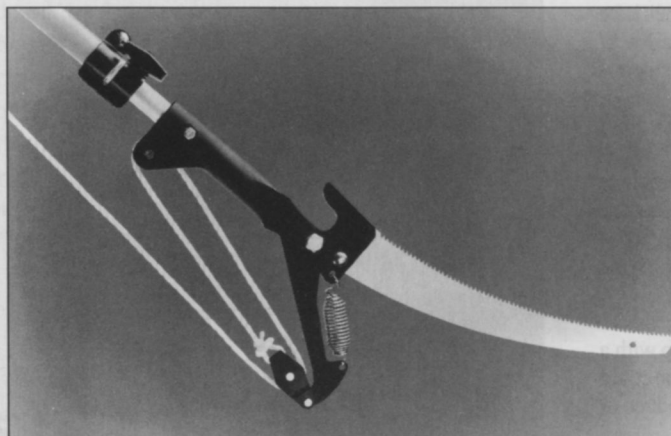
The burgeoning competition in the edger/trimmer arena is keeping prices in check, but is also providing a broad range of machines addressing specific contractor needs for edging turf and trimming trees, shrubs and bushes.

Because of public concern about the noise levels of some outdoor power equipment, as well as the emissions of their engines, manufacturers are concentrating on offering tools with baffled mufflers for quieter operation; more powerful engines; durable parts for longer life; and lighter weight casings, usually constructed of aluminum, for reduced overall product weight. Other popular features include quick-start systems, cutting depth adjustments, low-vibration capability and comfortable grip.

Following are some of the latest product offerings from a variety of manufacturers:

AMES' POLE TREE TRIMMER

A fiberglass/aluminum pole tree trimmer from Ames Lawn & Gar-



Ames tree trimmer

den Tools is billed as lightweight, yet strong enough to cut through most limbs and large branches.

With a telescoping pole that can extend up to 12 feet, the tree trimmer has a 15-inch saw blade with a two-position-angle adjustment ideal for cutting large branches. It also features a heat-treated, high-carbon steel lopper blade, easily operated by spring and nylon pulleys, to prune limbs up to 1 inch in diameter.

Circle 150 on reader service card

NON-SLIP ADJUSTMENT FROM ECHO

The PE-2000 hand-held edger from Echo contains many of the same features as the PE-2400, but is a pound lighter for easier portability.

The PE-2000 incorporates a flex-

ible, 4-layer drive cable for extra durability, an 8-inch blade, extra-large wheel with solid rubber tread and a 14.2-ounce, see-through fuel tank. A pivoting mechanism allows fast, easy, non-slip adjustment to any cutting depth.



Echo PE-2000 edger

The PE-2000 is powered by a 21.2 cc engine with Pro-Fire® electronic ignition and a purge pump-equipped, all-position diaphragm carburetor for fast starts.

At 12.2 pounds, the tool is easy to transport and operate.

Circle 151 on reader service card

VERSATILE GREEN MACHINE LINE

Green Machine, a division of Mark Machine, offers the Expand-it System line of gasoline- and electric-powered trimming tools ranging in application from light, residential work to heavy-duty commercial projects.

The machines incorporate 2-cycle engines from 24.1 cc to more



Green Machine trimmers

than 40.6 cc. The machines are heavy-duty, yet easily transportable and designed to meet a variety of trimming needs.

Circle 152 on reader service card

HUSQVARNA 'FAST START' MODELS

The Model 120R and Model 120L trimmers from Husqvarna are powered by 20 cc (1.2 cubic inch) engines and feature the lowest weights in their class: 11.2 pounds and 10.1 pounds, respectively. Each features a muffler molded of an aluminum alloy instead of the more commonly used stamped steel, resulting in a low noise level of 91 dba.

The trimmers feature a one-button injection starting system which enables the operator to start the machine by pressing a button and pulling the starter cord. No choking or half throttle is necessary; the blade never rotates during starting.

The 120L offers handles designed and placed with the operator's comfort in mind. A loop

A close-up photograph of dark, rich soil, possibly compost or topsoil, showing its granular texture and small clumps. The soil is framed by a red dashed border. The text "FEEL THE EARTH MOVE" is printed vertically in white, bold, sans-serif capital letters across the center of the soil.

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These new skid-steers really perform. Four models—17 to 49 horsepower. All driven by the most trusted name in diesel engines—John Deere.

The new 3375 measures a mere 36 inches wide. Just the right size for close-quarters maneuvers.

The other loaders in the line are just what the doc ordered for construction, landscaping and industrial jobs. Thanks in large part to vertical lift

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booms that keep bucket reach nearly the same at both ends of the cycle, stabilize the

load, and make it easier to target the center of a truck bed when dumping.

But the 4475, 6675 and 7775 have a host of other features you'll want to get your hands on. A big-man operator station makes entry and exit easier. While an overhead electronic instrument panel digitally spells out vital machine functions.

Boom arm frames and cast-iron axle housings are extra strong for years of reliable performance. Dual, endless drive chains rarely need adjustment. And "all-around" engine access makes servicing a breeze, even when the loader booms are down.

Look into a new John Deere skid-steer loader today and watch new levels of productivity unfold before your very eyes.

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Two trencher sizes — 3- or 4-ft. boom. Great for laying wire or pipe. Both have double standard, anti-backflex 5-1/4 to 6-in. adjustable chain. Adjustable, replaceable spoil auger. Fits 4475, 6675, 7775 Skid-Steer Loaders.



Repair it

Cold planer quickly cuts up asphalt or concrete damaged by cracks, heaves and potholes. Pivoting center drum. Hydraulic depth, tilt and side shift. Fits 6675 and 7775 Skid-Steer Loaders. Requires optional hi-flow hydraulic kit.



Drill it

Hydraulic augers are highly productive tools for sinking posts, planting trees and shrubs. Augers are available in eight sizes, 6 to 36 in. wide. Extensions come in 14- and 24-in. widths. Fit 4475, 6675, 7775 Skid-Steer Loaders.



Load/drop it

Four-in-one bucket is the landscaper's and contractor's bucket of choice. Digs, dozes, bottom dumps, loads and grapples. Bucket edge has holes for mounting replaceable cutting edge or bolt-on teeth. Fits 4475, 6675, 7775.



Break it up

Hydraulic breakers save time in asphalt/concrete demolition. Slim design for access to tight spots. Chisel point, Quik-Tatch™ bracket, demolition kit included. Two models—150 and 300 ft-lb of impact. Fit 4475, 6675, 7775.



Rake it

Heavy-duty 6- and 7-ft. landscape rakes manually pivot 180 degrees for push or pull operations. Flip down grader blade, dual adjustable caster wheels, 14-in. left and right manual offsets available. Fit 4475, 6675, 7775.



Carry it

Forestry jaws turn a two-man job into a one-man operation. Hydraulically lift, carry and place balled trees and boulders. Transport several trees at a time. Two fork lengths—66 and 72 inches. Fit 4475, 6675, 7775 Skid-Steer Loaders.



Spear it

Bale spear lets you lift and easily carry round bales up to 5-ft. wide. Tapered design reduces drag resistance on removal from bale. Strong, high carbon steel spears. Quik-Tatch™ mounting. Fits 4475, 6675, 7775 Skid-Steer Loaders.



Prep it

Rockhound landscape rake grrooms and grades as it removes rocks, debris and obstacles. Also breaks up clumps and aerates to a .75-in. depth. Dumps to empty. Three sizes available—48-, 60-, 70-in. Fits 4475, 6675, 7775 Skid-Steer Loaders.



Grapple it

Scrap grapple bucket is ideal for recycling operations. Solid web design between grapples protects cylinders and adds strength. Use with optional non-pneumatic, replaceable-section AirBoss tires. Fits 4475, 6675, 7775 Skid-Steer Loaders.



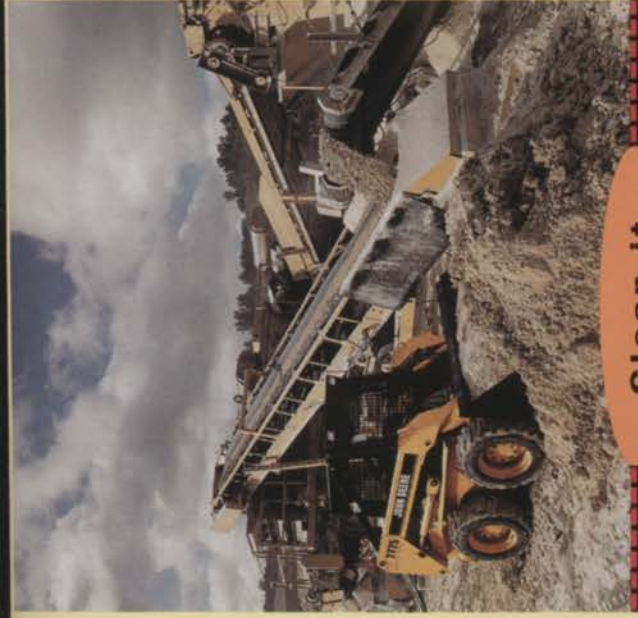
Transport it

Pallet forks can be used to load pipe, conduit, lumber, stone, brick and other building materials. Available in three sizes—36-, 42- and 48-inches long, with variable fork spacing. Fit 4475, 6675, 7775 Skid-Steer Loaders.



Sweep it

Angle broom lets you clear away snow and debris quickly. Adjustable twin casters and oscillating frame follow ground contours. Poly/steel, 22-in. diameter. Clears 63.5-to 70-in. path. Fits 4475, 6675, 7775.



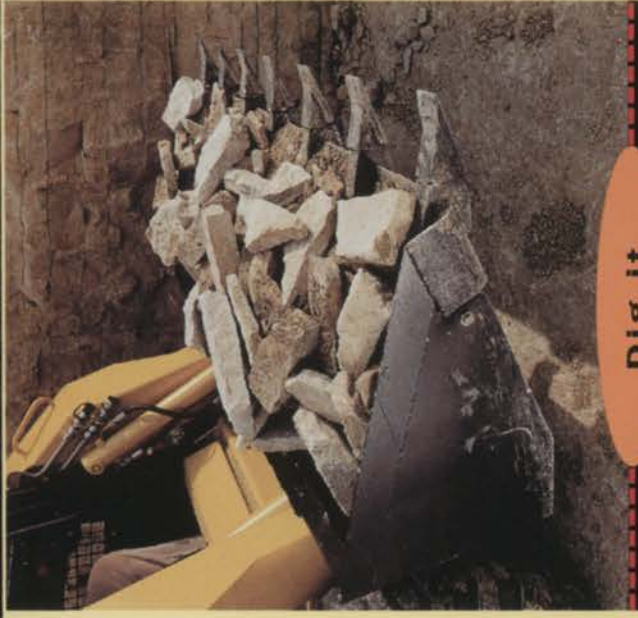
Clean it

A variety of buckets make these skid-steer loaders the ultimate load-and-carry machines. Choose low-profile, dirt and foundry, light material, manure slurry, or utility—36-to 84-inches wide. Sizes to fit all skid-steer models.



Hoe it

The Pro 911 Backhoe has an exclusive dipper arm that lets you extend reach from its standard 9 ft. to 11 ft. High-capacity cylinders, greasable large-capacity pins, beefy boom and dipperstick. Fits 6675 and 7775 Skid-Steer Loaders.



Dig it

Tooth bars convert a standard bucket into an aggressive scarifying, rock-grubbing tool in just minutes. Only two carriage bolts and a .75-in. wrench needed for fast installation. Sizes to fit 54-, 60-, 66- and 72-in. buckets.

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For the rest of the skid-steer story, read the specs on the back cover. Then call your dealer for a hands-on demonstration.



SPECIFICATIONS

	3375	4475	6675	7775
ENGINE	John Deere Series 220	John Deere Series 220	John Deere Series 220	John Deere Series 220
Displacement cu. in. (cm ³)	41.8 (685)	91.3 (1496)	121.7 (1994)	133.5 (2187)
Cylinders	3	3	4	4
Gross horsepower (kW)	19 (14.1)	32 (23.8)	45 (33.5)	52 (38.7)
Net horsepower (kW)	17 (12.6)	31 (23.1)	42 (31.3)	49 (36.5)
Engine rpm	3400	3000	3000	3000
Torque	20% min	20% min	20% min	20% min
PERFORMANCE				
Mfr. operating load lb (kg)	675 (306)	1250 (567)	1500 (680)	1700 (771)
SAE operating load lb (kg)	700 (317)	1360 (617)	1670 (757)	1705 (773)
Hydraulic lift capacity lb (kg)	750 (340)	1450 (658)	2000 (907)	2000 (907)
Breakout force lb (kg)	1400 (453)	2600 (1179)	3712 (1684)	3712 (1684)
Ground speed mph (km/h)	5.8 (9.3)	6.5 (10.4)	7.3 (11.7)	7.4 (11.9)
Axle torque ft-lb (Nm)	N.A.	2800 (3794)	3540 (4796)	3540 (4796)
Operating weight lb (kg)	1925 (873)	4360 (1978)	5385 (2443)	5405 (2452)
LOADER				
Hydraulic pressure psi (MPa)	1600 (11 032)	2650 (18 271)	2650 (18 271)	2650 (18 271)
Hydraulic pump gpm (L/s)	8 (.504)	11 (.694)	15 (.946)	17 (1.07)
Hydraulic valve	2 spool	3 spool	3 spool	3 spool
Self leveling	N.A.	N.A.	N.A.	N.A.
Built-in boom lock	YES	YES	YES	YES
Bucket capacity cu. ft. (m ³)	6 (1.68)	11.5 (.322)	15.2 (.425)	15.2 (.425)
Bucket width in. (cm)	47 (119)	60 (152)	66 (168)	66 (168)
DIMENSIONS				
Length less bucket in. (cm)	70.5 (179)	96.3 (245)	101.8 (258)	101.8 (258)
Length with bucket in. (cm)	92.5 (235)	120 (305)	126.7 (322)	126.7 (322)
Width less bucket in. (cm)	36 (91)	60 (152)	65.6 (166)	65.6 (166)
Height to ROPS in. (cm)	69 (175)	72.4 (184)	74.7 (190)	74.7 (190)
Height to hinge pin in. (cm)	93.25 (237)	111.1 (282)	115.5 (293)	115.5 (293)
Dump height in. (cm)	74.75 (190)	87.9 (223)	90.4 (230)	90.4 (230)
Dump reach in. (cm)	21 (53)	20.25 (51)	27.7 (70)	28 (71)
Dump angle in. (cm)	28.5 (72)	45 (114)	45 (114)	45 (114)
Bucket rollback deg.	23	36	36	36
Wheelbase in. (cm)	32 (81)	37.4 (95)	42.5 (108)	42.5 (108)
Ground clearance in. (cm)	5.5 (14)	8.25 (21)	7.7 (20)	7.7 (20)
Angle of departure deg.	21	26	26	26
Fuel capacity gal. (L)	6 (22.7)	12 (45.4)	14.4 (54.5)	14.4 (54.5)

[Specifications and design subject to change without notice.]





Models 120R and 120L

handle design wraps around the shaft for easy pruning and side trimming. The 120R offers the bicycle-handle design for comfortable use and maneuverability.

Circle 153 on reader service card

JONSERED MUFFLES NEWER MODELS

Jonsered Power Products offers the model HT21, lightweight, 21 cc model hedge trimmer.

Available only east of the Rocky Mountains, the trimmer features an 18-inch, double-sided blade, centrifugal clutch, anti-vibration system and large baffled muffler for quiet operation.

The Jonsered JGT24L trimmer features a 21.2 cc engine and a 57-inch straight shaft, which is 5 inches longer than last year's model. The long-reach shaft allows a better working posture and easier access to ob-



Jonsered model HT21

structed areas.

The new JGT24L also features a primer bulb carburetor for easier starting and a rubber-mounted anti-vibration handle with a cushioned, cell-foam grip for greater operating comfort.

Additional highlights include a standard tap-advance line head, a



Little Wonder hedge trimmer

debris guard with built-in cutting blade and adjustable shoulder strap.

Circle 154 on reader service card

LITTLE WONDER HEDGE TRIMMERS

Little Wonder's double-sided gasoline hedge trimmers are available with 16-, 24- and 30-inch blades and cut any growth up to 1-inch thick. The handles have shock mounts as well as a clear front guard to allow the operator to safely view what is being cut.

Blade combs also have been added to increase user safety and cutting performance.

The 21.2 cc engine has electronic ignition and a primer bulb carburetor to ensure quick starts.

Circle 155 on reader service card

TRIMMERS FROM MAKITA

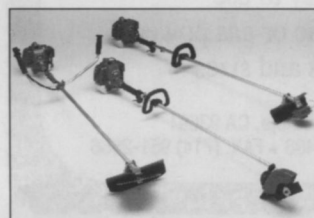
Makita offers three new gas engine string trimmers: models RBC221, RST250 and RBC251.

Models RBC221 and RBC251 feature aluminum, straight-shaft designs while the RST250 has a curved shaft to provide a clear view of the work areas. The latter model allows the operator to stay close to the trimming work for better control and handling.

All three models are equipped with adjustable front handles for multi-positioning. They also feature a 16-inch diameter, dual-string trimmer head with a pop-in string spool cartridge for easy development. An automatic string feed is optional.

Circle 156 on reader service card

EIGHT MODELS FROM SHINDAIWA



Shindaiwa trimmers

Shindaiwa offers eight models of trimmers, the newest of which are the T-230 and T-250. The units weigh about 10 pounds and are powered by either a 1.1- or 1.2-h.p. engine. Both are "pro-tuned" for the low to middle operating range.

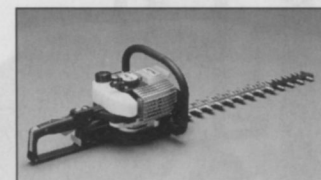
Standard features include anti-vibration systems, centrifugal clutches and spark-arrestor mufflers. Straight-shaft models incorporate solid-steel drive shafts; curved shaft units feature tightly woven piano wire.

Circle 156 on reader service card

STIHL HEDGER TRIMMERS

STIHL introduces three commercial-duty hedge trimmers — models HS 72, HS 74 and HS 76. Each model features a 1.45 cubic inch (23.9 cc) engine; electronic ignition; a quiet, protected muffler; permanent air filter; and an anti-vibration system.

The model HS 74 features a 24-inch reciprocating blade and a swivel rear handle for easier horizontal or vertical cutting. The HS 70 series hedge trimmers are



Stihl edger/trimmer

equipped with the same engines used on the FS 72, 74 and 76 trimmers.

Circle 157 on reader service card

TANAKA GRASS TRIMMER

Tanaka's TBC-2100 curved shaft and TBC-2110 straight-shaft grass trimmers are billed as lightweight and maneuverable.

The TBC-2100 converts into a light brushcutter with an optional light blade conversion kit. The kit includes an 80-tooth blade, shoulder harness and metal safety guard.

Both units feature a 21 cc chromed cylinder engine, forged steel crankshaft supported by two ball bearings, electronic ignition, Walbro® diaphragm carburetor with a primer and a centrifugal clutch.

Circle 158 on reader service card



Technic Tool attachments

TECHNIC TOOL ATTACHMENTS

A hedge trimming attachment for the telescoping Power Pruner from Technic Tool Corp. is ideal for hard-to-reach hedging and pruning jobs.

The Hedger cutting blade is designed for quick and efficient shaping, pruning, trimming and thinning of hedges, brush and limbs up to 1 1/2 inches in diameter. The blade is manufactured from hard-

ened spring steel to ensure longer teeth life.

The portable Hedger blade weighs less than 2 pounds and has a steel guard for operator safety.

The Hedger is available for both the standard and insulated Model D Power Pruners.

Circle 159 on reader service card

TURFCO EDGER

The Edge-R-Rite grass edger from

Turfcro Manufacturing features an oscillating blade that reverses direction 1,000 times per minute, cutting through unwanted turf without throwing debris.

The units are best suited for heavy edging jobs difficult to access using rotary edgers. The circular and V-type blades stay in contact with the edge of the pavement, enabling the operator to hollow the edge, even if it's hidden by overgrown turf.

The circular blade makes a straight cut, while the V-type blade leaves a narrow trench between grass and pavement along sidewalks and driveways.

A right-angle blade is available for establishing new edges in sand traps, flower beds and tree rings.

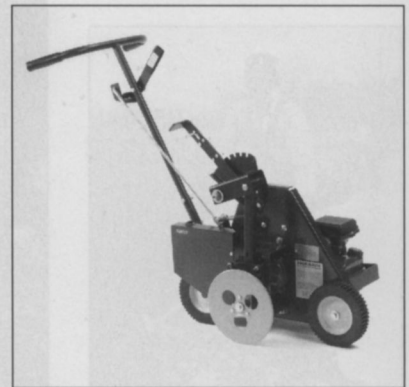
Circle 160 on reader service card

VANDERMOLLEN TRIMMER

Vandermolen Corp. is now offering four models of the Windmill hedge trimmers.

All models feature a Kawasaki

2-cycle engine with hard-chrome cylinders; 16-, 24- and 30-inch cutting lengths; single- or double-sided dual reciprocating blades; safety throttle controls; heavy-duty clutches; and thick wall gear cases with precision cams and gears.



Turfcro edger

The alloy steel, chrome-plated blades are thicker than the company's standard blades. The lightweight gear case on the engine is made of magnesium and houses heavier tool steel gears to drive the thicker blades.

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USE READER SERVICE #88

Retaining Walls Support Creative Designs

Used to retain planting beds, slopes and foundations, among other things, retaining walls serve both a practical and aesthetic purpose in an overall landscape design.

By Bob Gitlin



Landscape contractors often use retaining walls to create attractive planting beds as well as support structures for slopes. Photo: Anchor Diamond.

A GROWING NUMBER of lawn and landscape contractors are adding the construction of retaining walls to their repertoire of services. The walls, which are used to support planting beds, slopes and foundations, range from expensive fieldstone requiring installation by masons and artisans all the way down to simple, old-fashioned creosoted railroad ties.

"We do railroad timber walls, cobblestone walls and flagstone walls," said Chris Coe, construction supervisor with Moore Landscape Inc., Glenview, Ill. "The cheapest way to build a wall is using timbers. Then you go up to fancy flagstones or weathered-edge drywall stones. When you add mortar, it really gets costly."

Natural stone was the predominant construction material used for retaining walls in the 1940s and '50s. The 1970s brought use of timber railroad ties which "look less imaginative," said Mark Nemeec, general manager for the American Railroad Tie and Stone Co., Chesterland, Ohio.

About 60 percent of Nemeec's retaining wall customers still ask for railroad ties. However, man-made, interlocking retaining wall systems are creating an upswing in interest because of their low labor-cost requirements and relatively easy installation. Natural stone also appears to be making a comeback, Nemeec said.

MATERIALS. Moore Landscape has built retaining walls ranging from 15 to 1,500 feet, using a diverse assortment of materials.

"Materials seem to be changing all the time. They keep coming up with prefab concrete-block units. Now they're looking at more of the engineering aspects too," Coe said. Retaining walls often incorporate the

use of geosynthetics or filter-fabric geogrids, a support system built behind the wall.

Tim Warzecha, landscape architect at ISS Landscape Management Services, Orlando, Fla., recalled a handsome retaining wall ISS built at the Orlando Sea World manatee habitat. Constructed of Florida fieldstone, the wall was dry-stacked 3 feet deep, ranging from 18 inches to 8 feet in height, and extending about 1,000 lineal feet.

Material selection for the project was dictated more by price than aesthetics, Warzecha said.

Ken Cordes, construction supervisor with Land Images Inc., Hastings, Minn., contends materials are selected based on aesthetics as well as price.

"A lot of it has to do with the setting the customer lives in. (For instance) in a symmetrical, urban setting without many boulders or timbers and the symmetry of the house is a certain way—we would go for one of the block systems," Cordes said.

A \$400,000 house built of expensive Lannon stone might call for a similar cut-stone look on a retaining wall for shrubbery beds. A low-cost timber wall, on the other hand, might very well satisfy the aesthetic demands of a woody environment.

INSTALLATION. Mark Sikkema, an engineer with Versa-Lok Retaining Wall Systems, St. Paul, Minn., teaches seminars on retaining wall installation to audiences largely made up of landscape professionals.

"We teach them soil properties and how geogrid reinforcing works. We go into estimating quantities and help them put together bid packages," he said.

The seminars include a hands-on installation demo. "We go through the basics of base preparation, laying that first course down—the most important thing—then bringing the wall up. Then we go into more advanced installation techniques. How to do angles, saw cutting and splitting, corners and curves," he said.

The importance of getting that foundation or leveling pad right

(continued on page 60)

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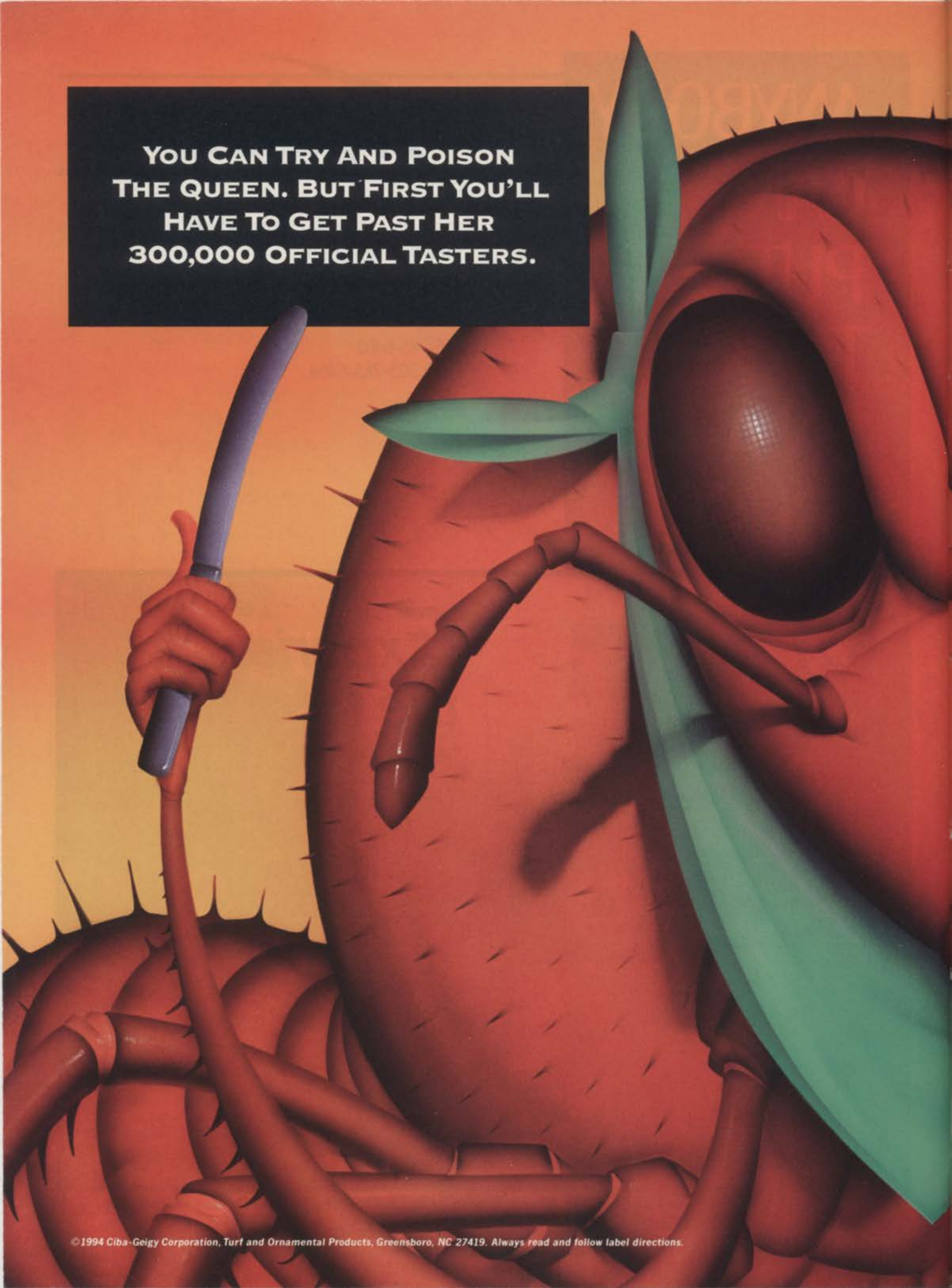
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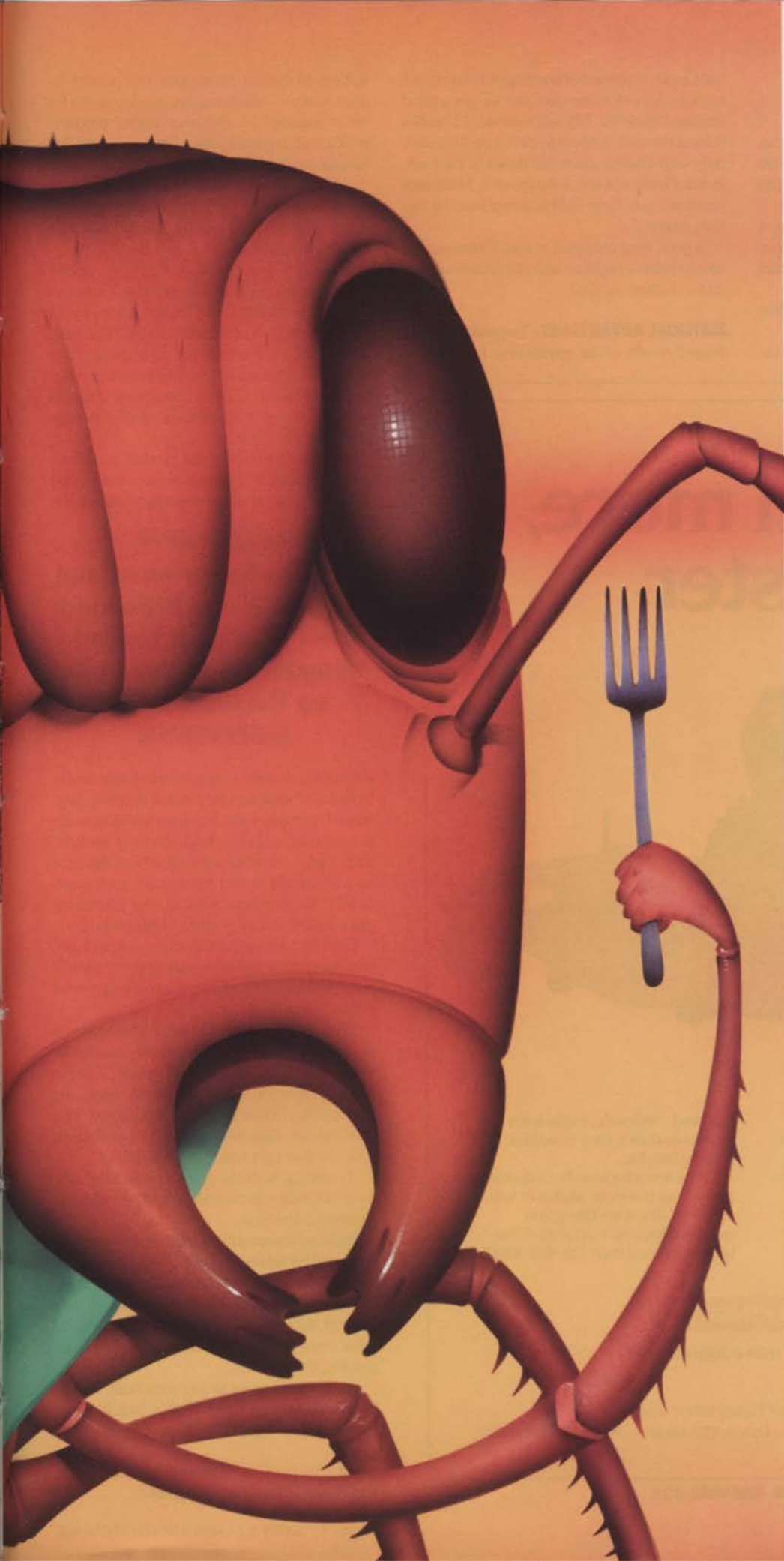


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Retaining Walls

(continued from page 36)

cannot be overemphasized, according to Sikkema. "It's like the princess and the pea. If one little block is out of sync, it tends to exaggerate as you build up the block wall," he said.

The best approach is to use a combination of string lines and carpenter levels at this crucial step, which might take up half of the time spent on the entire project.

Drainage presents the greatest challenge when installing retaining walls.

"You get water running along the edge of the

wall, and it'll eat out that leveling pad you just put in. You have to make sure you've got a good drainage backfill. We recommend 12 inches behind the wall. And preferably a perforated or polyvinyl coating drain tile down at the base, inside. Get up and check out the area. Make sure you don't have farm-field drainage running into your project."

A good insurance policy, said Sikkema, is to take a loader or backhoe and cut a diversion ditch 30 feet behind the wall.

MATERIAL ADVANTAGES. Depending on the desired results of the installation, interlocking

walls hold distinct advantages over poured-in-place walls — which require digging down for "frost footing" — and over timber products which tend to rot out after a few years, said Jeff Nelson, marketing coordinator at Versa-Lok.

"(Interlocking) segmental walls are placed on a granular base pad," he said. "They are designed to flex with frost and resist problems caused by freezing and thawing."

The main advantage to interlocking systems is that "the blocks are all the same size. There's no variation in thickness and length. After you get that base course right, it's just stacking," Coe said.

Interlocking systems are considered "low slump," as opposed to precast or wet cast units, explained Marcia Gibson, manager of sales and technical services at Anchor Wall Systems, Brooklyn Park, Minn.

"We don't compare our product to natural stone, because that varies all over the United States. In some areas, you can get fieldstone in

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'It's like the princess and the pea. If one little block is out of sync, it tends to exaggerate as you build up the block wall.'

fields for free; others, they have to be trucked in from out of state, and they're not as pretty. Segmental retaining walls are closer to timber walls in total cost, including labor. In most markets, timber prices (traditionally about one-third the cost of natural stone) have gone up tremendously. We compete most against poured-in-place, concrete wall systems," Gibson said.

Drawbacks to the interlocking systems and precast concrete is they provide fewer options in color, texture and, to some extent, the degree of curve, Nemecek said.

"With natural stone, no matter what look you want, there's always something available, whether it's rustic, formal, etc.," he said. "I've put in both types of walls — natural stone and interlocking. When you see natural stone walls, they look like they were put up by a craftsman. You just don't get that with interlocking."

According to Nemecek, the interlocking systems look bulky, particularly for low-lying walls less than 2 feet high.

Railroad ties are still the least expensive materials used for retaining walls. Interlocking walls generally cost slightly less than landscape stone (depending on if and how the stone is purchased), but save contractors up to 30 percent in labor costs because they can be installed more quickly, Gibson said.

"Instead of having to pay somebody \$14 an hour, you can pay them \$5. It's largely just a matter of stacking and backfilling." ■

The author is a Contributing Editor to Lawn & Landscape Maintenance magazine.



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**PESTICIDES
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PART 7

Staying On Target

Growing public concern over the over use of pesticides has helped evolve the concept of plant health care — including cultural and pesticide practices — for trees and shrubs.

By John Ball and Murdick McLeod

Ed. Note: This is the seventh in an ongoing series on effectively using and promoting specialty pesticides in the urban environment.

TREE AND SHRUB pest management has gone through many changes over the last several decades. While DDT and an array of other synthetic organic pesticides were common in the 1940s and 1950s, the early 1980s introduced products with



PESTICIDES IN THE URBAN ENVIRONMENT

shorter half-lives and the concept of integrated pest management.

IPM is a decision-making process used to maintain pests at tolerable levels through strategies that are economically and ecologically efficient and socially acceptable.

An important part of IPM is the use of target or spot sprays. These sprays are not applied indiscriminately, but when and if needed to maintain the health and appearance of the plant. Target sprays are applied to a specific plant, or a portion of a plant, to control a particular pest.

While target sprays are appropriate for most insect and mite pests, many diseases — particularly foliage diseases — can generally only be effectively treated by blanket sprays.

TARGET PRACTICE. There are four important prerequisites to effective target spraying: Knowing what to treat, when to treat, where an application is appropriate and whether treatment is actually necessary.

What to treat is dependent on the key plants and key pests in a particular service area. Key plants are those that dominate and contribute aesthetic and functional value to the landscape. Key pests are serious, persistent insects that routinely require management.

These two groups can vary greatly throughout the country. For example, in a Maryland survey of residential landscapes, rhododendrons and hollies were the most abundant plants, while dogwoods and cherries incited the most pest problems. In a similar study in Minnesota, arborvitae and junipers dominated the landscape while Tatarian honeysuckle, European white birch and American elms displayed the most pest activity.

These key plants may have many pest infestations, but only a few will fit the definition of key pests. In the case of the Minnesota study, the three plants most heavily infested were actually afflicted by only a few types of insects — honeysuckle leaf-folding aphids (Tatarian honeysuckle), bronze birch borer and birch leafminer (European white birch) and elm leaf beetle (American elm).

The number of tolerable key pests in any given area is relatively small compared to the number of

plants in a community and their potential pests — usually about 10, although some landscape maintenance firms target 20 to 25.

When to treat trees and shrubs is a critical question in target spraying. Target sprays generally involve using insecticides that do not have long residual lives; thus, the window of effective treatment is measured by number of days rather than weeks or months.

Applications must be made during the insect's most vulnerable life stage. In some cases, this is not necessarily the damaging life stage. Target spraying for phloem-feeding borers requires that application be made during the adult stage. The larvae spend most, if not all of their entire life, feeding within the tree safe from sprays. Timing the spray application is critical for control of these and many other insects.

Timing can be determined through a variety of methods, the most common of which are degree-day forecasting, phenology forecasting and trapping.

Temperature plays a key role in determining the development rates of insects. As temperatures decrease, development proceeds at a slower rate. Conversely, as temperatures increase, development increases.

Insects have an upper and lower threshold temperatures above or below which development does not occur. Any temperature below the lower threshold, or base temperature, is too low for insects to develop.

For example, birch leafminer development occurs in the spring whenever the temperature is above 50 degrees F. One degree day is accumulated for each degree F the average daily temperature is above the base of 50 degrees F.

If the day's average temperature is 60 degrees F, then 10 degree days ($60-50=10$) have accumulated that day. If the day's average temperature is 40 degrees F then that day produced 0 degree days since the average temperature never rose above the base.

Cumulative degree days are used to predict when a particular insect development event has occurred (i.e., egg hatch, first adult, first damage). Using the birch leafminer example, it takes 310 degree days (base 50 degrees F) for the mines to become apparent.

Degree-day charts have been published for a wide variety of ornamental pests. The charts are regional or national, however, often leaving too wide of a degree-day range for some insects. For example, one shows that Bronze birch borers



emerge after 440 to 880 degree days. The birch leafminer range is 190 to 310 degree days.

Because of the wide variances and because many insects do not have degree-days calculated yet, landscape maintenance professionals may need to develop their own charts. Weather data to develop a degree-day forecast can be collected from the local weather service or newspaper. They need to keep track of the number of accumulated degree days above a base of 50 degrees F and then note the total accumulation for the critical event in the life stages of key pests.

Degree-day forecasting is extremely precise, and requires accurate local temperature data. Many landscape operations may cover a wide service area or areas near large bodies of water that can create a wide variety of microclimates. The company may find it less time-consuming to predict pest emergence based on plant phenology.

Plant development stages such as bud break and flowering can also be predicted from degree days. Applicators can use this process to time their target sprays for particular insects. This method is not as precise as tracking degree-day accumulation — plants and insect development phases are not always well synchronized — but it is easier to

perform. Birch leafminer adult emergence occurs about when common lilac begins to bloom; bronze birch borer adults emerge when black locust shows its blossoms.

As with collecting degree-day data, companies should keep track of plant development at the time of critical insect events. Within a few years, they will have a fairly accurate chart by which they can time their target sprays.

TRAPPING. A variety of contraptions are used to trap insects, including pheromone traps, sticky traps and pit-fall traps. These traps are used to monitor activity of the pest to appropriately time a pesticide application.

There are few, if any, examples of traps being used to control insect populations. Similarly, the number of insects captured in a trap does not necessarily correspond with the potential severity of the infestation. The greatest value of traps is to discover the occurrence of an insect's vulnerable life stage and time a pesticide application against it.

A pheromone is a chemical emitted by an insect (pheromones are released by other organisms as well) that triggers a response in another insect of the same species. Insects generally use phero-

Sticky card traps capture insects by chance or allure them by color. The traps are used to monitor several different species of insects.

PESTICIDES IN THE URBAN ENVIRONMENT

mones to attract each other to a particular tree, or to scatter from a tree.

Pheromones are also an important means for females to attract males. These sex pheromones have been synthesized and are now used to monitor a variety of insects including pine tip moth and many clear-winged moths.

The traps are sticky boards impregnated with the pheromone and placed in key areas before adult insects are expected to emerge. Since the traps are used to determine when the insect is present, applicators need only prepare a few traps unless their service areas are quite large and encompass many different microclimates.

The traps should be placed in convenient locations since they need to be checked daily to get an accurate insect count. In some cases, target sprays begin 10 days after the first capture (ash/lilac borer) and with others, 10 days after the peak

catch (pine tip moth).

Sticky traps are simply cards or boards covered with a sticky adhesive. Unlike pheromone traps, where placement is based upon convenience for monitoring, sticky traps should be placed in the pest's habitat.

Sticky traps — used to monitor several different species of aphids, apple maggot and scale crawlers — either capture insects by chance, or more commonly, draw them because the insects are attracted to their color, which is usually yellow.

Trap counts tell an applicator when the insect is present, and if monitored over a long time, can also indicate whether the insect population is increasing or decreasing.

Pit-fall traps are placed so that insects walking across the soil fall into them. These traps can be constructed using two plastic cups. Both cups should have roughly the same diameter at the top, but one should be shorter and have a narrower base.

The bottom of the smaller cup is cut off and the cup is placed inside the larger one, acting as a funnel. The cups are buried so that the tops are flush

(continued on page 68)

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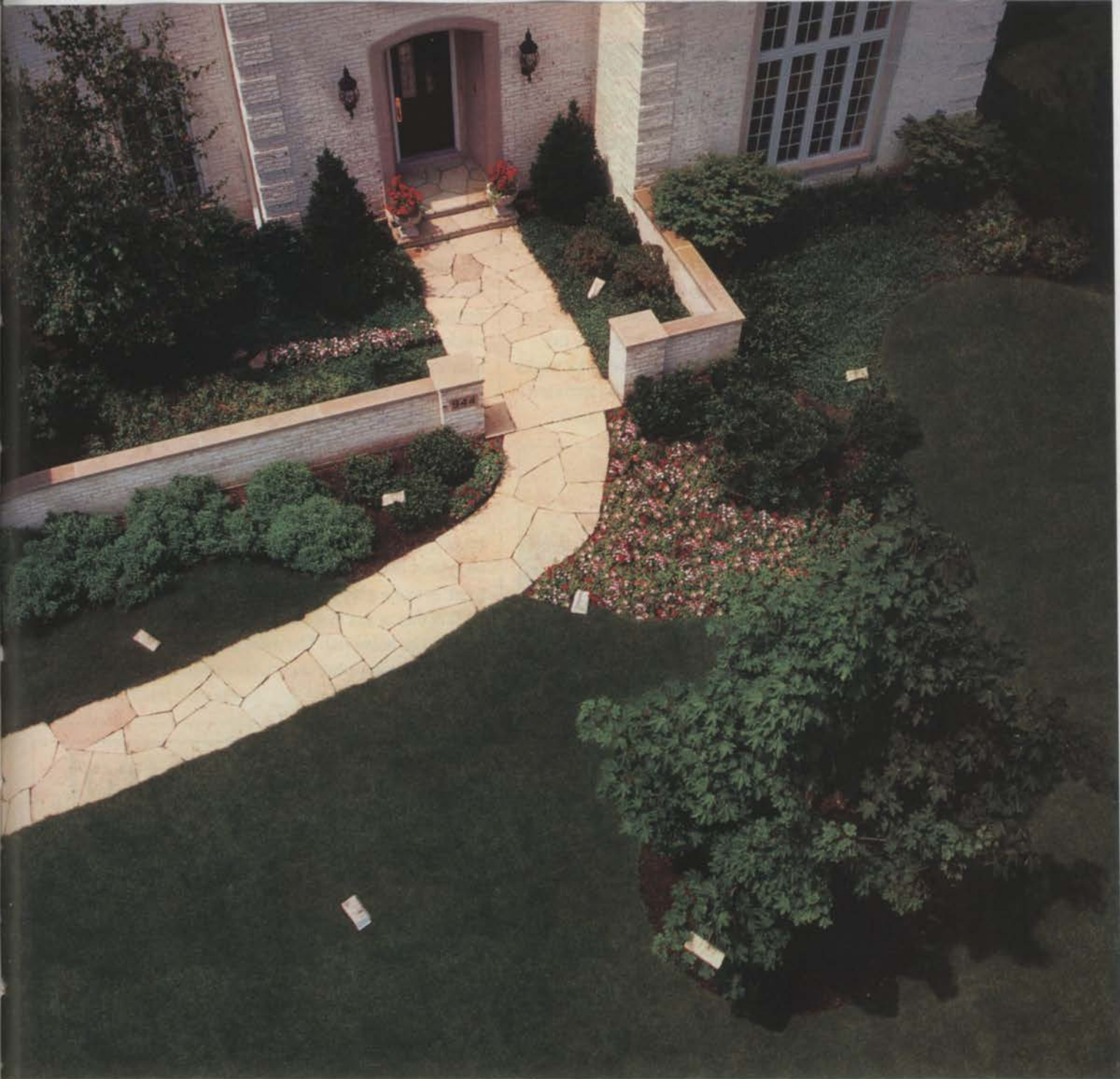
FMC (John Bean)

Parts Kits and Pumps



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USE READER SERVICE #33



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USE READER SERVICE #76

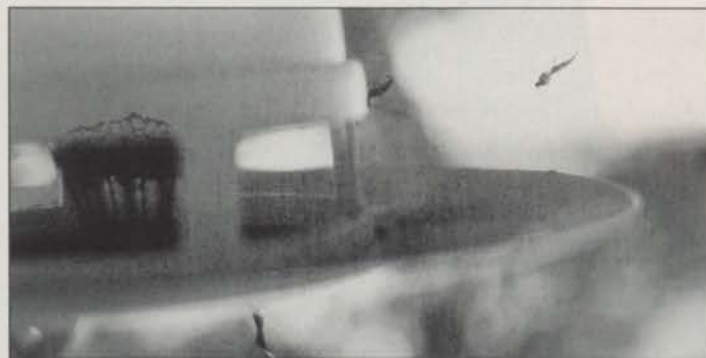
PESTICIDES IN THE URBAN ENVIRONMENT

(continued from page 66)

with the soil surface. Insects crawling on the ground simply blunder into the "pitfall."

Pit-fall traps are effective for monitoring the activity of ground-dwelling insects, especially the black vine weevil. This insect is active three weeks before egg laying occurs and the pit-fall traps are used to detect first activity of adults and subse-

Pheromone traps, placed for convenience, help determine when insects are present.



quent timing of insecticide applications before the egg laying stage begins.

WHERE AND IF. Where to spray is another key aspect to effective pest management.

The term "target" implies taking aim, and target spraying means just that. Rather than spray the entire plant with the insecticide, target a particular portion for treatment. Insects do not feed randomly throughout a tree or shrub, but on or in a particular plant part and on or in a specific location.

Spruce needle miner, for example, attacks the new needles just after the foliage matures, so target sprays are made to the exterior of the spruce tree. Zimmermann pine moth, on the other hand, lays its eggs on the trunk and the newly hatched larvae burrow near the juncture of the trunk and a branch. To control this insect, the insecticide must be applied to the interior of the tree so that the trunk is thoroughly treated.

Whether or not to spray is the last question that needs to be answered. The mere presence of an insect, even a key pest, does not necessarily mean

(continued on page 83)

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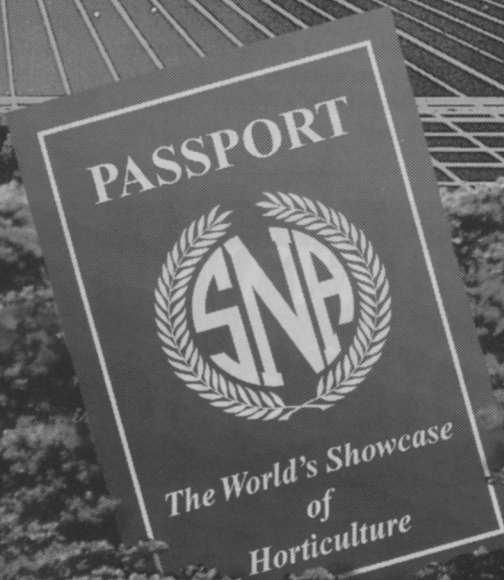
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SATURDAY, August 6th - Your passport to the "SNA Past Presidents' Awards Banquet" features an elegant tribute to SNA Past Presidents celebrated with the sensational piano and vocal sounds of **"Don Discenza"**.

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USE READER SERVICE #42

People

THE TORO CO. elected **Janet Cooper**, vice president and treasurer of the Quaker Oats Co., to its board of directors. Cooper replaces **Bud Grossman** who retired.

Dilloware promoted **Brenda Garrett** to national director of support services. Garrett has worked in virtually every department in the company and has extensive experience with personal computers.

Biosystems appointed **Bill Stoneman**, currently sales and marketing specialist, to manage and direct the company's Enviro-mate product line of compost and fertilizer inoculants.

Jacobsen appointed **Michael Mann** quality assurance manager, responsible for coordinating a total quality management system. The company also named **Rodney Baltzley** director of quality assurance. Baltzley formerly served as vice president of quality assurance for Noma Outdoor Products.

Gary Eckhardt was appointed director of human resources for Woods Equipment Co., responsible for training and career development, safety programs and other employee-related functions.

Sisis Inc. named **Keith Morris** territory manager in Florida. Morris formerly served



Mann



Kelty

as area representative in England.

Ronald Dodson joined Aquatrols as marketing manager to develop new marketing strategies and coordinate marketing efforts with field reps.

Medalist America named **Scott Debolt** and **Bob Lake** as turf specialists. Debolt serves distributors in Alabama, Mississippi, Arkansas, Tennessee and Florida. Lake works in the New England market.

Akzo Industrial Systems Co. hired **Joseph Luna** as director of sales and marketing. Luna has extensive experience working with geotextiles.

ISK Biosciences named **Peter Burgoyne** technical sales representative, responsible for commercial development and sales support in Western Canada. Burgoyne previously

served as assistant of technical sales.

Kenneth Roberts was named president of the Foley-PLP Co. He formerly served as vice president and general manager of the aftermarket division of Valeo Engine Cooling Inc.

Griffin Corp. promoted **Jay Adcock** to technical sales representative for the nursery and ornamental products division. Adcock's duties include training distributor sales representatives, supervising nursery trials of Spin Out™ root growth regulator and promoting Spin Out at national and regional nursery trade shows.

Robert Shirey was appointed vice president of engineering for Buckner Inc. He directs the company's development of brass valves, sprinklers, impact rotors and central control systems for golf, commercial, municipal and residential use.

O.M. Scott & Sons promoted **Dr. Michael Kelty** to senior vice president, technology and operations. Kelty was formerly vice president of the same division. He now handles manufacturing of fertilizers, seed, organics and soils, as well as some activities for Republic Tool and Manufacturing Co., a Scotts subsidiary.

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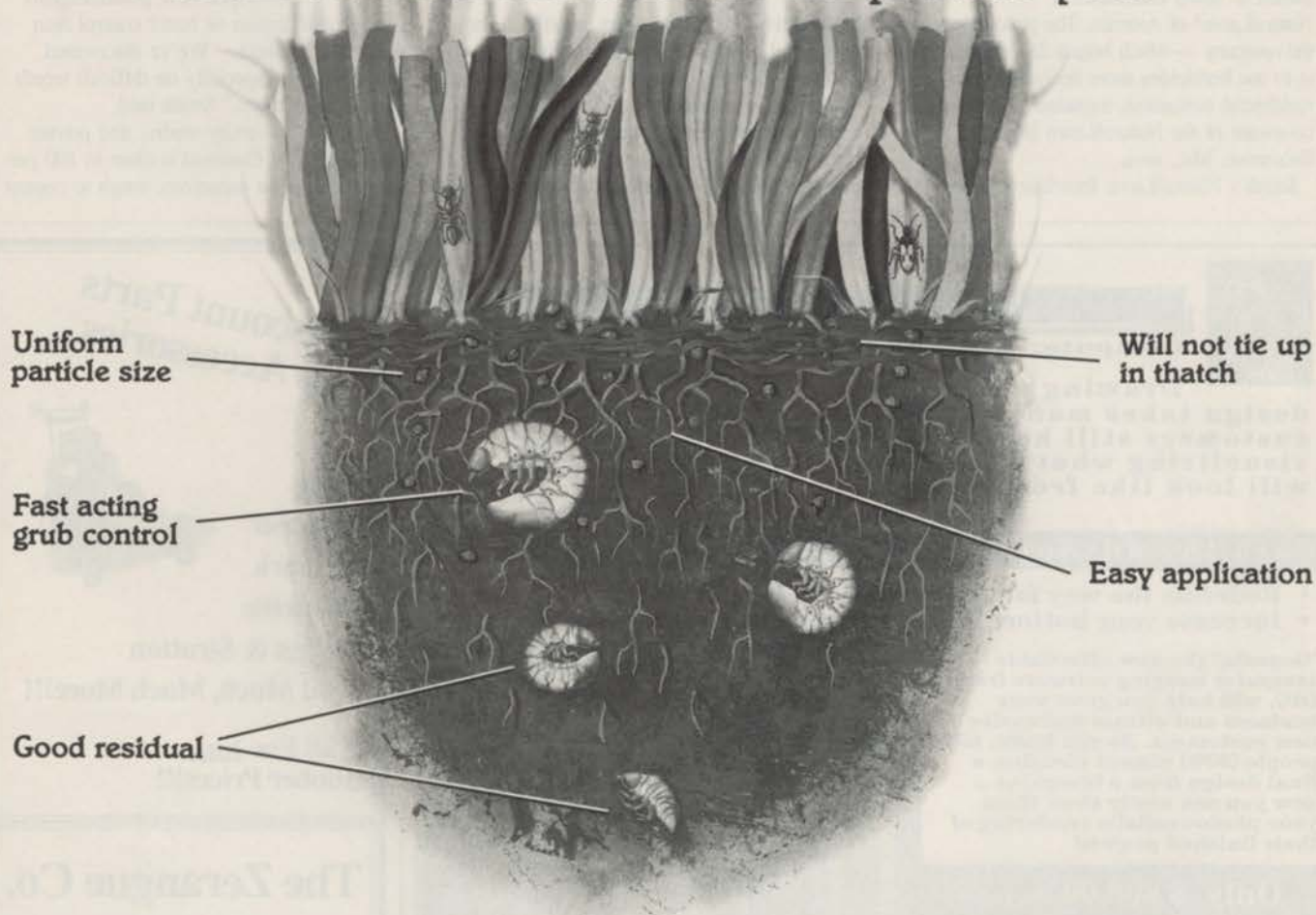
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USE READER SERVICE #54

Product Profile

RESPONDING TO CUSTOMER DEMANDS

FOR MANY YEARS, professional turf managers have relied on traditional products for post-emergence control of broadleaf weeds. In recent years, however, the availability of newer chemistries is persuading some turf managers to review their old programs.

In addition, some newer chemistries are beginning to be more accepted by the public, in contrast to older products that may foster misperceptions about environmental or safety issues.

BROADLEAF WEED CONTROL.

One such company making a switch to newer chemistries is NaturalLawn® of America. The philosophy of the company — which boasts 28 franchises — is to use herbicides more acceptable to residential customers, explained Ed Smith, co-owner of the NaturalLawn franchise in the Baltimore, Md., area.

Smith's NaturalLawn franchise has ap-



Lawn and landscape professionals are finding newer chemistry broadleaf herbicides to be accepted by the public.

proximately 3,000 customers, mostly in the residential sector. This is the third year his applicators will spot-spray for broadleaf weeds with a spring application of Confront® post-emergence herbicide on customer lawns. Confront, from DowElanco, is a non-phenoxy, non-2,4-D, newer chemistry

herbicide that has been particularly effective for his customers on problem species such as wild violet, spurge and clover, among other types, for which the herbicide is labeled.

According to Smith, as a group, the franchise owners decided several years ago they wanted to start moving toward newer chemistries. Although none of them had experienced any particular problems, they were concerned that "old chemistry" products were linked to some unwarranted concerns.

As Smith discovered, manufacturers in recent years have developed new postemergents

that provide similar or better control than traditional methods. "We've discovered better control, especially on difficult weeds such as wild violet," Smith said.

Extensive university studies and private trials show that Confront is close to 100 percent effective on numerous, tough to control



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USE READER SERVICE #48

species such as dandelion, clover and broadleaf and narrow leaf plantain.

While Smith chose Confront because it controlled broadleaves effectively and answered NaturalLawn's need to move to newer chemistries, he soon realized other benefits of the product.

"Odor can be a big issue when applying turf herbicides," Smith said. "But Confront is practically odorless. This is particularly important for us if we pick up a new lawn that we need to do a fair amount of spraying on. It's been essential to us to have a product that won't be upsetting to the home owner."

ECONOMICS. Newer chemistry products may initially appear more expensive than older, traditional products, Smith said. "But after you consider overall effectiveness, and the costs saved from fewer customer concerns about the ingredients in the products, any cost difference is insignificant.

"More and more, customers are asking, 'What's in the product you're using? Are there products you can use that are just as effective, but require less overall material or fewer applications?' Customers are a lot more aware of the use of pesticides than they were 10 years ago," he added.

Smith said it's also important when com-

paring products to "compare apples to apples" in order to accurately calculate a product's cost. For instance, the Confront labeled rate is half the rate of standard three-way herbicides. On a gallon for gallon basis, it will go twice as far.

Using less product addresses environmental concerns regarding the use of pesticides, while at the same time responds to economics through more efficient use.

Newer chemistries can often be used in numerous turf areas such as lawns, parks, golf courses, schools, residential and other public areas. This makes them good alternatives to other products that have label restrictions regarding their usage or application.

Fortunately, as Smith has discovered, there are alternative newer chemistries like Confront which provide effective postemergent broadleaf weed control. In addition, these new products address misperceptions from the general public about the environmental and safety aspects of traditional herbicides.

By experimenting with and using products that will best meet their needs, lawn and landscape maintenance contractors can provide effective broadleaf weed control, while still responding to environmental concerns or government regulations.

Circle 162 on reader service card

COMING NEXT MONTH

In the July issue of *Lawn & Landscape Maintenance* magazine, we'll take a look at the proposed Environmental Protection Agency regulations on power equipment. Coverage will include a specific look at the mandates, what they will affect, when they will go into effect and how much it will cost you.

Our power equipment focus will also include the latest developments in power vacuums, blowers and sweepers.

In addition, the July issue of LLM will bring coverage of mowing in weather extremes, customer retention tips and a discussion of polymers and wetting agents.

The July issue will be distributed at the International Lawn, Garden & Power Equipment Expo.

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USE READER SERVICE #30

Products

THE AERO KING 1321 seeder-verticutter from **Jacobsen** features a 21-inch seeding width and operating speed of 2.5 mph, and seeds up to 23,000 square feet per hour. Seed outlets are set 1 1/2 inches apart.

The seed-delivery system features clear seed tubes, so operators can watch for proper seed flow. Durable, cast aluminum seed outlets withstand rigorous daily use.

Other special features include a double-bin seeder for seeding two turf varieties simultaneously, and vertical mowing blades that can be used separately for mowing or dethatching turf.

126 on reader service card

Reelcraft added a portable reel cart to its line of irrigation products.

The cart frame, constructed of 1-inch square tubular steel with a baked-on powder coat finish, comprises a 1/2-inch diameter steel axle and 8-inch semi-pneumatic rubber tires. Its wheels encompass high-grade ball bearings with hardened cups. The bearings are pregreased and sealed.

The reel cart accommodates any Reelcraft series 30000 hand-crank or motorized reel with a 12-inch spool. The cart transports the hose reel to and from the work site, helping eliminate the safety hazard of dragging and piling hose.

Applications for use include grounds maintenance and pest control at industrial and commercial sites.

Circle 127 on reader service card

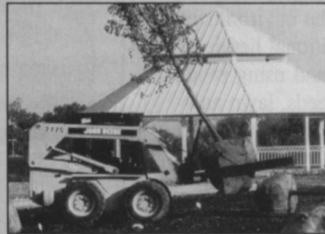
Reemay's Biobarrier® II is a long-term, pre-emergence weed control system placed under a minimum of 2 inches of soil, organic or inorganic mulch, bricks or pavers.

The Reemay weed barrier combines a spun-bonded polypropylene landscape fabric with nodules that contain a preemergence herbicide called trifluralin. The porous polypropylene allows free exchange of water, gases and nut-

(continued on page 76)

PRODUCT FOCUS: LOADERS

JOHN DEERE OFFERS a new generation of skid-steer loaders billed to incorporate quieter engines, improved vertical lift boom, sturdier frames and components and more spacious cabs with improved visibility and easier access to key service points.



The JK 4475 features a 30-h.p., liquid-cooled diesel engine. Its compact size — coupled with a 1,360-pound rated SAE operating capacity — makes it usable for a variety of applications.

The mid-size JD 6675 is powered by a 242-h.p., liquid-cooled diesel engine.

Circle 134 on reader service card

Melroe Co. provides a slew of attachments for its Bobcat skid-steer loader, including two earth augers and a grading attachment with a laser control system.

The earth augers' knuckle-joint style of linkage makes them easy to position. Model 12 fits the 500 to 800 series Bobcat loaders; model 20 fits the 753 through 943 series.

The grading attachments for the 500 through 800, 1600 and 2400 series, feature 7-foot manually adjustable moldboards, which can be side-shifted 12 inches in either direction.

Circle 135 on reader service card

Skid-steer loaders from **Thomas Equipment** are available with a variety of attachments, including vibratory plows, backhoes and augers.



Thomas' new vibratory plow attachment allows skid-steer operators to lay underground pipe, cable and wire, as well as undertake other landscape applications.

The Thomas "quick-tach" backhoe gives the skid-steer two-lever control with a choice of internal control for

fast setup and protection, or external control for extra visibility.

The Thomas auger attachment is fully reversible and produces an output torque of 1,365 pounds.

Circle 136 on reader service card

The **Mustang** 940 skid-steer loader and its Combo Plane attachment combine to level and prepare the ground for seeding or sodding.

The Combo Plane is 6 feet wide and uses 3 leveling bars to smooth out ridges or mounds in seed beds. The plane also can be fitted with scarifier teeth to loosen hard-packed ground.

The Mustang 940 loader features dual-lever steering control, neutral centering and start systems and lift-arm locks designed into ROPS/FOPS structure.

Circle 137 on reader service card

Eight **Gehl** skid-steer loaders are available with SAE operating capacities from 950 to 2,000 pounds, including a new line of 1,000-pound loaders.

Model 3725 features a 35-h.p. gas engine; model 3825 features a 33 1/2-h.p. diesel.

The load arms have been redesigned to handle tougher applications. A gas spring-assisted ROPS/FOPS structure provides easy roll-back for accessibility.

Circle 138 on reader service card



J.I. Case offers the 46-h.p. 1838 Uni-Loader skid steer which offers 3,066 pounds of breakout force. The skid steer loader is powered by a four-cylinder diesel engine rated at 46 net horsepower while running 2,800 rpm.

The hydrostatic ground drive features variable speeds of 0 to 6.5 mph in forward and reverse.

Circle 139 on reader service card

Ford New Holland added three, long wheelbase loaders to its skid-steer line. All three feature a hinged cab and boom assembly for full access to engine, drive train and hydraulic systems. They also share frame and boom specifications.

Model L-464 is powered by a 30-h.p. gas engine while models L-465 and LX-465 are powered by 30-h.p. diesels. All are rated at 1,250-pound operating loads.

Standard equipment on Ford's Model LX-465 includes boom hydraulic outlets for augers, post drivers and other hydraulically powered attachments.

Circle 140 on reader service card

Coyote Loader Sales offers the Coyote C5 fully articulated wheel loader to its line of wheel loaders.

The 1/2 cubic yard Coyote C5 offers a 4-cylinder Deutz diesel engine. With all-wheel drive, hydrostatic drive transmission and center piv-

(continued on page 80)

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—Lou Wierichs, Jr., Pro-X Systems

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LLM

Products

(continued from page 74)

rients, while the nodules release the herbicide.

The trifluralin creates a zone about 2 inches on either side of the fabric where it prevents weed root tip cells from growing. Trees, shrubs and other desirable plants that have roots deeper underground are not affected.

Circle 128 on reader service card

Akzo Industrial Systems Co. offers Enkadrain subsurface drainage matting. The



matting dissipates hydrostatic pressure from backfills that abut below-grade structures such as foundations and retaining walls.

Those and similar structures are particularly susceptible to water pressure.

Enkadrain consists of a non-woven geotextile fabric heat-bonded to a nylon geomatrix of open, three-dimensional construction. The fabric permits water to seep into a core which collects the water passing through the geotextile and relays it to a perforated pipe, weep hole or other discharge system.

Enkadrain is lightweight and easier to handle and install than conventional aggregate drainage systems.

Circle 129 on reader service card

Geoflow's Equaline tubing for subsurface drip irrigation fully compensates pressure from 10 to 45 psi without affecting output uniformity during changes in water pressure or slopes. The system also contains Treflan®, a degradable, non-systemic herbicide, to deter intruding roots.

The Equaline emitters comprise silicone rubber diaphragms and are prespaced 12, 18 or 24 inches apart to precipitate consistent flow rates of 1/2 or 1 gph. The emitters are

(continued on page 81)

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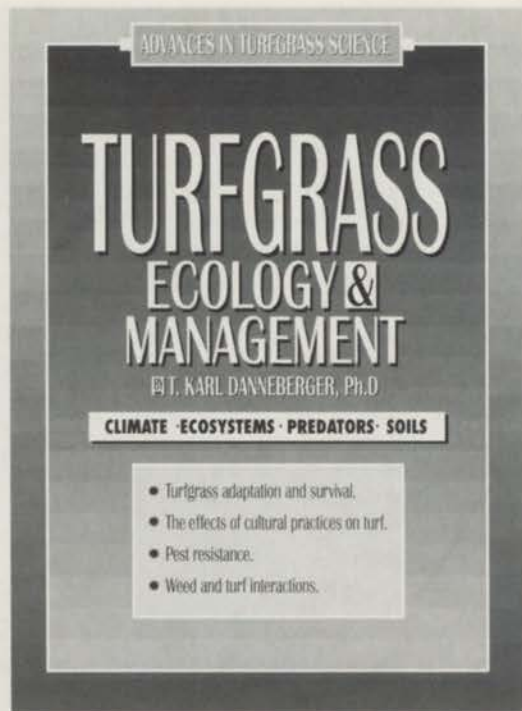
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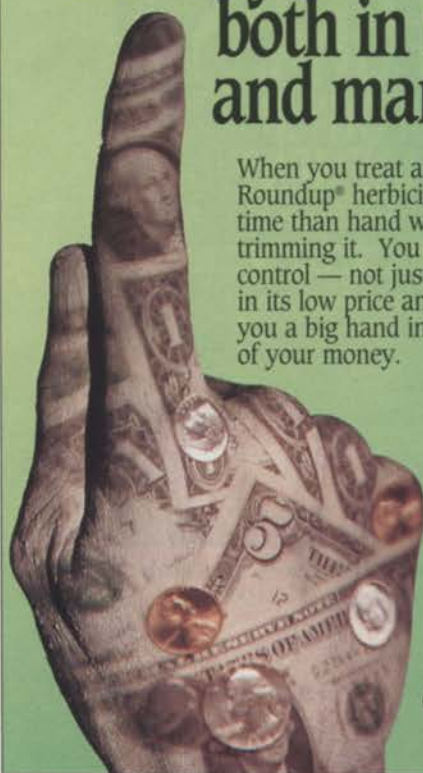
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glide shift transmission permits clutchless shift-on-the-go, through all 8 speeds in forward and reverse.

The machine comes equipped with a 17.3 gpm, dual-pump hydraulic system for loader and backhoe operation.

Circle 143 on reader service card

The Swinger articulated steer loader from **Northwestern Motor Co.** features hydrostatic drive, articulated steering (hinged in the middle) and bucket capacity (on the model 180) to 1,800 pounds.

The Swinger offers single-lever bucket operation. Travel speed is 7 mph; breakout force is 4,752 pounds; and operating machine weight is 5,530 pounds.

Circle 144 on reader service card

JCB debuts the 210SL, a loader version of its 210S Backhoe Tool Carrier. The 210SL offers the same four-wheel steering, four-wheel drive and four equally sized wheels, but substitutes rear counterweights.

JCB's 210SL can function as a dedicated loading shovel for intensive loading applications. The loadover height is 9 feet 9 inches.

Circle 145 on reader service card

The **Zettelmeyer ZL 602/ZL** and 602 SL loaders feature hydrostatic drive, Z-bar loader linkage with two lifting cylinders, supplementary, differential lock in both axles and hydraulic quick-couplers with a variety of attachments.

Circle 146 on reader service card

Product Focus

(continued from page 74)

of steering, the C5 can maneuver in tight areas.

Standard features include 100 percent differential lock — both axles, tilting ROPS cab, access to the cab from both sides, 2,300-pound lift capability with forks and a hydraulic quick coupler.

Circle 141 on reader service card



A compact track loader from **Takeuchi Mfg.** is equipped with specially developed rubber tracks, combining the power and strength of a track loader with the ability to operate on improved surfaces. The model TL26 has a fully hydrostatic drive system coupled with heavy-duty elevated planetary final drives. The high-ground surface contact of the long track base provides a stable platform for digging and loading on slopes, as well as the stability needed for finish grading and sure-footed load and carry work.

Circle 142 on reader service card

Kubota Tractor Corp.'s compact L35 tractor-loader-backhoe is powered by a 35-gross h.p., 3-cylinder engine. The

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Topics covered in the instruction video include planting hole size and depth, soil preparation, beneficial pruning at planting time, typical soil drainage problems, tool use and care, planting

techniques for containers, balled and burlapped plants and bare root stock.

In addition, the video explains the best methods for planting roses, hostas and ground covers, as well as tree staking and use of tools.

Circle 132 on reader service card

Hodges Manufacturing Co. changed its line of self-propelling stump removers to use the Kohler Command overhead valve engine.

Hydraulic stump routers are available with 18-h.p. engines; walk-behinds offer 18-, 20-, 22- or 25-h.p. engines.

The hydraulic units remove stumps that are 36 inches aboveground to 16 inches below ground. The walk-behind units remove stumps from 12 feet underground.

Circle 133 on reader service card

The **Gandy** Core Aerator-60 three-point hitch aeration tool is designed with dual-wheel coring heads which independently follow the ground contour.

The aerator's 5-foot aerating width makes it ideal for golf courses, athletic fields, parks, industrial and institutional lawns.

Circle 134 on reader service card

Products

(continued from page 76)

bonded to the outside of the tubing to reduce friction loss and allow longer field runs.

Typical landscape applications for the Geoflow Equaline include turf, ground cover, bushes, trees and color beds.

Circle 130 on reader service card

The Mini-Com Plus SM series mobile radio from **RELM Communications** provides 16- or 99-channel scanning capability.

The Mini-Com measures 1 1/2 inches thick by 5 3/4 inches wide and 7 inches deep. Two models are available: the SMV40 is a 40-watt VHF radio, and the SMU25 is a 25-watt UHF radio. Both feature automatic squelch and rotary-knob on/off switch, volume and channel selector for easy operation.



MINI-COM® SM Series Scanning Radio

The radio features a large LED display and a three-button keypad for adding and deleting programmed channels to and from the scan list, setting the radio to the tone or talk-around mode and setting a priority channel. Other highlights include built-in CTCSS and DCS.

Circle 131 on reader service card

A 31-minute plant installation video from **Progress Products** is available on VHS cassettes with narration in English or Spanish.

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Calendar

JUL. 10 ALCA Certified Landscape Professional Exam, Cincinnati, Ohio. Contact: ALCA, 12200 Sunrise Valley Drive, Suite 150, Reston, VA 22091; 703/620-6363.

JUL. 13 University of Maryland Turfgrass Research Field Day, Silver Spring, Md. Contact: P.H. Dermoeden, 301/405-1337.

JUL. 13-16 American Association of Nurserymen Conference and AAN Convention/MANTS Trade Show (July 14-16), Baltimore, Md. Contact: AAN, 1250 I St. NW, Suite 500, Washington DC 20005; 202/789-2900; or Mid-Atlantic Nurserymen's Trade Show, P.O. Box 314, Perry Hall, MD 21128; 410/882-5300.

JUL. 19 Annual Southern Illinois Turfgrass Field Day, Southern Illinois University at Carbondale. Contact: SIUC, Plant & Soil Science Dept., 618/453-2496.

JUL. 19-21 3rd Annual Midwest Grounds Management Conference, Illinois State University, Normal, Ill. Co-sponsored by the Midwest Association of Physical Plant Administrators and the Professional Grounds Management Society. Contact: Chuck Scott, 309/438-2032 or fax, 309/438-7955.

JUL. 24-26 International Lawn, Garden & Power Equipment Expo, Kentucky Exposition Center, Louisville. Contact: Sellers Expositions, 6100 Dutchmans Lane, Sixth Floor, Louisville, KY 40205; 800/558-8767.

JUL. 26-28 Penn Allied Nursery Trade Show, Valley Forge Convention Center, King of Prussia, Pa. Contact: PNA, 1924 N. Second St., Harrisburg, PA 17102; 717/238-1673.

JUL. 26 Midwest Regional Turf Field Day, West Lafayette. Contact: Midwest Regional Turf Foundation, P.O. Box 2285, West Lafayette, IN 47906; 317/494-8039.

JUL. 27-29 ASPA Summer Convention, Newport, R.I. Contact: American Sod Producers Association, 1855-A Hicks Road, Rolling Meadows, IL 60008; 708/705-9898.

JUL. 28-29 LCA Summer Conference, Holiday Inn Crowne Plaza, Rockville, Md. Contact: Landscape Contractors Association MD-DC-VA, 9053 Shady Grove Court, Gaithersburg, MD 20877; 301/948-0810.

JUL 30-AUG. 1 APLD Summer Conference 1994, Philadelphia, Pa. Contact: Association of

Professional Landscape Designers, 301/216-2620.

JUL. 30-Aug. 1 Southern Nurserymen Trade Show, Georgia World Congress Center, Atlanta. Contact: Southern Nurserymen's Association, 404/973-9026.

AUG. 6-7 1994 Colorado Certified Landscape Technician Test, Front Range Community College, Fort Collins. Contact: John Gibson, Associated Landscape Contractors of Colorado, 303/337-6200.

AUG 9 Associated Green Industries Field Day, Lake County Nursery, Ohio. Contact: AGI of Northeastern Ohio, 614/263-9311.

AUG. 16 Wisconsin Turfgrass Field Day, O.J. Noer Turfgrass Research and Education Facility, Madison, Wis. Sponsored by the University of Wisconsin-Extension and the Wisconsin Turfgrass Association. Contact: Dr. Frank Rossi, 608/262-1490.

AUG. 19-21 TAN-MISSLARK 94, George R. Brown Convention Center, Houston, Texas. Contact: TAN-MISSLARK Nursery & Gar-

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Staying On Target

(continued from page 68)

the tree should be treated.

Many landscape firms that believe they are using an IPM-based target spray program are really operating a see-and-spray service. The companies have developed insecticide lists and spray schedules for their key pests, but they base their decision to treat on whether the insect is present rather than how many are present.

The decision of whether to treat or not should be based on injury and action thresholds. The injury threshold is the population size, above which the resulting plant damage is unacceptable to the client. The action threshold is the population density at which control must be initiated to prevent the injury threshold from being reached.

For example, many clients can detect foliage damage as low as 5 percent or 10 percent and surveys indicate many homeowners initiate control measures when

plant damage reaches 7 percent of the foliage. This means a landscape maintenance service must establish what population density will cause about 5 percent or 10 percent damage to the foliage and determine at what population density control must be initiated to prevent the unacceptable damage from occurring.

Action thresholds have been established for several key pests: for pine needle scale it is two to four per needle and for the bronze birch borer it is the presence of one D-shaped emergence hole.

But action thresholds are dynamic and influenced by several factors. A healthy tree can withstand a higher pest population than a weak tree. Weather conditions that can stress a tree, such as drought and flooding, will lower the action threshold since these stressing agents tend to make a tree more susceptible to insect attack. The location of the plant in the landscape will also influence the action threshold.

A tree near the front entrance way of the house will be more noticeable than a

similar tree tucked away in the back. Thus the front tree will have a lower action threshold. Because of these reasons, action thresholds are difficult to establish and are not yet available for most of the key insects in the landscape. Landscape maintenance companies need to take careful observations and develop their own action thresholds. These thresholds need to be conservative since clients are expecting good results, but should be initiated in a timely fashion.

Target sprays are an important method of effectively and safely applying pesticides. The use of these sprays benefits the company and the client. By "staying on target" the landscape maintenance industry can maintain attractive landscapes with a fraction of the pesticides that would be necessary with cover sprays. ■

Ball is an assistant professor for the Extension Forestry department at South Dakota State University; McLeod is assistant professor for Extension Entomology at SDSU.

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den Supply Show, 7730 S. IH-35, Austin, TX 78745-6698; 512/280-5182.

AUG. 25 Indiana State Lawn Care Association Summer Field Day, Northern Beach Park, Indianapolis. Contact: ISLCA, P.O. Box 481, Carmel, IN 46032; 317/575-9010.

AUG. 26-28 Farwest Show, Oregon Convention Center, Portland, Ore. Contact: Farwest Show, 2780 S.E. Harrison, Suite 102, Milwaukee, OR 97222; 800/342-6401.

SEP. 7-11 RISE Annual Meeting, Ritz Carlton, Naples Fla. Contact: Responsible Industry for a Sound Environment, 202/872-3860.

SEP. 8-9 Southwest Horticultural Trade Show, Phoenix Civic Plaza, Phoenix. Contact: Cheryl Goar, Arizona Nursery Association, 602/966-1610.

SEP. 18-21 ALCA Interior Plantscape Division Conference & Trade Show, Mirage Hotel, Las Vegas. ALCA's Certified Landscape Professional Exam takes place Sep. 21. Contact: Associated Landscape Contractors of America, 12200 Sunrise Valley Drive, Suite 150, Reston, VA 22091; 703/620-6363.

SEP. 19-21 Florida Turfgrass Association 42nd Annual Conference and Show, Fort Lauderdale. Contact: FTGA, 302 S. Graham Ave., Orlando, FL 32803; 800/882-6721 or 407/898-6721.

OCT. 8-11 ASLA Annual Meeting & Expo, San Antonio, Texas. Contact: Janet Rowson, American Society of Landscape Architects, 202/686-2757.

OCT. 19-20 ASA 1994 Annual Convention, Hershey Lodge and Convention Center, Hershey, Pa. Contact: Atlantic Seedsmen's Association, 298 E. McCormick Ave., State College, PA 16801; 814/237-0330.

NOV. 1-4 IA International Irrigation Exposition, New Orleans Convention Center, New Orleans, La. Contact: Irrigation Association, 703/573-3551.

NOV. 8-11 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. 14-17. Green Industry Expo, St. Louis, Mo. 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.

News in Brief

(continued from page 14)

method of calculating historical yields to allow producers to determine their yields based on anticipated production rather than only past marketed production.

Pesticides May Improve Turf Rooting

Besides the expected benefits of the control of diseases, a recent study shows a fungicide's ability to "jump start" turf's root system development during the first few weeks after planting.

The study, conducted at Iowa State University by Nick Christians and Roger Roe, examined the rooting of Kentucky bluegrass and how selected products aided, if at all, in the development and establishment of sod root systems.

The tests were conducted over a six-week period in individual treatment cells that featured mesh bottoms to allow root systems to develop below the frame.

A hydraulic lift was used to test the root strength of each test cell. Sod was cut at 3/4 of an inch in depth, transplanted into the cells and treated with selected products.

There were significant differences between the control and some of the products used. While some had a negative effect on turf rooting, others showed a significant increase in the turf's root structure.

The study shows that pesticides may serve more than one purpose in turf. They can control diseases, insects and weeds, and they may provide stronger turf root systems.

Hunter Bestows Achievement Award

Jack Murphy Stadium turf manager Steve Wightman received the Hunter Industries Lifetime Achievement Award.

Wightman, stadium turf manager at San Diego's Jack Murphy since 1988, was honored for his contributions to the sports turf management profession and for his efforts to promote education and training in the industry.

He is a board member of the national Sports Turf Managers Association and has served as the organization's president.

Kimmell New IA Executive Director

Tom Kimmell, formerly with Olson Irrigation, replaced Pepper Putnam as executive director of the Irrigation Association. Putnam resigned in April.

Kimmell was president of the IA in 1992. He has also held senior level sales and marketing positions with Hardie Irrigation and Olson.

Cover Story

(continued from page 28)

Q. What is your vision for Dennis' 7 Dees Landscaping?

A. My goal for this company is to surprise people with service. That is a more powerful motivator than profit. You have to have profit to stay in business. But the real satisfaction I get out of this industry is when I can really surprise somebody with a service they didn't expect. Everybody's talking about quality service, but actually achieving it and taking it to the highest level — that is a rare find.

Q. How do you customize your services to meet client needs?

A. Every project is a new problem to solve and that's how we view it. We're there to solve problems, and to create an outdoor living space that fits the clients' personalities and needs. We encourage as much input as possible from them. We send a detailed questionnaire ahead of time, so we can tickle their thought process. Do they use the outdoors? What types of plants do they like? Do they have children? A dog? From there we can begin to tailor the projects to their likes and lifestyles.

Q. What is your goal, not only for your company, but the industry as a whole?

A. We need to change public perception about the technical skills needed to perform our work, and the value the public places on the industry. When a plumber submits a price and charges \$45 per hour, the public accepts that without question because the service is not something they can do themselves.

Q. Who is responsible for educating the public?

A. It is the responsibility of the contractors, the associations and the industry. I think that with increased national and state level certification, which we've seen lately, improving our technical skills and establishing our work as a needed profession, then we can charge more for our services and that's going to end up protecting our industry.

"(The Associated Landscape Contractors of America) has just adopted the certified landscape technician training program. This is the same program that OLCA has had in place for two years. It's a wonderful training tool. And it's a great base to build off of for an in-house training program. We really participate in a big way in that program.

Q. What changes do you see being implemented in the industry that will help improve its image?

A. Environmental concerns, water as a limited resource, chemical restrictions — all these things are issues that the landscape industry has solutions for. But it will require digging in our heels, working together as an industry and using the resources we have at hand.

That means biotechnology, drip irrigation, central control irrigation. Environmental issues are forcing us to raise our standards. That alone is going to change how the industry is perceived. ■

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

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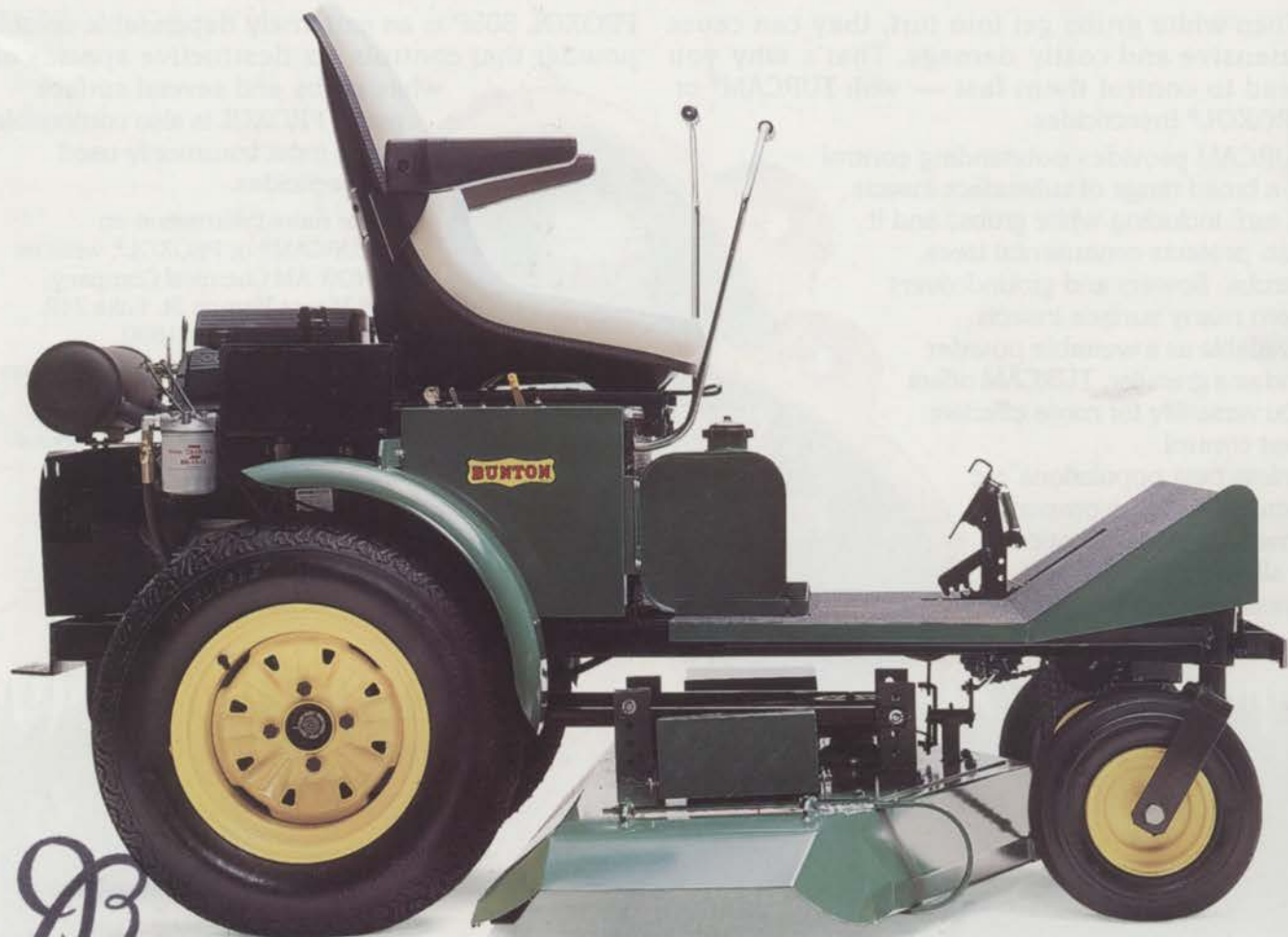
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