

LAWN AND LANDSCAPE **AIA** MAINTENANCE

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**Building a
Top-Drawer Image**

Proper Pesticide Storage

**Customer Communication
Through Newsletters**

**Special Seeding and
Aeration Supplement**

**1989 Chemical and
Equipment Previews**

Full Service Lawn Care

*How Hydro Lawn's Jerry Faulring is
Reshaping his Company's Future.*

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Jerry Faulring

Cover photo by Jon Feingersh, a free lance photographer in the Washington, D.C. area.



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EDITOR'S FOCUS

AS INDICATED BY OUR SURVEY story last month, the lawn maintenance industry is going through a significant transition.

That's not surprising, in and of itself, considering the relative youthfulness of the market. But this transition is one which will impact the direction of the industry for years to come.

The mass-marketing frenzy experienced in the early 1970s has long since burned out, and a more sophisticated, mature marketing attitude has slowly taken hold.

That sophistication meets the ideals of the industry and the market which it currently serves. Customers are becoming more educated and as a result, expect more from their lawn and landscape maintenance companies.

Jerry Faulring, president of Hydro Lawn, Gaithersburg, Md., says many lawn maintenance professionals are finding that their companies have come full-circle since the industry hit its heyday. Hydro Lawn, for example, went from a full-service company to a pure chemical lawn care company in the mid-1970s when ChemLawn burst onto the scene. Some 16 years later, Faulring finds himself looking back to those full-service days.

"We used to sell 99 percent of our leads with no follow-up. Now we're lucky if we do 50 percent," he says. He explains that he and others have nearly exhausted the "first-time buyers," and will have to be more cautious in the next growth stage.



"The industry is in a maturation stage. It's attracted the public's attention, government attention; it's typical of other growing industries," Faulring says. "I think the future of the industry will be continued expansion of multiservice. It'll be a challenge."

Talk of this full-service trend began filtering through the lawn maintenance industry several years ago and while not for everybody, it's starting to carry some clout. Faulring recognizes this and has conducted massive marketing surveys, plotting the future course for his company.

In addition, a majority of the respondents to our survey indicated that growth through diversification is their top prior-

ity for the remainder of the '80s, continuing into the 1990s. Mowing, irrigation landscape installation, seeding and tree care topped the list of expansion plans.

The multiservice fever may be infectious, but the industry remains a multifaceted one. One in which there's room for both the full-service and purely chemical or maintenance companies. Some companies have no legitimate reason to change the course of their company, yet will always be a part of the maturing industry.

Faulring was a logical choice to appear on the cover of the first issue of *ALA Lawn & Landscape Maintenance*, as he exemplifies the new direction of our magazine. Through a more broad-based approach, *ALA/Maintenance* will guide and direct the lawn and landscape maintenance professional through the changing years ahead.

As the lawn maintenance industry has followed a wave of change, so has *ALA*. Beginning as a technical guide for the chemical applicator, *ALA* took a broad step into the lawn maintenance industry in the mid-1980s, breaking into the horizontal market. Now the magazine's direction will take it one step further into the multifaceted landscape maintenance industry.

We hope you enjoy this first issue of *ALA/Maintenance*, and be sure and let us know what you think of our new magazine, or if there's any topic you'd like to see covered in a future issue. — *Cindy Code*

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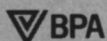
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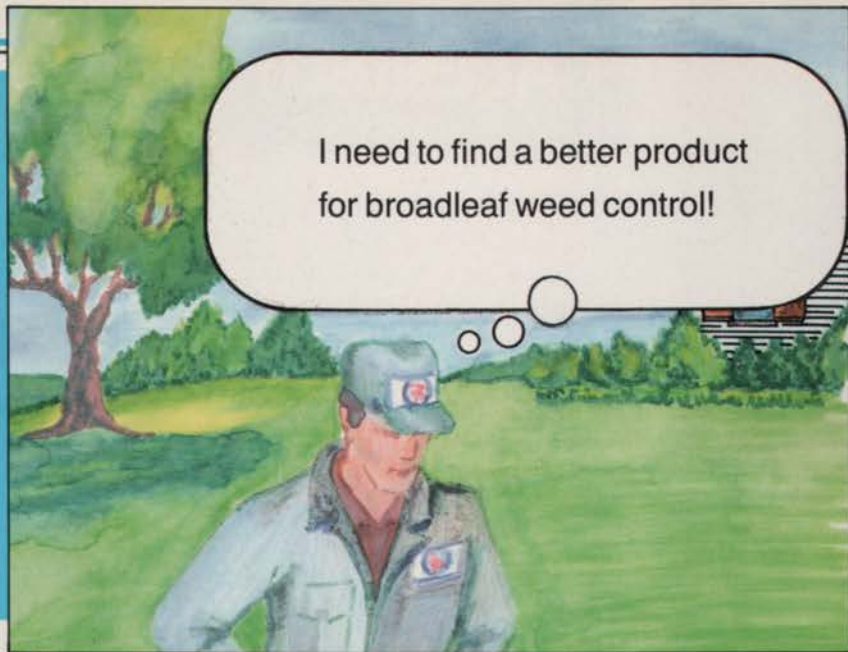
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CALENDAR

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California Landscape Contractors Association annual meeting, Phoenician Hotel, Scottsdale, Ariz. Contact: Bavetta, CLCA Headquarters, 2226 K St., Sacramento, Calif. 95816; 916/448-CLCA.

NOV. 18-20

Green Team Conference & Trade Show, Buena Vista Palace, Orlando, Fla. Contact: Martha Lindauer, Associated Land-

scape Contractors of America, 405 N. Washington St., Falls Church, Va. 22046; 703/241-4004.

DEC. 1-3

1988 NFSA Annual Convention and Trade Show, Cincinnati, Ohio. Contact: Lisa Scott, National Fertilizer Solutions Association, 10777 Sunset Office Dr., Ste. 10, St. Louis, Mo. 63127; 314/821-0340.

DEC. 5-8

New Jersey Turfgrass Expo '88, Resorts International Hotel, Atlantic City, N.J. Contact: Dr. Henry W. Indyk, Rutgers Cooperative Extension, Soils and Crops Department, P.O. Box 231, New Brunswick, N.J. 08903; 201/932-9453.

DEC. 6-9

1988 Ohio Turfgrass Conference and Show, Cincinnati Convention-Exposition Center, Cincinnati, Ohio. Contact: John Street, Ohio State University, 2021 Coffey Rd., Columbus, Ohio 43210-1086; 614/292-2601.

DEC. 14-16

1988 Desert Turfgrass/Landscape Conference and Show, Tropicana Resort and Casino, Las Vegas, Nev. Contact: Dale F. Keller, Jr., show manager, 3376 South Eastern Ave., Ste. 148, Las Vegas, Nev. 89109; 702/735-0000.

JAN. 4-6

Mid-Atlantic Nurserymen's Trade Show, Baltimore Convention Center, Baltimore, Md. Contact: Mid-Atlantic Nurserymen's Trade Show, P.O. Box 314, Perry Hall, Md. 21128; 301/256-6474.

JAN. 9-11

27th Annual Nebraska Turfgrass Conference, Holiday Inn Central, 72nd & Grover, Omaha, Neb. Contact: Don Ellerbee, executive director, Nebraska Turfgrass Foundation, 209 W. 9th, Hastings, Neb. 68901; 402/463-5418.

JAN. 23-25

Midwest Regional Turf Conference and Show, Adams-Mark Hotel, Indianapolis, Ind. Contact: Jo Horn, Dept. of Agronomy, Purdue University, West Lafayette, Ind. 47907; 317/494-8039.

JAN. 29 to FEB. 1

Landscape Professional Development Seminar, Lake Buena Vista, Fla. Walt Disney World in conjunction with the Florida Nurserymen and Growers Assoc. Contact: Walt Disney World Co., Seminar Productions, P.O. Box 10,000, Lake Buena Vista, Fla. 32830-1000; 407/828-1330.

FEB. 3

The Second Annual Landscape IPM Conference, Trinity University, San Antonio, Texas. Contact: John Goolsby, 512/834-9359 or Betty Hughes, 512/821-5143. ■

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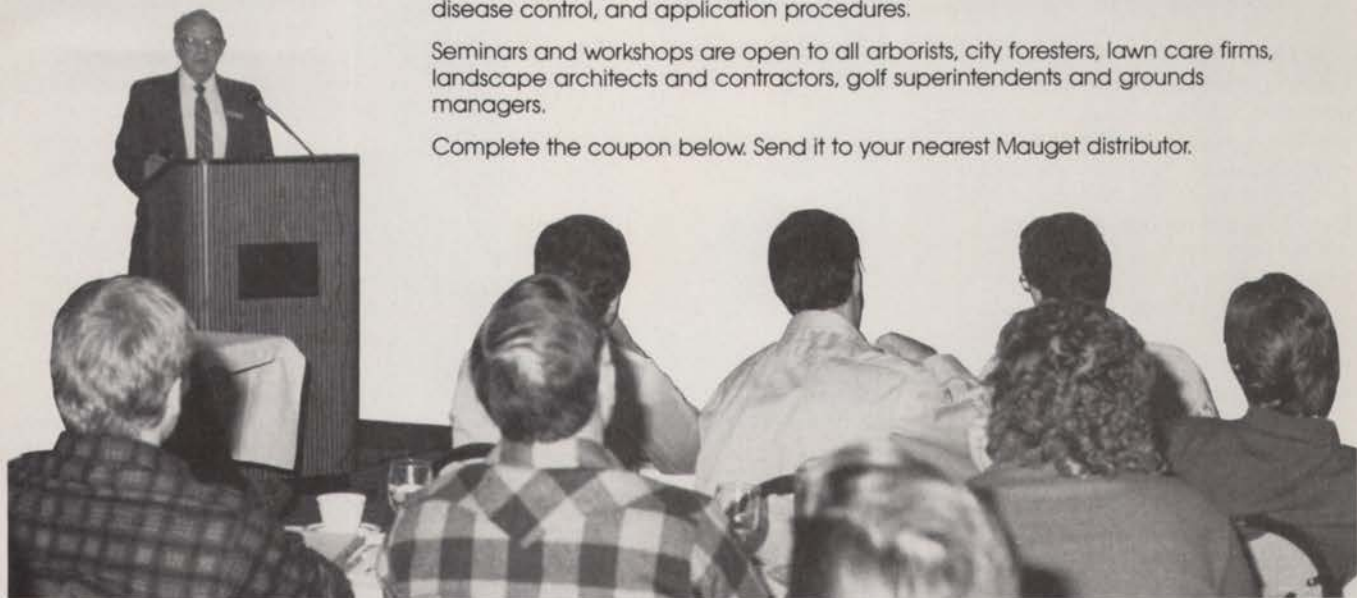
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NYSTA POISED TO FIGHT NOTIFICATION REGULATIONS

TWO CONTROVERSIAL ISSUES IN the state of New York may soon be reaching the federal courts.

The New York State Turfgrass Association, in conjunction with a number of other participating associations, is bracing itself for a legal skirmish against the state's Department of Environmental Conservation. The two key battle issues are: recently passed notification regulations and the overcollection of certification fees.

Neither suit had been filed at the time this article went to press.

When the DEC passed the notification regulations two months ago, it came at the expense of the state's LCOs who desperately tried to cooperate with state officials working on the notification rules.

The final regulations do not, however, take many of the LCOs' requests into consideration, creating bitter acceptance among industry professionals. The regulations do not go into effect until Jan. 1, but the NYSTA hopes to file some sort of legal action before the year's end, according to Beth Seme, executive director of the NYSTA.

Although the association's total defense has not yet been planned, a large part of its defense will center around the contention that the recently passed regulations are preempted by the Federal Insecticide,



Fungicide and Rodenticide Act.

FIFRA legislation states that it's illegal for anybody, including the state, to request anything viewed as pesticide labeling over and above what is required by the federal government.

According to Jim Wilkinson, executive director of the Pesticide Public Policy Foundation, the court action will probably challenge the DEC's recently passed regulations as being an extension of labeling as covered by FIFRA.

The Professional Lawn Care Association of America and 3PF have decided to become plaintiffs in the matter as well,

Seme added.

Attorney Thomas West of Nixon, Hargrave, Devans & Doyle, Albany, N.Y., will represent the association in the matter, however, he was unavailable for comment.

If West and the associations should be successful, the impact could have wide-ranging impact in states with similar regulations.

The NYSTA is also considering another lawsuit in state courts, contending the DEC didn't follow correct administrative procedures when promulgating and passing the regulations.

At the time of their passage, Seme said she was disappointed

the DEC did not take scientific evidence and research into consideration when passing its regulations. "We're trying to determine how best to get this information out. Now and in the future, we're going to be hampered by decisions not being based on scientific research."

Although Seme could not reveal more of the association's legal plans, she said the notification battle would take priority over the overcollection of fees.

The possibility of an overcollection of fees was first noticed last spring when a discrepancy between a New York State law and DEC regulation surfaced. According to Seme, certification

fees are due upon recertification, every six years in the state of New York. DEC regulations, however, require the fee to be collected annually.

The overcollection of fees comes at the expense of all state commercial pesticide applicators, including turf and ornamental, structural pest control and aerial applicators. Seme said that 16,000 to 17,000 certified applicators are included.

The overcollection is said to exceed \$1.5 million.

The average fee per applicator is \$15, however, applicators must pay \$5 for each additional category in which they do business.

The General Assembly of New York recently defeated

FIFRA LEGISLATION PASSES THE SENATE

THE SENATE HAS APPROVED an amendment that will require in the next nine years an updating of the data bases of more than 600 ingredients used in pesticides.

The FIFRA amendment, which passed the House earlier this year, will require pesticide manufacturers to take on a portion of the financial burden associated with disposing of pesticides banned by the EPA.

The amendment is a "core" version of earlier legislation which would have mandated verifiable training for all commercial applicators of pesticides, limited ground water con-

tamination and monitored pesticide levels in food more closely. These controversial issues have blocked FIFRA passage for some time.

Instead of registration fees, maintenance fees for the re-registration program will be applied to each of the estimated 40,000 products under the program. A fee of \$425 would be charged for each pesticide product, up to 50 products per company and \$100 per product over 50 and up to 200 products per company with a maximum of \$35,000 for any one company in this category.

A portion of the money rais-

ed from these fees each year will be used to expedite the processing of end-use products that are identical or similar to currently registered products. No additional registration fees can be charged for nine years.

When a pesticide is canceled, the EPA will no longer be responsible for paying pesticide registrants for the amount of pesticide they have on hand. Nonregistrants, including commercial applicators, would continue to be indemnified.

The bill will require pesticide registrants to share the cost of storage of canceled pesticides, and pay for disposal altogether.



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a bill which would have given approximately \$1 million back to LCOs, Seme said. The vote was far from unanimous, leading Seme to believe that state legislators recognize there is a problem.

PENN STATE TURFGRASS SPECIALIST RETIRES

John C. Harper, professor of agronomy and extension turfgrass specialist, retired June 30 after 30 years of service to the College of Agriculture at Penn State.

He has been responsible for educational programs in turfgrass management and has worked with athletic fields, golf courses, lawns, roadsides, highway slopes, parks and cemeteries. Using computers and careful chemical controls, Harper has helped his clientele develop effective turfgrass management systems.

"Turfgrass management involves an understanding of agronomy, horticulture, plant pathology and entomology, and I've enjoyed working with specialists in these areas," Harper said.

Harper has served on a number of faculty committees for the College including chairman of the Turf State Plan of Work Committee for Penn State Cooperative Extension and a member of

the Landscape Management-Water Quality and Ag Progress Days committees.

In recognition for his educational programs related to turfgrass management and nutrition, Harper received a distinguished Service Award from the Golf Course Superintendents Association of America in 1978. He has spoken at more than 2,000 turf conferences in the United States, Canada and Mexico. In 1972, he also received a distinguished service award from the Pennsylvania Turfgrass Council.

Because of his efforts, nearly all supervised recreational areas are now routinely limed, a sharp contrast to the few 10 percent which were limed in the mid-1950s.

Among his other accomplishments are the initiation of a number of turf programs including one that has become the Eastern Pennsylvania Turf Conference and Trade Show. He has published more than 80 articles as well as the book, "Athletic Fields, Specifications, Outline, Construction and Maintenance," which has had worldwide distribution.

Before joining the College of Agriculture faculty in 1958, he served as a turfgrass research agronomist for the U.S. Department of Agriculture and a research agronomist for the Lawn Grass Development Corp.

SNAPPER ENTERS SMITHSONIAN MUSEUM

Snapper Power Equipment, has been honored by the Smithsonian Institution's National Museum of American History. The museum will display an early model "Snappin' Turtle" lawn mower built around 1950.

Snapper's Chairman, A.A. Malizia, was also interviewed and his statements will be featured with the display so that 100 years from now, visitors to the Smithsonian will hear how the Snappin' Turtle self-propelled, walk-behind mower helped change the lawns of America.

The National Museum of American history is devoted to the exhibition, care and study of artifacts that reflect the experience of the American people. The museum is visited by more than 30,000 people every day.

PURCHASE DECISIONS OF LCOs STUDIED IN DOW SURVEY

The percentage of broadleaf weeds controlled is the single most important herbicide brand selection consideration, according to LCOs surveyed recently by The Dow Chemical Co.

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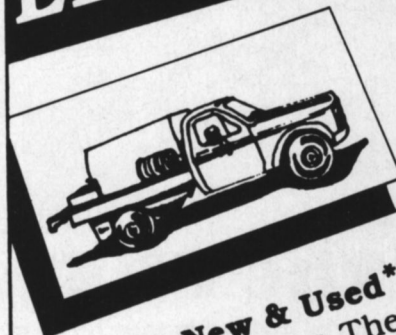
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This factor accounted for 27 percent of the purchase decision for herbicides used in broadcast applications and 34 percent for chemicals used for spot treatments.

About 100 LCOs responsible for selecting chemicals and materials for their lawn care operations were surveyed. Eighty-six percent were from the Midwest and the remaining were from the Northeast.

The spectrum of weeds controlled was their second most significant consideration, accounting for about 18 percent of the decision for broadcast chemicals and nearly 20 percent for spot chemicals. In

both instances, LCOs preferred herbicides which provide total control of both hard- and easy-to-control weeds, to those only giving partial control.

The participants indicated that a chemical's ability to reduce callbacks was their third most important factor in their purchasing decision. This factor accounted for about 12 percent of their decision to buy broadcast and spot herbicides. In both cases, the LCOs preferred chemicals which reduce callbacks by at least 30 percent. Their preference declined as the percentage of reduction in callbacks declined.

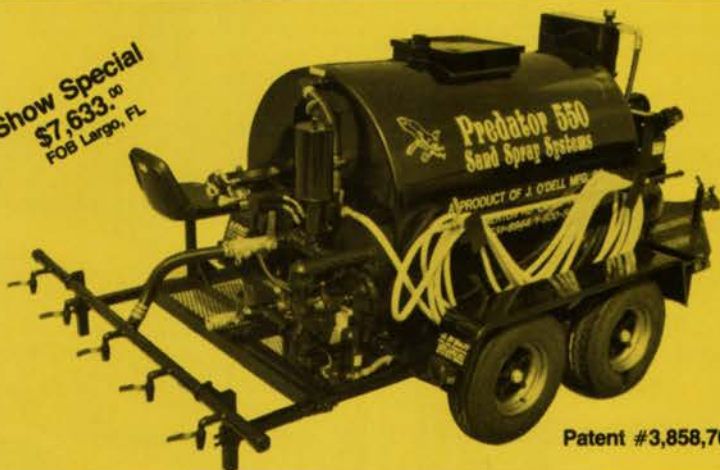
The survey by Dow also revealed that a chemical's ability to reduce cancellations was significantly important to LCOs. This factor accounted for 11 percent of their decisions for broadcast and 10 percent for spot chemicals. As with callbacks, the LCOs strongly preferred those herbicides which reduce cancellations by 30 percent



Weed control important in reducing callbacks.
Photo: Rick Lipman

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and their preference declined as the percent of cancellations declined.

The survey revealed that a chemical manufacturer offering business training to users had a significant advantage over those not offering support.

Another important consideration was safety to off-target plants. This factor accounted for 9 percent of selection decisions for broadcast chemicals and 5 percent for spot materials.

According to the survey, chemical cost per acre was significantly less important than efficacy, sales support and safety. Cost accounted for 9 percent of the broadcast chemical decision and 4 percent for spot herbicides. The results indicated that LCOs will pay a higher price for herbicides which are more effective, better at reducing callbacks or cancellations, safer and are manufactured by a company providing business training.

MONTHLY PRODUCTION OF GRAZER MOWERS TO INCREASE

Construction plans to expand the manufacturing facilities of the Grazer Division plant in Maple Hill, Kansas, have been started by the M & W Gear Co. M & W Gear recently acquired the Grazer commercial line.

The Grazer division came to M & W Gear as part of its acquisition of the Willsey-D Corp. The deal represented the first step by M & W Gear, a manufacturer of farm equipment since 1949, into the lawn maintenance industry.

The Maple Hill-plant manufactures Grazer Zero Turning Radius grounds mowers. The new facility will increase the number of Grazer mowers produced each month by about 50 percent.

ALA/MAINTENANCE • NOVEMBER 1988

Construction is expected to be completed by December. Present manufacturing will not be affected by the construction.

SOUTHWEST LANDSCAPE FIRM COMPLETES MAJOR ACQUISITION

Maintain Inc., one of the largest commercial landscape maintenance companies in the Southwest has acquired the Dallas-based landscape company, Contract Landscaping Inc.

The buy out included a volume of \$250,000 in active business contracts.

Maintain Inc./Landscape Design & Construction, founded in 1971, provides a full range of commercial landscape management services. Nationally recognized for its achievements in the industry, Maintain Inc. has 170 full-time and part-time employees with offices in Dallas, Fort Worth and Houston.

MILLIKEN OFFERS FREE PUBLICATION FOR LCOs

A publication on "Maximizing the Effectiveness of Fungicides," is being offered free to industry professionals by the Milliken Chemical Co.

With the help of Houston Couch of Virginia Polytechnic, Milliken prepared the booklet which addresses the issues of nozzle selection, water usage, the effect of delayed application, the effect of rain-fall/watering and accurate applications.

For a copy of the booklet write: Milliken Chemical Co., P.O. Box 817, Inman, S.C. 29349; 803/472-9041.

KUBOTA PLANS FIRST U.S. MANUFACTURING PLANT

Kubota Ltd., one of Japan's leading industrial manufacturers, will expand its United States operations with the construction of a 70,000-square-foot manufacturing plant on 151 acres of land in Gainesville, Georgia.

Kubota Manufacturing of America will initially employ 50 employees and manufacture loaders for Kubota tractors. Production at the Gainesville facility is expected to begin Jan. 1.

Company officials have high expectations for its first American facility, planning to expand its production to include the manufacturing and assembly of other products developed specifically to meet the needs of the U.S. market.

Initially, Kubota Manufacturing will distribute exclusively in the United States through Kubota Tractor Corp. As production grows, the company plans to export its products worldwide.

PURSELL ATTAINS MCI'S CONTROLLED RELEASE VENTURE

Pursell Industries' Parker Fertilizer Co. recently acquired the controlled release technologies which were under development by the MCI AgSystems division of Melamine Chemicals Inc.

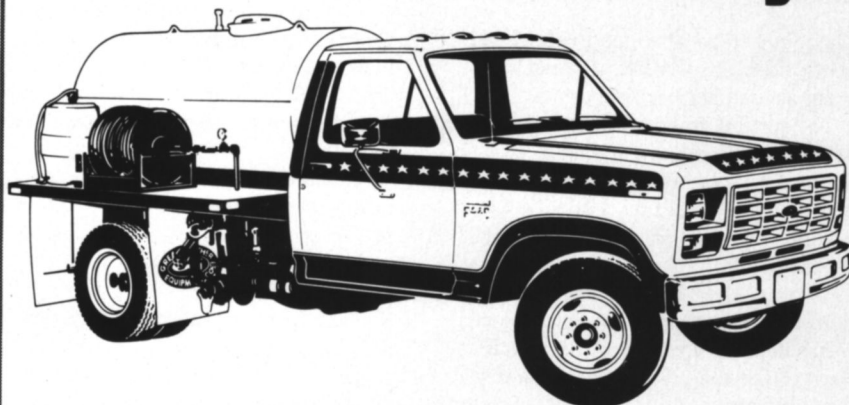
"This acquisition will enhance the Pursell Industries mission of developing new technology in fertilizers and pesticides," said James Pursell, president. "Our future efforts in research and development will be to develop advanced fertilizer products and systems to meet our customers' needs."

Joining the Pursell Industries team which is headed by David Pursell, vice president, will be John Detrick as manager of product-market development, who formerly was manager of MCI AgSystems. His responsibilities will include continuing with the experimental polymer coated urea, named RLCU for reactive layers coated urea. The term indicates the unique patented reactive coating process.

Detrick, who formed MCI AgSystems, said the new RLCU technology has the potential to be a significant advancement in coated controlled release technology for the needs of the turfgrass markets.



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ASSOCIATION NEWS

THE PROFESSIONAL GROUNDS Management Society recently released its revised *Grounds Maintenance Estimating Guidelines* manual.

This fifth edition has been expanded to 28 pages. The manual's purpose is to provide a tool for the professional manager to use in starting or updating a cost estimating program. Several worksheets are included which can be used when developing individualized estimates. Various calculations cover personnel, capital equipment, production standards, etc. The manual is free to all PGMS members and \$12 for nonmembers. (\$15 if billed.)

In addition to the estimating guidelines manual, two other publications are available from PGMS. They are: *Grounds Maintenance Management Guidelines*, free to PGMS members and \$12 for nonmembers, and *Grounds Management Forms & Job Descriptions Guide*, also free to PGMS members and \$9 for nonmembers (\$12 if billed.)

The initial response to the **Professional Lawn Care Association of America's** silent auction has been very good.

The auction, to be conducted this month at PLCAA's Ninth Annual Conference & Show in New Orleans, La., is being held to benefit the association's defense fund. The defense fund financially supports PLCAA's growing involvement in regulatory issues and public relations efforts at all levels of government.

According to Director of Education Barry Troutman, 28 companies have said they will participate in the silent auction with donated products and services representing a combined total of \$25,000.

Trade show attendees can bid for a particular product or service offered by an

exhibiting company through a bid board found in each participating booth. The high bid buys the donated product at the end of the auction with the proceeds going to the defense fund.

The **California Landscape Contractors Association** will be seeking more commercial projects for its members with a newly developed print media advertisement, "A Real Estate Investment is More than Steel & Glass."

The ad tells commercial clients to "keep your corporate image in bloom by calling a CLCA member." It also advises clients to look for the CLCA emblem in the Yellow Pages under "Landscape Contractors."

The ad is the second in a series of two ads available to the association's chapters for placement in local publications.

In other news, the CLCA recently released a new video on "Professional Sod Laying Techniques." The "how-to" video is intended as a training tool for new employees, and features step-by-step directions and on-site interviews with industry experts. Valuable tricks of the trade are provided which can be put to use in the field.

The 20-minute video comes with an illustrated reference guide plus group training materials. The cost is \$85 postage-paid.

Richard Lehr, renowned attorney, will be the keynote speaker at the annual meeting of the **National Arborist Association**. He will address current public issues and their future impact on small business.

The annual meeting is scheduled for Feb. 5-10 at the Buena Vista Palace Hotel in Lake Buena Vista, Fla.

Strategic planning, crisis management, profit enhancement, modern marketing techniques and new financial management methods are among the other topics to be covered. There will also be discussions on client communications, new equipment, computers and regulatory compliance.

Although there is no trade show at the NAA meeting, a number of industry suppliers will be on hand to meet with the owners and managers of commercial tree service firms from the United States and Canada.

Recognizing the vital role landscape irrigation contractors play in the irrigation industry, the **Irrigation Association** has developed several new programs specifically for this segment of the industry.

These programs include a special membership dues sale, additional educational short courses and the initiation of a landscape irrigation installers certification program. The goal of these programs is to introduce more contractors to the benefits the association has to offer, and to ensure that industry concerns are addressed when standards and codes affecting irrigation contractors are considered.

As a special incentive, IA is offering a substantial dues discount to new contractor members. For \$100, contractors can join the association through 1989. This is an 80 percent discount off regular contractor dues.

Another project IA is developing for contractors is an irrigation installers certification program, which will help bring consistency to the area of installation regulations.

Eventually it's expected that this program will be adopted in every state and help set practical guidelines that can be followed throughout the country.

The **Iowa Nurserymen's Association** is the newest association sponsor of the Mid-Am Horticultural Trade Show. INA joins the Illinois State Nurserymen's Association, the Illinois Landscape Contractors Association, the Wisconsin Landscape Federation and the Indiana Association of Nurserymen in sponsoring Mid-Am '89, Jan. 20-22 in Chicago. ■

FOR MORE INFORMATION CONTACT...



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NEW SPRINKLER REGULATIONS APPROVED



Photo: LESCO Inc.

A SPECIAL COMMITTEE OF IRRIGATION industry experts successfully pushed through major revisions to the lawn sprinkler section of the National Standard Plumbing Code.

The approval of the new sprinkler regulations, published by the National Plumbing, Heating and Cooling Contractors Association, brings a better understanding of what is and is not acceptable in the installation of sprinklers to potable systems.

The committee had been formed to tame confusion over the interpretation of the sprinkler section, which previously was subject to wide interpretation, according to Mark Williams, director of communications for the Irrigation Association.

The association had been approached by several members who were concerned about the varied interpretation of the code. A committee was then organized to write a new version containing specifics.

The committee prepared the revision in less than a month, and had it reviewed by

the Foundation for Cross-Connection Control and Hydraulic Research and the School of Engineering at the University of Southern California. It was then approved by the National Plumbing, Heating and Cooling Contractors Association without change.

"It's (the approval) good for the group. It clearly states what's acceptable and what is not," Williams said. "It doesn't leave loose ends hanging."

Plumbing contractors were the source of most of the problems experienced by industry contractors.

"One would say one thing was acceptable, then another would say something else was acceptable," Williams said. "They were subject to the whim of an inspector."

As passed, the revised lawn sprinkler section of the national standard plumbing code includes information pertaining to backflow prevention devices, individual assembly and installation.

According to the regulations, lawn sprinkler systems, when connected to a potable water system, should have installed one of three things: a reduced pressure principal backflow prevention assembly, a pressure style vacuum breaker or an atmospheric vacuum breaker.

A double check valve assembly should never be used on a lawn sprinkler system connected to a potable water supply, since it is designed only to protect against non-health hazards.

Specifications for individual assemblies

should include: the atmospheric vacuum breaker must be installed downstream of any shut-off valve and must be installed six inches above all downstream piping and sprinkler outlets to prevent the AVB from being subjected to back pressure. The AVB cannot be exposed to supply pressure more than 12 hours during any 24-hour period.

The pressure vacuum breaker should be used where continuous pressure is experienced. To ensure that back pressure cannot be experienced on the PVB, the unit must be installed 12 inches above the flood plain and should never be installed in a pit.

An air gap or reduced pressure principle backflow prevention assembly is required in situations where the irrigation system on a premise includes cross-connections between a consumer's water system and irrigation systems with pumps, injectors, pressurized tanks or vessels; or other facilities for injecting chemicals, such as fungicides, pesticides, soil conditioners or other toxic substances into the irrigation system.

Any irrigation system that is connected to an auxiliary water supply must be protected from the municipal supply by either an air gap or a reduced-pressure principal backflow prevention assembly.

All wells should be protected in the same manner as the municipal system when pertaining to backflow prevention. The ground water must be protected from contamination because of the usage for potable systems.

When and if any modifications are made to the system, a new inspection of the system is required to ensure the backflow prevention is adequate to protect the potable water supplies.

According to the code, all backflow prevention assemblies are required to be maintained in a continuous state of good repair, and to be tested at least annually.

The committee developing the plan included certified irrigation designers and consultants, system installation contractors, manufacturers and engineering faculty members from several universities around the country. ■

WATER CONSERVATION CAPITOL ISSUE IN CALIFORNIA

A NEW CONSERVATION program started in California is designed to save water used for irrigating urban landscapes and agriculture. The statewide program is also expected to encourage residents to make more effective use of water.

Although water conservation has been a serious concern of the state's for some time, the

drought of 1988 was the impetus needed to make it a reality.

To help launch the program, the Irrigation Association donated water-efficient sprinklers for a portion of the state capitol's lawn. The system will conserve enough water in a year to fill a 3,500-gallon tanker truck 20 times, according to officials. The sprinklers will replace a

40-year-old system currently located on one-third of an acre of the capitol lawn.

The water saved by the new irrigation system will be enough to irrigate 2,000 tomato plants, or grow 14 citrus trees for one year, or wash 2,173 loads of laundry or produce 1,834 helpings of french fries, among other things.

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EXTRA!

VOL. CXXXVI

NEW INSECTICIDE STOPS GRUBS IN 3 DAYS!

**"Lawn care experts
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by THOMAS BAGOT

Recent label approval by the Environmental Protection Agency marks the introduction of the ultimate product for grub control in home lawns.

New Triumph offers lawn care professionals many advantages in grub control.

Because it's fast acting it controls grubs in 2 to 3 days.

Triumph's superior chemistry provides/delivers over 90 percent grub control quickly and maintains that performance over 10 weeks.

New Triumph also controls surface insects and mole crickets and is labeled exclusively for use by lawn care professionals.

And new Triumph's liquid formulation and low rates mean

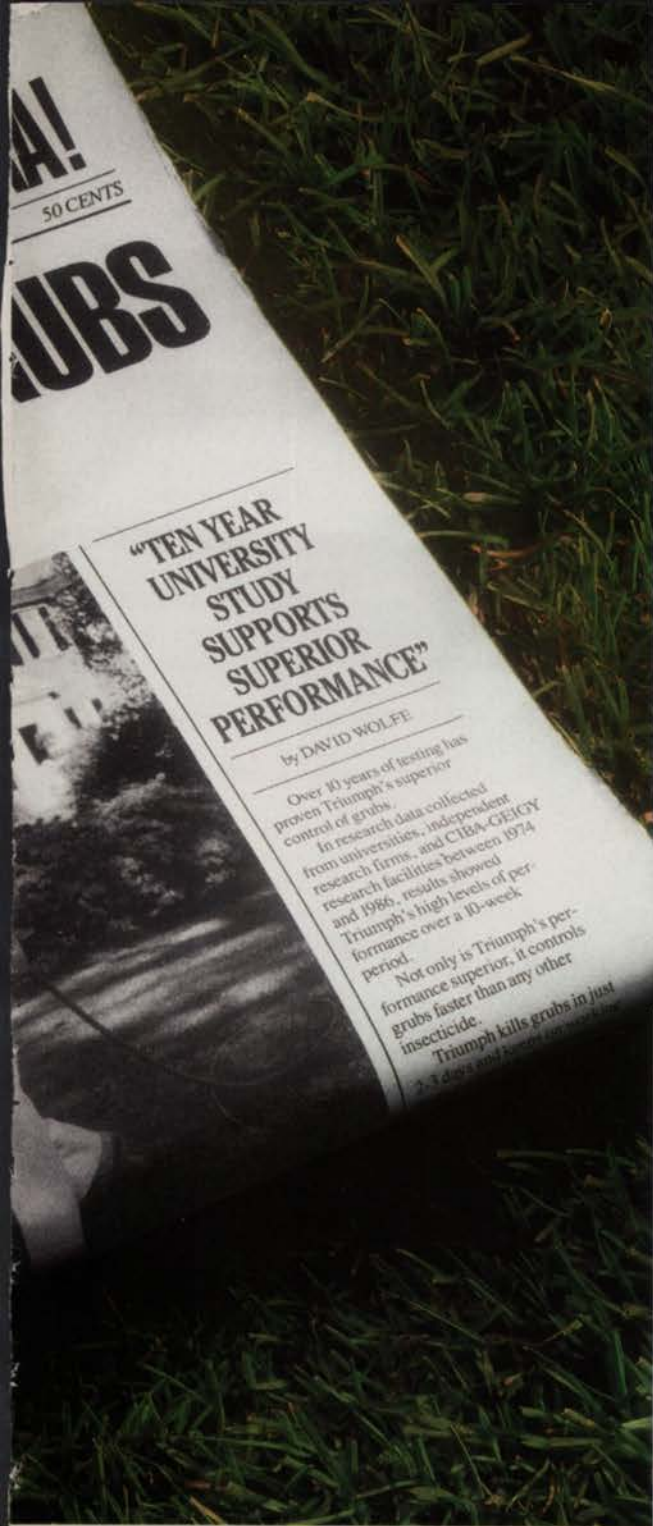
The fast acting control of Triumph stops root damage from grubs in a hurry so your homeowner customers can relax and feel confident that the grub problem is gone.

One application of Triumph per year in the fall is all you need to control grubs consistently and effectively. Years of testing shows that Triumph continues to control grubs for over two months. This should prevent retreatment until the following season.

Triumph goes to work faster than other products you've used. Within two days of application, you see Triumph control grubs and other insects. That means you stop grub damage quickly, reducing complaints and keeping your



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New Triumph[®], from CIBA-GEIGY, provides, on average, over 90% grub control in just two to three days. And there are over 10 years of major university and CIBA-GEIGY trials to prove it.

Triumph offers broad spectrum control of surface feeders like chinch bugs, sod webworms, army worms, chionodes, plus sub-surface mole crickets and annual bluegrass weevils.

Application in late summer to fall can prevent turf insect damage by eliminating grubs when they're small, before they can damage roots. And if grub damage appears in spring and summer, application of Triumph quickly stops further damage.

When your customers call you with a grub problem, they want results fast. And that's what they get with Triumph. And, because Triumph is restricted to lawn care applicators, your customers can only get it from you.



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WATER CONSERVATION IN THE LANDSCAPE

WATER SHORTAGES ARE BECOMING an annual event in many areas throughout the country. As a result, landscapers have been forced to make a concerted effort to conserve water wherever and whenever possible.

The following suggestions may be useful to all landscapers.

TURF. In addition to efficient turf irrigation, a water conservation program involves turfgrass selection, fertilization, mowing, cultivation and pest control. Water conservation involves proper turfgrass management throughout the year, and begins with turfgrass selection. Summer water use rates of turfgrasses used in certain Southern landscapes range from one inch per week for bermudagrass to two inches per week for tall fescue. Recent studies indicate tall fescue is followed by zoysiagrass and centipedegrass in water usage. Since one inch of water equals 600 gallons per 1,000 square feet, considerable water savings can be obtained through turfgrass selection.

A variety of factors are important to remember in irrigation management for turf. Irrigate only when the turf shows signs of moisture stress such as a dull, bluish-green color. Irrigate at the most efficient time — between sunset and sunrise. This is the best time because there

is less evaporation, less wind and lower temperatures.

Apply one inch of water which should soak most soils to a depth of six to eight inches. Calibrate the irrigation system by measuring the rate and uniformity of application. Collect water in several open-top containers of the same size placed in a grid pattern under the system.

In addition to irrigation techniques, it's important to remember general turf management practices.

Maintain proper soil fertility (P, K and pH) and avoid frequent nitrogen fertilization, especially during the summer months on tall fescue. Raise the mowing height, and mow often enough so that no more than one-third of the leaf tissue is removed. This can increase turf survival and reduce water use.

Maintain a sharp mower blade to reduce turfgrass water usage. Avoid the development of excessive thatch which increases shallow rooting. Use cultural practices such as soil coring, slicing and spiking to increase water penetration into the soil, increasing turfgrass rooting.

Avoid pest problems, such as weeds, which compete for soil moisture or insects and diseases, which injure turfgrasses (especially roots), as well as pesticides which may damage the turf. Delay new turf installations until more suitable environmental conditions occur if a water shortage is a problem.

ORNAMENTALS. Mulches are one of the best ways to reduce water loss and conserve moisture. Make certain beds have at least three to five inches of mulch in place. Fine-textured mulches, such as pine straw or pine bark mini-nuggets, are generally more effective than coarse mulches. On new installations, consider placing landscape fabric under the mulches to further reduce evaporative water loss.

Plants vary in their water requirement. Some plants, such as crepe myrtle, cornuta holly, yaupon holly, ligustrum, glossy abelia, elaeagnus and juniper have an inherent tolerance to drought conditions,

and can survive several days or even weeks without supplemental water. Certain annual flowers, such as vinca, portulaca and cosmos are drought tolerant substitutes for petunias, impatiens and caladiums which have a high water demand.

Daylilies, sedum and gaillardia are examples of drought tolerant perennials. But most annual and perennial flowers and many woody plants like azaleas, camellias, rhododendron, dogwoods, redbud, magnolias and several varieties of bedding plants are naturally shallow-rooted and prone to drought stress. Plants having high demand for water should be given priority when water becomes available.

When you do water, remember a thorough soaking that saturates the soil to a depth of six to eight inches is much better for plants than shallow frequent watering. Three to five gallons of water applied per square yard under the canopy of trees or shrubs should thoroughly saturate the root zone. When planting trees and shrubs, shape a water ring around the base of plants to help collect water and direct it to the roots. Research has determined that you don't need to water the entire root system. Twenty-five percent of the root system, when watered thoroughly, can absorb all the water a plant requires at any given time.

Avoid fertilizing drought-stressed plants. Fertilizers are chemical salts and will dehydrate roots when water is lacking. Drought-stressed plants are also more susceptible to insect and disease pests. If you need to apply a pesticide, be certain the plant is not wilted, and spray during early morning or late evening hours when stress is less likely. Also avoid unnecessary pruning of plants during drought. Pruning forces new growth which has a high demand for water.

Many clients may be unaware of the water problem and its possible affect on the quality of services rendered. Once you prepare a water conservation plan, counsel your client to make him aware of your approach to the problem. Inform him of any services which might be modified from the original contract, and assure him that you're doing your best to cope with the situation without compromising the quality of service received. — University of Georgia Cooperative Extension Service. ■



Photo: Mickey Jones

POP QUIZ

1. WHAT DO YOU CALL A TALL FESCUE THAT LOOKS LIKE BLUEGRASS?

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Full Service Lawn Care: The Shape of Things to Come

Talking with Jerry Faulring would lead one to believe that the lawn maintenance industry was just now getting off the ground. He's excited, challenged, hard-working and dedicated to taking that next step in the growth of his beloved industry.

Almost like an Olympic sprinter waiting for the race to begin, Faulring captures the thrill of a business challenge and runs with it.

With the self-assured knowledge of a heretofore successful businessman, Faulring has long since sensed the subtle hints of change and diversification in the lawn maintenance industry. Yet, he keeps that wisdom safely tucked away, waiting for his moment to seize the initiative. He is ideally poised to shape his company for the maturation stage of the lawn maintenance field.

A pioneer in this industry, Faulring knows what it's like to start a lawn care company with no real role model. In fact, that's when he's at his best, initiating and seeing projects through those critical first steps. He did it first with Hydro Lawn, his company based in Gaithersburg, Md., and then with the Professional Lawn Care Association of America and the Pesticide Public Policy Foundation.

He's an admitted self-starter. "It was a lot of pressure, but it was a lot of fun in that it was like creating a new business. It was the thrill of starting something."

Who could be a more appropriate choice than Faulring to discuss the lawn maintenance industry's move toward diversification? Faulring, who has been in charge of his own company since 1973, is currently overseeing the firm's move from a traditional lawn care company toward a new focus on full-service lawn care.

Although he talks about the early days with fondness, he speaks excitedly about the challenging future of the industry.

When the market began leveling off in the early 1980s, Faulring decided to slow things down. "We took a step back and caught our breath to find out what was going on," he said. "Now this year, we've gone back to a fairly aggressive growth posture and have grown quite a bit. The reason we really experienced the growth, and what we've now gone back to, is operating full service programs.

"The problem you get into with full service programs is you have to go out and do some pretty labor-intensive activities — seeding and aeration for example. You've only got a small window to do that and it's tough to gear up an employee force, equipment and all the resources required for that and still keep up with your other work."

The frequency of performing these services then plays a heavy role in deciding whether to diversify a business.

The industry is almost working in reverse of its heyday — now the customers are telling the professionals what they want rather than the industry telling the customers what they need.

"Sales are coming out of the woodwork and we're convinced that it has to do with the fact that we've gone back to offering people what they really want," he said. "We've really gone this full circle, and it took us 16





Photos: Jon Feingersh

years to travel on it, but we've gotten back to it. We're convinced that the future in the industry is going to expand on these multiple service type approaches and not just have one basic program."

In an industry where first-time customers are falling by the wayside, offering additional services is quickly becoming the best way to increase revenues.

Changes in the industry have already resulted in three key identities: lawn care companies, those who offer chemical lawn care services; mowing/maintenance companies, those who have crossed over into the chemical and control end of the spectrum; and landscape maintenance professionals who more or less run the gamut.

In the following one-on-one interview, Jerry Faulring shares his perception of the future direction of the lawn and landscape maintenance industry.

Q: *What is the most dramatic change you've seen in the lawn maintenance industry in the past few years?*

A: In terms of operating strategies, I guess the first thing that I observe is that the industry has gone back to its roots and spun full circle. In other words, when we first got into business and the industry, we professionally applied lawn care-type services — chemical lawn care, seeding, aeration and all the mechanical aspects of lawn care. And we got along quite well. That was the way they began back in the 1960s, and that was the foundation of our operating strategy.

In 1973, our main competition was what we called the automated services. There were a few other local landscapers that were providing some lawn care, but that was about it.

By 1975 we built a nice little business that was growing, and then we discovered there was something in this world called ChemLawn.

Prior to that, there was no trade magazine associated with lawn care, so we were sort of isolated from what was really happening out in the Midwest. I didn't even know about it, to be honest with you. I didn't know that ChemLawn was becoming such a fast-growing, expanding business. In any event, it was probably in 1974 that we read about them or picked up on them at a trade show or something.

At that point, we were operating our company under the name Professional Turf Corp., and it was a fairly high-priced, all inclusive-type program. We thought we better not change that because we didn't know for sure ChemLawn would be successful. So at that point we decided to start another company called Hydro Lawn. It started unbelievably well, in part, because ChemLawn was here and they were advertising very heavily and attracting interest for our industry.

We went out with Hydro Lawn

to compete against ChemLawn, but we couldn't give up on this seeding thing. We thought that you had to have seeding as an option. We continued to offer seeding, but within a couple of years we fell into the ChemLawn trap and said let's give up seeding.

We never tried to be price competitive. We always wanted to be a little higher priced than they were. So in the late 1970s through the early 1980s, expansion was incredible, we couldn't stop growth. We were expanding into new branches: New York, Pennsylvania, Virginia and Maryland.

In 1986, things started to slow down — 1985 was the last real big growth year we experienced. There are other companies that continued the trend longer.

Q: How would you describe the industry in the 1970s compared to what you're seeing today?

A: Well, what you had were

companies like we were — specialists in chemical lawn care. And on the other side were the mowing maintenance guys. They were more likely to do some chemical care than we were to do mowing. They were the cross-over people. I think what everybody is starting to identify as the trend is that those two businesses are starting to look for some sort of a merge. I think we're at the beginning of it — it's definitely coming.

I think you'll find more and more lawn care companies providing mowing services and some mowing companies providing chemical care. I think that's where it will go. I doubt, however, there will ever be an end to the chemical lawn care industry as we know it today. There's always going to be this major section of business that provides strictly chemical care to those consumers that want only chemical care. I think what you'll find is an increasing business activity that merges chemical lawn maintenance into a single

service offering. It will probably include full service: mowing, chemical care, seeding, aeration, landscape maintenance, that sort of thing. It's going on right now, primarily by the small landscape companies.

I think you'll also find that a combined services company is not going to be a big national firm; it's going to be a group of regional firms of fairly good size. There's a lot more labor intensity to those services. You can't have a mowing customer and not mow every week. You can have a chemical care customer and get off schedule by a week or two and nobody really notices. But the control factor that is mandated by those landscape maintenance services requires somebody with an extremely high level of interest in the success of that business — running it every day at the local level. If somebody tried to do this on a big-time regional basis, they'll need an interesting mechanism for motivating the

(continued on page 30)

VIEWING THE INDUSTRY THROUGH THE EYES OF HYDRO LAWN

1972 — BILL QUAY AND JERRY

Faulring were aware that the professional lawn care industry had excellent future potential in the Washington, D.C., market area, and decided to start a lawn care business. In October of 1972 ProTurf Inc. was granted a charter.

1973 — ProTurf acquired about \$20,000 worth of chemical lawn care accounts. ProTurf applied dry fertilizers, performed mechanical seeding and aeration services and applied pesticides.

The company name was later changed to Professional Turf Corp. The first year ended with about 150 customers.

1974 — Professional Turf decided to develop a nine-treatment program for cool season grasses and a five-treatment program for warm season grasses.

Professional Turf established itself as a liquid lawn care operation in 1974. The year ended with about 250 accounts.

1975 — Faulring and Quay began developing ideas on how to compete with ChemLawn's high-volume, low-price strategy. They decided to keep Professional Turf intact and develop Hydro Lawn to compete with ChemLawn.

Within six weeks, Hydro Lawn acquired 344 new accounts. The year ended



with a combined work load of about 700 accounts and the company's first profit.

1976 — Following its first-year success, company management decided the Hydro Lawn division could triple its capacity in the spring of 1976.

Against all odds, total sales for the year increased about 250 percent over the previous year. Combined Professional Turf and Hydro Lawn operations ended 1976 with about 3,000 accounts.

1977 — Combined operations for 1977 yielded 6,000 accounts for both divisions.

1978 — A new branch operation was opened in Springfield, Va., to serve the center of the market area.

At the end of 1978, Professional Turf and Hydro Lawn merged, and the company stopped offering services under the Professional Turf name.

The year ended with about 9,000 accounts from the combined operations.

1979 — In addition to the regular lawn care program, the tree and shrub care division was established for the spring of 1979 which included two production units.

1980 — A third branch for the Washington market area was opened to serve the Prince Georges County market. A fourth branch was later opened in Columbia, Md.

The overseeding program was completely dropped.

1981 — A highly profitable year for the tree and shrub care division, its first profitable year.

1982 — Plans were set to open a seventh branch in Allentown, Pa.

1983-1987 — The industry had made its mark by now, and fewer and fewer "nonusers" of lawn services were available.

1987 — Quay resigned from the company to try another start-up business. New York operations were consolidated into a separate entity — Hydro Lawn of New York Inc.



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local manager.

Q: *How did the lawn maintenance industry get from its early stages to its current operating status?*

A: I think it's different in every region of the country. I think as a company, we really started paying closer attention to changes in the mid-1980s. However, I have friends on the West Coast who are in this business, but it constantly looks like they're five to 10 years behind us. The market is evolving, but they don't have the competitors we have. I always feel like I'm revisiting 10 years ago when talking with them.

So, it changes in each market area. I'd say that the evolution has been recent. The market demand for a basic service is starting to slow down, so we sit back and figure out what we can do to keep our revenue growing and customers coming back. We weren't always very good listeners, but I don't think we were idiots either, because we've gone through a typical evolution of any other industry.

I like to compare it to the evolution of the television. First it was black-and-white, then color, but now we've got remote control, stereo and VCR's. Where's it going to end? Lawn care is following that same track. We just keep evolving and finding out what the consumer wants. And as technology permits, we offer them better things.

Q: *How does the consumer's perception of pricing affect the type of service offered?*

A: Certainly there's some demographic segmentation based upon income and where-withal. However, I believe that people have dealt themselves into buying categories that result in lifelong buying habits.

There are people who will buy, regardless of their financial wherewithal, the least expensive car that gets the job done. Somebody else will walk into that same showroom and regardless of his ability to pay, buy the most expensive car available. Then there's the middle-of-the-roaders who are pleased with

not having the best, but don't want to have the perception around town that they're driving the cheapest car.

People put themselves in those categories. We go out and make a presentation offering three different levels of service; it's sort of interesting because our first level is priced almost at the second level. But people still buy the first level because they say to themselves, 'All I want is the basic, and that's all I want. Maybe I'm not getting as much value in that program as I would in level two, but that's what I want.'

Then you have the next group, which really is the majority, that says, 'I want a little upscale, but I don't want the cheapest. I don't want the best, I want good value for my dollar.' And then you've got this other group out there that says, 'Don't even tell me about price, just give me the best you've got. We'll get down to the details later. Give me the works.' That represents a good chunk of the people. About 26 percent of our new customers in 1988 bought that upscale service and paid a lot of money for it. We keep raising the price, and they still keep buying it.

Q: *Do you think that's an accurate perception of consumers across the country?*

A: I think so. As a company we operate in four states. We notice very clearly that as we go North our full service program is less attractive. I think it's because the relative ease of having a quality lawn changes. It's easier to grow grass in New York state than it is in Washington.

It also has a lot to do with the salesperson. We've got representatives who sell the top-line programs 90 percent of the time, and we've got others who sell it only 10 percent of the time. It's a training issue. It has a lot to do with the ability to listen, and finding out what the customer really wants. We could be feeding a basic program down their throat, but we didn't show them there is good value in this other program for a little bit more money.

Q: *Is maintaining the customer base a more important issue for lawn maintenance professionals than gaining new customers at this point?*

A: As I see it, we've finally gotten out of the order taking phase in the industry. We're now in a situation where we really have to work hard. We have to go out and sell, and we have implemented selling programs and operating strategies.

Before, we didn't have to sell. Literally, you could go out, run 25 to 30 leads a day, come home and 20 would have already called and said go ahead with the service. The other 10 you didn't even worry about because they would call within the next few days. We used to sell 90 percent to 95 percent of all the leads we'd run without any follow-up work.

Now, if we can sell 50 percent, we're really excited — and we're working hard to get those 50 percent. There's just too many other competitors in the marketplace. And the leading buyers, those people that went out and bought the first PC's, movie cameras and all that, are all used up. We've sold all of them. So now we're going to that next level of people who are a little more reluctant, a little more cautious. They don't jump into a fad or anything.

I think it's good and it's more fun this way. It's a little more challenging. We have to get more creative in terms of our advertising and our marketing strategies. It mandates improved training programs, better hiring, better staff. And at the same time, we're in this economic cycle that is really rough.

Q: *Do you think the industry is recognized as more professional now than it was in its early days?*

A: Yes. It's been forced upon us to a certain extent. The increased regulatory pressure — maybe more importantly, the threat of increased regulatory pressure — has caused a lot of companies to think differently about things, and how they approach training, hiring and delivery of services to the user.

It's a typical business cycle that all industries go through. You start out with a new service and everybody is knocking down the doors to buy it. You've finally penetrated the market to a level in which all first-time buyers are already users, and now, to get new customers you have to look at existing users and try to attract them to your company.

The companies that want to continue to grow and be successful have to look at different ways of running their businesses. That's where this industry is right now. It's in a maturing stage. I think it's absolutely typical of any other industry which has grown and attracted public and government attention. It has become something of a significant part of our total economy.

Q: *You were instrumental in starting the Professional Lawn Care Association of America. What was the logic behind PLCAA's establishment?*

A: I think there were probably two major reasons why we felt we needed an association: the concern for regulation we saw coming and because the industry was growing by leaps and bounds.

Some of the pesticide regulation was starting to evolve even at that point, but we really didn't have the impact of regulatory trade or pesticide review for about two or three years after that.

It was quite a substantial industry at that point, however, we were not recognized as an industry. We'd go to trade shows and the educational sessions would be primarily focused toward golf course superintendents or right-of-way maintenance workers — but nothing on lawn care.

We said if we want to become educated, become a real group of businessmen who share ideas and communicate with each other, we have to have some entity that stands for lawn care. With PLCAA, we have a vehicle now that becomes a voice in balancing any negative debate and provides training aids and tools for our companies. I think those are the primary motivations. There was no ego trip for anybody, it was damn hard work.

Q: *Can you describe briefly about how the chemical lawn care industry was perceived by the public in the 1970s, as compared to current public perception?*

A: When we first got going it was a non-issue. The high-volume, low cost service is what made it available to the masses. The public awareness wasn't there, the visibility factor wasn't there. Today you can drive into

(continued on page 32)

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Full Service Lawn Care

(continued from page 30)

any neighborhood and see two or three lawn care trucks. Back in the 1970s you didn't see that. We had about 1,000 customers scattered throughout the whole metropolitan area. It's just a visibility issue that has put a lot of pressure on us.

Q: And the negative public perception arose out of visibility?

A: Well the way I see it, there's a certain segment of the population out there, that if it weren't fighting pesticides, it would be something else: cleaner air, cleaner water, etc.

I think the whole circumstance whereby pesticides are being scrutinized so heavily is probably appropriate. I believe that we work as an industry and as a pesticide-user industry, not just lawn care. Overall, as an industry, we were probably somewhat careless and somewhat reckless with our use habits. It wasn't that we were blatantly negligent, we

just didn't know. I suspect we became educated for our benefit and for society's benefit as a result of this review.

Clearly, our pesticide usage is way down. Putting insecticide down three to four times a year on every lawn was too much. Today, if we blanket a lot of pesticides on these lawns once a year, it's a big deal.

I think we all benefit from this review. The industry has an obligation to provide some balance to that debate to ensure we represent society as the silent majority. Somebody has to take the position that we need pesticides, that we need to have these products available for our health and safety. So we provide that balance to the debate, and we win some and we lose some.

Q: Overall, how has the increased publicity affected the industry? Is it stronger as a result?

A: It's been positive. There will be occasional negative, irrational regulatory screen. In most cases when this happens, we've caught

it and turned it around making it more rational. Maybe not perfect, but more rational. I think in the long run, the industry has been more responsive and has voluntarily done so many things that go unnoticed. We voluntarily reduced our use of pesticides. Just because we know the less we use the better our defense is. Particularly, if we can make some sort of comparative analysis with prior years; we've made progress is our argument. Clearly the concern with employee safety and long-term health has got to be at the forefront of the discussion, and that concern has become a real part of our lives.

The industry has united more as a result of this problem. We've seen competitors that were at each other's throats become pals in this environment because they know they've both got everything to lose if they don't get together and work at it. There's no question the industry has benefited from all this.

Q: How would you describe full service, and when will Hydro

Lawn become a full service company?

A: We have looked very hard at the full service maintenance concept, which includes mowing, mulching, edging and all that. We will go there at some point in the future. We're not quite ready to do it yet, for a variety of reasons. We're really afraid to try and expand our service lines right now with this concern over employment.

The unemployment rate in the metropolitan D.C. area is 2.5 percent, so we're fully employed. Anybody that you'd want to hire right now is not unemployed.

I think Hydro Lawn will make the jump by the early 1990s. I think you'll find more companies offering full service then. We have put a lot of time and energy into studying that. We're just not ready to jump into it.

We've dabbled a little bit under the name Supreme Landscapes Inc., providing some landscape maintenance services. We offered it to some of our existing custo-

(continued on page 34)

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Full Service Lawn Care

(continued from page 32)

mers and it was pretty well received.

We concluded that we weren't ready organizationally to go into it full-scale. We also concluded that that's not what we wanted to do with that business. We didn't just want to be a lawn maintenance company. We wanted to do something better. That's when we tried to figure out how we could bring some of the efficiencies and operating strategies we've learned from chemical lawn care to that sort of a business.

In 1987 we put about \$12,000 into market research trying to determine basic market demand for various levels of service beyond just chemical care. We studied the issues, tried to determine market demand and their willingness to pay. And we got the answers.

I know of one large company that did a similar research project. But I didn't become aware of it until we did ours. Without revealing their exact results, they

gave us some similar conclusions. We did a multi-market study. At that point, we figured approximately what consumers were willing to spend. We figured out market demand by various levels of service offered. We have a high degree of accurate projections.

I see us as a full-service company in a sense. I think that most people, when they think full-service, bring in mowing, grooming, etc. I suppose somebody has to develop a term here—full service lawn care vs. full service landscape maintenance.

Q: Were the results surprising?

A: Yes. The key, though, is to figure out — and this is what I'm not going to share — how to price it and what exactly the customer wants and which markets to approach. It's not as obvious as it may seem.

Q: How does PLCAA need to change to effectively represent the industry's needs?

A: PLCAA is going through

an evolution. There's been a lot of discussion with regard to whether the association should become more attractive to the lawn maintenance-type companies.

There has been somewhat of a split in the association with regard to that question. The membership is showing an increase in maintenance firms, companies who also have an interest in chemical lawn care. So I think what will finally evolve is that PLCAA will start to develop more program services. The trade show will have a little more slant toward the modern maintenance activity.

I don't think it will come as an overnight transition, it will just sort of evolve.

Q: What goals do you have for your company in the next three to five years?

A: Well, I think I'd like to see us improve on our ability to put out these full service programs. I think we're doing a good job at it, but we always have opportuni-

ties to improve.

I think we need to make sure we're hearing our customers and understanding what their expectations are. Our expectations will become more of increasing the revenue from each customer by adding value added services. As we add more value to the programs and increase our prices as a result of that, our revenues will continue to grow.

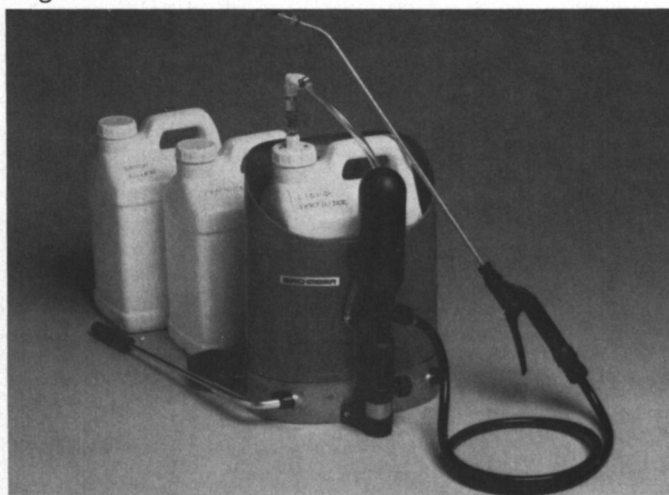
Q: Where do you see the industry 10 years from now?

A: I think the way it's going to wind up is we're going to have a couple of large, major, national companies: ChemLawn, Truegreen, I don't know. There'll be a group of regional companies like Hydro Lawn. There'll be a number of small companies. I think there'll always be a large group of small companies out there. There's a really neat opportunity for them. — *Cindy Code* ■

The author is Editor of ALA/Maintenance magazine.

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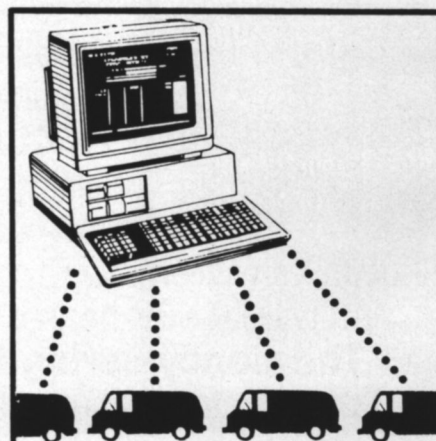


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THERE ARE MANY WAYS TO INCREASE REVENUES and profitability in the green industry. A good communication program with your present customers is one of the most important, because it directly affects your cancellation rate, the amount of revenue you generate per customer and the number of free service calls you run.

Improving your bottom line profitability requires up-front investments of time and resources. As a service business, it is vitally important that you deliver more than just products. Service establishments of all sorts take on a special responsibility to maintain a high level of personal involvement with their customers. Expert help and advice is an important part of what your customers expect when they agree to take your service. One key to meeting this expectation is the maintenance of an effective customer communication program.

Successfully "staying in touch" should be a basic part of your business strategy. Whether you're planting trees, fertilizing turf or mowing grass, it's important that your customers know what you're doing; what they should be doing; and what to expect next.

Written communication is an important and effective part of your business because it is often your *only* contact with your customers, is read by the customers at *their* convenience, contains information *you* control and reinforces instructions and advice you've given verbally.

Of the communication tools available, one of the most cost-effective is the customer newsletter. Your newsletter can make your clients feel that they know you better and that you care enough about them to keep them informed. The value of newsletters is becoming more recognized. A recent release of the Oxbridge Directory of Newsletters shows that entries have more than tripled in the last few years.

Newsletters provide information in "nutshell" form, and so provide a good fit with today's lifestyles by providing useful content in bite-sized portions. Short, concise articles that are of real interest to readers are working successfully for newsletter editors in virtually every industry.

Newsletters are perceived by customers more as a source of information than as straight advertising. They are generally read more carefully and kept longer than a brochure might be.

Mike Kibler, director of member services of the Newsletter Association, thinks

BAGWORM

Small, mostly stout-bodied moths. The bagworm larva grows from 1 to 1½ inches and is dark brown with a lighter colored head. Once hatched, it spins a 1 1/2- to 2 1/2 inch tough, spindle-shaped bag covered with fragments of plant material. The black-winged male adult moth mates with the wingless female who lays her eggs in the bag, and usually never leaves it until the eggs are laid. Larvae defoliate deciduous trees and conifers starting in early summer.



Summer Issues
(Continued from page 1)

ment of a "soil" insecticide which will give control for up to a full season. When controlling lawn damage insects, it is very important to follow recommended watering practices. Most insecticides are sensitive to sunlight and begin to break down (and lose effectiveness) if not properly watered. The amount of thatch on your lawn also affects the water required. The more thatch, the more water needed to get good control. The rule of thumb is to allow surface insect controls to remain on the grass for 24 to 36 hours before watering, while soil insect controls can be washed in right away. Whenever we're treating for insects, please be sure to read and follow the instructions we leave with you!

Of the insects which bother people, there are a dozen or so that our basic surface insect control will help eliminate. Some of these insects include fleas, ticks, chiggers, spider mites, and even mosquitoes. But remember, we can only control the bugs that are active and in the lawn itself when we treat.

It's important to remember that we must cooperate when fighting the insects of summer. Working together, we can control (not always eliminate) the pests that bother you and your lawn through the hot, humid months of "bug season."

One of Summer's Pests The Chinch Bug



Adults live about 1 1/2 long. In the North there are two generations and in the South as many as seven in a single season. Damage is often confused with summer dormancy. Chinch bugs have suck-like mouth parts which withdraw food while inserting a tube into the grass. Surface feeds, chinch bugs live and over-winter in thatch.

Learning More About Your Lawn No Lawn is Safe From All Diseases But They Can Be Controlled

"There is a fungus among us!" If your lawn could talk, this is one of the things it would have to tell you. All lawns and all soils contain the microscopic parasites known as fungus spores.

Fungi are essential to the process of decomposition. Feeding on organic material, they help speed the conversion of leaves, thatch and other plant materials into soil. Not all fungi are problems for us. Penicillin is derived from a fungus, and Penicillin is a highly developed form of fungus. Dossane is a fungal infection found effective in killing Japanese Beetle grubs.

Fungi in your lawn become a problem when they invade and infect the grass plants in large enough numbers to cause significant damage. There are dozens of fungus diseases that attack lawn grasses. Some are relatively "soft" diseases that cause little or no permanent damage, while others (Typhoid, for example) can destroy a large lawn in a matter of two days. Once your lawn, thatch or soil is infected, it is nearly impossible to totally eliminate the spores causing the problem.

Different diseases are active during different times of year and under different weather conditions. While some are more active during the cool, wet overcast days of spring and fall, others kick into gear only when temperatures and humidity levels go sky high in mid-summer. There are no grass types which are completely immune to all lawn diseases.

Some varieties have been bred for greater disease resistance, which means they'll hold out longer before becoming infected. Some grass types seem to attract disease like a magnet, while others may only be affected by one or two varieties of lawn fungus.

Your cultural practices are your best defense. A thin, weak or unhealthy lawn is more susceptible to attack than one which is well cared for. Proper mowing, watering and feeding will often prevent a serious outbreak.



Working together with us to keep your lawn healthy is the best defense against disease.

If you suspect disease, look for infection spots, called lesions, on the blades or stems of the grass. Some lesions are red-brown spots. If they tend across the blades, you find spots on the blades and you find spots on the stems, please aren't sure if it's a disease, please call us right away. If treatment is called for, we'll tell you what kind of diagnosis is very important because a small problem is much easier and more economical to solve than a big one.

Beating The Heat



Proper Mowing Helps Your Lawn Keep Its Cool

Each season has its own special mowing needs. The heat of summer puts unusual stress on your lawn. The loss of water through the grass blades (transpiration) and evaporation from the soil surface may be a lot more than rainfall can make up. Here are some hints on summer mowing:

1. Mow high. This encourages deeper roots and shades the soil to conserve soil moisture and keep soil temperatures lower.

2. Avoid mowing when grass is extremely dry. Mowing dormant grass causes additional damage. Water deeply to help lawn recover first, then mow.

3. Keep your blades sharp. Dull blades rip and shred the tips of the grass, giving the lawn a tan or browned out look. Sharpen blades several times per season.

LATE SPRING SUMMER EARLY FALL

Your Lawn & Garden Calendar of Care

Each time we visit your lawn, we "check things out" and let you know if there's something that needs your attention. However, being there every day, you can help us to help you. This column is to give you some tips on things to be done during each season of the year.

The Garden...

Spring-planted trees and shrubs will be needing deep watering to prevent wilt and early leaf drop. Aphids and beetles will be on your roses and annual flowers will need pinching and dead bloom removal. Continue a program of light feeding of annuals. Continue cutting stems back to force bushier plants and more blooms (mums are very heavy feeders, by the way). Keep an eye on junipers and spruce for bagworms and spider mites and be aware of your larger trees too. Summer insects will be trying to make a dinner of them.

The Lawn...

You should be watering deeply once or twice per week during hot spells. Give special attention to "hot spots" that seem to go dormant more quickly than the rest of the lawn. Mow almost as high as your mower will allow you. If as you mow you see things and start seeing brown spots in the lawn, you may have an insect or disease problem. Pull on the grass to check for grubs, spread the blades to check for surface feeders.

Vacation Note...

Have a friend or neighbor water while you're away. A lot can happen in two weeks! If you let us know your out-of-town plans, we'll be sure to schedule around them.

Safety Matters

Keeping The Yard Safe For Family, Friends & Pets

Equipment used around the yard includes many sharp items. Be sure small children are clear when mowing and beware of saws and pruners left about where small hands can get hold of them.

Plants can be beautiful and still hold unpleasant surprises. Did you know that the leaves of Lilly of the Valley are poisonous and that the leaves of poison ivy contain enough oil to cause a rash for two years after the vine is dead?

Critters are busy now too. Especially if you're near a wooded area, be aware of ticks and keep an eye peeled for nests of stinging bees, wasps and hornets in the ground. These last are best controlled in early morning or late evening when "everybody's home" in the nest.

Lawn & Garden Chemicals should always be treated with respect. Always read labels carefully and follow directions exactly. Keep any materials you use on a high shelf behind a locked door to prevent the chance of an accident. When disposing of containers, please follow the instructions given. All products we use on your property are safe, approved, properly used and carefully applied.

We Believe Safety Matters...

the ever-increasing acceptance of newsletters is influenced by the fact that "by their very style, they are like a letter from a friend — chatty and filled with unstructured and informal tidbits of information."

Is it worth the cost, in time and money, to provide your customers with this form of regular communication? For several reasons, distributing your own newsletter can be one of the most cost-effective means of staying in touch while projecting an image of stability, caring and professionalism.

Customers, both residential and commercial, are spending more on the beautification and maintenance of their properties than ever before. They are purchasing more services and buying those services from fewer suppliers. A loyal customer represents more in potential revenue and profitability than in past years, which makes it more important to retain each customer's goodwill and business. It costs a lot more to look for a new customer than retain an old one.

Gone are the good old days of quick and easy growth in the green industry. Despite the fact that customers are spending more, staying profitable is more of a challenge today than in the past. Obtaining new customers is more expensive. Your competition is more fierce. Consumers are inundated by (and often skeptical of) traditional advertising. Many expensive, beautiful, brochures are sent directly from the door knob to the paper drive.

Customer retention vs. turnover does influence your bottom line. It costs up to five times more to obtain new customers than to keep those already on the books. Progressive managers are concentrating on keeping what they have by communicating more frequently with their customers.

Verbal communication by phone and face-to-face is a necessary part of any business. However, in the green industry, verbal communication seems to be more subject to misinterpretation on the receiving end, and unfortunately is sometimes mangled on the sending end (unless, of course, you do all the talking yourself). A regular newsletter can be instrumental in bridging the gap between what you want your staff to be saying, and what your customers are actually hearing.

(continued on page 40)

These we waste.



Introducing CHIPCO® SEVIN® brand SL carbaryl insecticide, the only grub control material available to professional lawn care operators that is effective, economical, and environmentally sound.

CHIPCO® SEVIN® brand SL provides consistent and effective grub control.

At a cost no greater – and usually less – than anything else on the market.

Plus you get the peace of

mind that comes with knowing CHIPCO® SEVIN® brand SL is also widely used for the control of mites, ticks, and fleas on poultry, pets, and game birds.

So it's ideal for use on lawns, parks, golf courses, or any

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Circle 98 on reader service card

These we don't.



area frequently used by people and animals.

And with CHIPCO® SEVIN® brand SL, you not only get effective control of the white grub complex, but 27 other turf pests, as well. Including tough ones

like chinch bugs, billbugs, armyworms, and sod webworms.

Ask your chemicals supplier for CHIPCO® SEVIN® brand SL carbaryl insecticide.

CHIPCO® SEVIN® brand SL is a product of the CHIPCO®

line that includes CHIPCO® brand 26019 fungicide and CHIPCO® RONSTAR® brand 2G pre-emergent herbicide.



HOW TO MAKE IT WORK. Newsletters, if done properly, can improve your image, retain customers and increase sales. Any kind of communication can be difficult at times, and writing an effective customer newsletter is no exception. To make your newsletter really work, start and end with the customer's point of view. Remember that it's not so much what you (or your staff) is saying that matters, but what the customer is actually hearing. Below are several key ingredients that can make your newsletter more successful.

1. Make it reflect your organization with a quality feel and look. This lends credibility and legitimacy to your newsletter and gives "expert" status to the information you are imparting.

2. Increase clients' awareness of the complexity of your job — it's more involved than they realize. They'll respect your knowledge and you'll instill in the reader the value of the work you do.

3. Acquaint your customers with what they need to do to cooperate with your efforts — explain those cultural practices *one more time*. Reinforce the basics.

4. Build loyalty by making your customer feel like an "insider." A friendly tone and repetition establishes rapport. Your newsletter on the coffee table will preempt competition in the mailbox or on the door knob.

5. Your newsletter is something extra — it makes the customer feel special. You care about them. You are giving them a "freebie." This helps reinforce their buying decision.

6. Newsletters are kept more than they are trashed. Often they are passed along to friends and relatives. This keeps your name up-front in a positive way.

7. Use your newsletter as a response vehicle. Sales coupons, referral offers and questionnaires are editorial tools you can use for promotions to encourage telephone inquiries, develop leads, stimulate traffic and increase sales.

8. Decrease service calls by educating customers on specific problems. By increasing your clients' understanding, what were



FALL ARMYWORM

The adult fall armyworm resembles the cutworm moth, with dark forewings mottled with light and dark spots. They are active only at night. The eggs are deposited on grasses in groups of 100 or more which are covered with fuzz from the adult moth's body. The eggs hatch into young worms in 2 to 10 days. Night feeding by this insect causes the grass to appear ragged, uneven and often bare.

In the South, the armyworm is one of the most destructive turf insects, particularly to bermudagrass. Most high populations and resulting damage occur after a cold, wet spring.

vague service calls can be turned into add-on sales.

Newsletters are cost-effective in that there is no waste circulation. They are used to target existing customers. You control the distribution, the ability to educate and the ability to generate response. They are not labeled as self-promoting pieces, nor are they perceived as advertising. They do, however, allow for product and/or service promotions.

LAUNCHING A NEWSLETTER. You can make a newsletter do an important selling job for you. But if you decide on such a project, plan to stay with it at least a year. It's like building a house. You need a foundation on which to build the structure. You can't expect a house to sit on nothing, and the same is true of a newsletter. Stick with it and soon your customers will begin to look forward to receiving it, and, if you do it right, you'll be getting the glowing feedback you want. Track your cancellations and compare them yearly with what they averaged before you started.

As with all your printed material, your newsletter is a reflection of you and your organization. A little extra invested to make that reflection one of quality and professionalism will more than pay

for itself.

The benefits of regular customer newsletters are many and proven. However, before committing yourself, your staff, and your resources to creating a customer publication, you should consider all the elements involved and formulate a concrete plan for execution. The following is a list of the primary steps required to launch a successful newsletter program:

1. Establish no more than three specific goals. What do you hope to achieve through your newsletter? Examples might include: Reduce customer cancellations, increase add-on sales, increase awareness of pesticide safety issues and improve customer cultural practices.

2. Set measurable objectives. These objectives will help you measure the effectiveness of your newsletter. They will help you make decisions about content and evaluate ideas for articles before they are used. Before including an article in your newsletter, be sure that it ties in with your goals and attempt to determine how you will measure its effectiveness in light of your objectives. Examples of objectives might include: reduce cancellations by 15 percent this season, or, increase the sale of aeration services by 20 percent.

3. Decide on a name. Your publication name can be serious or

humorous, but it should be simple, easy to both say and remember, and it should convey an idea of the content the reader may expect. Once you have a name, design a masthead (or nameplate) to contain your company name, the name of the newsletter, and the date or issue identification. You can do this yourself or employ the services of a graphic artist.

4. Establish a format. You should next decide how many pages of information you want to publish with each issue. Settle on design elements like typefaces and sizes, number of columns per page and the use of graphics (photographs and line art). It is best if the elements of your format remain fairly consistent from issue to issue, so take your time. Consider employing the services of someone experienced in layout design to establish an attractive format for your newsletter.

5. Decide how often you will publish. The goals and objectives you set earlier should help determine what frequency you will require. Carefully consider the amount of time you and your staff can devote to your publication. A schedule that is too heavy may result in missed deadlines, poor quality and short tempers. Newsletters generally are published between four and 12 times per year.

6. Set a budget. Contact by newsletter is less expensive than face-to-face contact, but it's not free. In establishing your budget, remember that your newsletter is replacing a personal contact. Consider what it would cost you to send a man and a truck around to chat with each customer five or six times per season. Give your newsletter the look and feel of quality — the kind of quality your company represents.

7. Put someone in charge. Make one individual responsible and give them enough time to do the job right. Choose someone who has a knack for both written and verbal communication to write and edit the letter, and be sure they want the job. Also be sure everyone who is to contribute to the effort knows and observes the deadlines involved.

More simpler, and perhaps even more cost-effective, is to hire a company that will turn your ideas into copy and then design and print a professional newsletter for you. A professionally pro-

duced newsletter can create the exact image you want for your company at a reasonable cost and without tying up your staff's time.

Whether you decide to have your newsletter produced by an outside company or do it yourself, there are some basic rules you should apply.

DO'S AND DON'TS. Following these suggestions does not guarantee a prize-winning publication, but they will help you to avoid a few of the more common pitfalls.

Don't write over your readers' heads. Use language they can understand and be careful to define special terms you may use in your articles.

Don't clutter your layout. Your format should take the reader's eye from the upper left to the lower right of the page smoothly.

Don't give every article and every element the same "weight" in your newsletter. Some things are more important than others and they should stand out accordingly.

Don't make your articles too long. If it can't be read in three to four minutes, get out your red pencil.

Don't try to fill every inch of paper with copy. Leave white space. White space lends emphasis, gives your publication a cleaner look and makes your copy more readable.

Don't use too many typefaces. Using too many fonts leads to a cluttered and confused appearance. Select a type style that provides plain, italic, bold and bold italic, and use these variations to create emphasis.

Don't wait for the last minute. Rushing to throw together an issue usually results in a publication that looks and reads like what it is — something thrown together.

Don't try to make your newsletter one big advertisement. Your readers will get wise to you and you'll lose the credibility a more balanced approach will give you.

Do use photographs and graphics heavily. If a photograph or illustration is good, blow it up. A good illustration or photo should

be given twice as much space as you initially intend for it to occupy. Line art used with an article is a great way to explain your point graphically. Your readers will remember what you write much better when you provide them with a visual graphic along with your text. Write less and use more pictures.

Do be sure everything you include in your newsletter is of interest to your readers. Check that each article is likely to help you reach the goals you've set for the newsletter. Be objective in your approach to any subject you cover.

Do maintain consistency. Once established, don't rush to change things just for the sake of variety. Keep your masthead and type styles consistent from issue to issue. Regular columns should appear regularly and you should definitely stick with your publication schedule. Your customers will come to feel comfortable with your publication once they get to know it. You risk losing much of this recognition value when you insist on making each issue "dif-

ferent".

Do give it a chance. Like most other business investments, your newsletter will yield handsome dividends in time. Your customers will be more aware of you and your company and they'll feel more like a member of your "family." This type of loyalty and improved education will result in better customer relations for you.

Customers are your most valuable asset. Newsletters can give them the nurturing they may need to continue doing business with your firm. They can help you to decrease service calls and cancellations and significantly increase sales of additional services to your existing accounts.

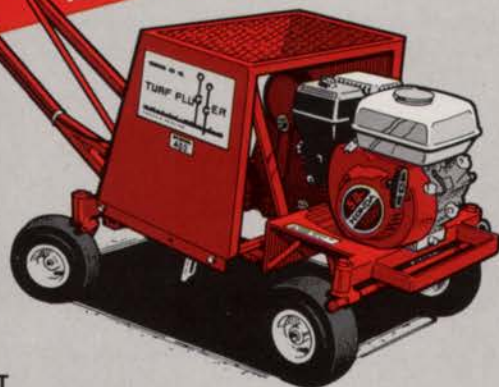
A regular customer newsletter is an investment, but one that can have a favorable influence on your bottom line. — *Matthew Shooner*

The author is publisher of Focal Point Publications, Cincinnati, Ohio. He draws upon his 15 years as an LCO to edit and publish a family of customer newsletters specifically for the green industry.

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A Simple, Powerful Message Can Boost Company Success

NO ONE HAS TO TELL YOU THAT LAWN MAINTENANCE servicing is a tough, highly competitive world. Most companies use the same or similar chemicals, and there are no secrets as far as treatment of business procedures. Yet some companies are highly successful at moving ahead of the pack.

One of the major keys to success is consistency of image in every facet of your company that comes in contact with your customers and prospects. This includes images and messages transmitted by your advertisements, brochures and flyers, as well as the attitude and appearance of your employees.

You and your top management staff set the tone which is followed by each succeeding layer of your company. The attitudes you demonstrate regarding customers, service and attention to detail pass down through each layer of your lawn maintenance company.

Do your bills read like unfriendly accusations, or do they reinforce positive and professional images? Do you include helpful seasonal or other lawn maintenance information which would be helpful to your customers?

Are your direct mail pieces *recipient-centered* and packed with customer benefits? Are the office personnel who answer your phones always courteous and accommodating, regardless of "the kind of day" they may be having?

Is the quality of training which your employees receive first-rate? Are they trained in *listening* as well as technical issues? Do your employees view customer complaints as some kind of plague which they hope will disappear, or have your employees been trained to view complaints as opportunities?

If your telemarketing is done by an outside service bureau, it is critical that you closely monitor the quality of work that is being performed. Virtually all of the recipients of these phone calls in your community believe that they are talking directly with your lawn maintenance company. The bureau's courtesy and professionalism (or lack of it) reflect strongly and directly on you.

When you make a sale to a new prospect, what you've sold is not your product or service. Your new customer has bought the *image* he's conceived of you and your company — the idea you've planted in his mind about what doing business with you will do for him.

To keep generating new customers, as every thriving business must, you need to project a clear, simple, powerful image to those with the desire and ability to buy what you are selling.

Oftentimes, the image companies try to project contains contradictory messages. As a result, marketing efforts suffer from that invariably fatal ailment: image incompatibility.

Imagine getting a letter offering the assurance that all of us crave deep in our hearts: "You are more important to me than anyone on earth." Now imagine that on closer examination, you find the envelope is addressed to "Occupant." Other incompatible claims include: personal vs. large, caring vs. computer-powered, high quality vs. fast

service, prestige vs. everyone's doing it, exclusive vs. inexpensive and reliable vs. fast-changing.

One of the most certain ways to grow is to look better than your competition. Trained employees sharply dressed in professional uniforms, who drive up in clean and freshly waxed trucks, create a strong perception in the minds of your customers regarding the quality of lawn maintenance service that you are going to deliver.

The most important single factor in creating and maintaining a favorable image of your company is the impression that your employee and his uniform conveys. Studies show that your customers view uniformed people as being: recognizable, professional, alert, proud, trained, predictable, courteous, efficient, dependable and trustworthy.

Yet, one out of six lawn maintenance companies still does not uniform its employees. These are usually smaller companies that feel they cannot afford to uniform.

Imaging is the number one reason why lawn maintenance companies uniform their employees. A sharp uniform transfers to your customer an impression of your company's professionalism, commitment to quality and the level of your employees' competency. This boosts the credibility of your employees with your customers. These powerful positive images provide you with a competitive edge necessary to increase your volume of business and company profits. Lawn maintenance companies with better images land new prospects more easily and have a higher retention rate of current customers.

"It is important for your employees to look their best and to project the professional image that customers expect and will feel comfortable with," said Mark Kelley, vice president/production, Leisure Lawn, Dayton, Ohio. "Your employees want to look sharp and feel sharp. Professional uniforming does a lot to help you instill a professional attitude and pride among your employees. You want them to feel that they are the best, and the uniform helps them to project that feeling," Kelley said. Employees also appreciate the benefit of not having to supply their own work clothes.

You and your employees both benefit from the added safety of having your employees properly uniformed. You certainly don't want your employees wearing loose fitting clothing when they are operating machinery. Proper uniforming assures that they have the right type of clothing for the job.

In addition to serving as a walking advertisement for your company, your uniformed employee is also readily identifiable which is a security benefit highly valued by your customers.

Experience has shown that most customers

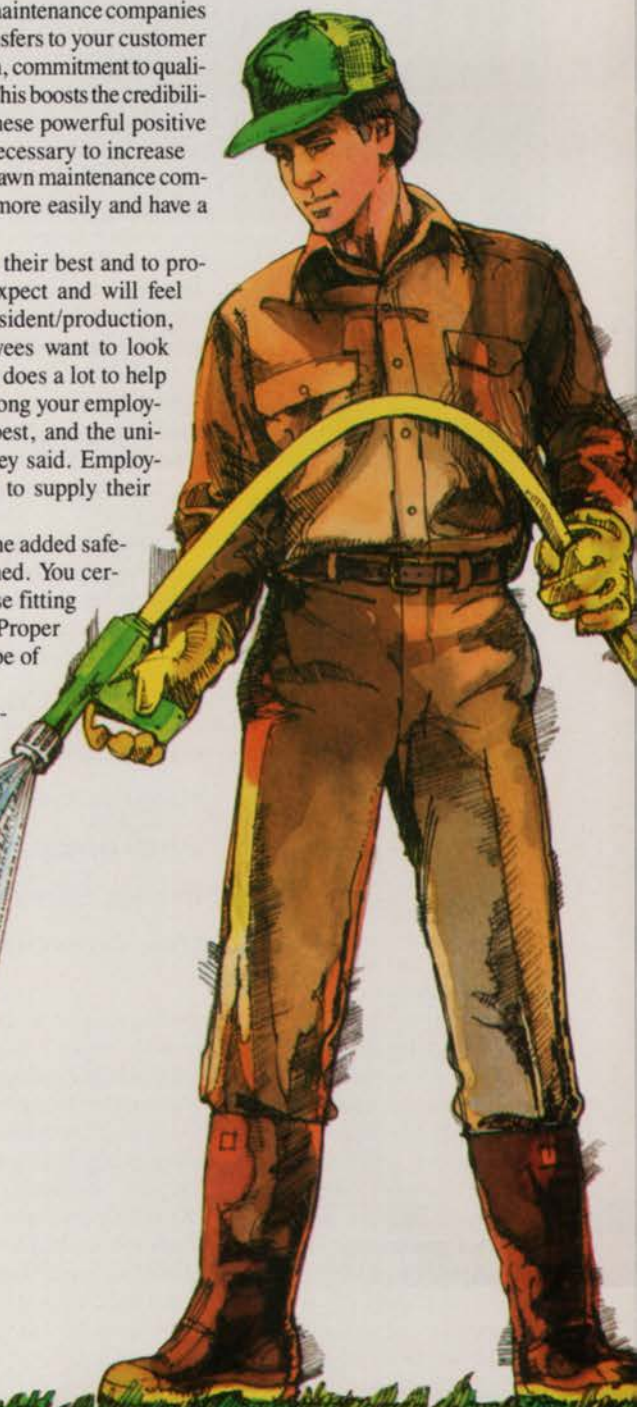


Illustration: Dow Chemical Co.



A sharp uniform, rather than no uniform, transfers to your customer an impression of professionalism.

are looking for a total lawn maintenance package. They are not only concerned about the effectiveness and safety of the service being performed, but also the quality of your total service package and the quality of employees who will be on their property.

It is very important to your customers that your service person is fully professional both in actions and appearance. If the worker looks classy and sharp, you put the customer's mind at ease regarding the quality of workmanship which he expects to get. In addition to your trucks, your employees' uniforms are the major advertising which your customers see.

A large majority of lawn maintenance companies purchase rather than rent their employee's uniforms. The reasons are major cost savings and much larger variety of selection as far as fabrics, styles, colors and accessories. When buying, you have the option of selecting special colors that will coordinate with your corporate logo. Also special sizes present far less of a problem than in a rental program. On a purchase program the supplier normally carries the inventory for you, and ships needed items to specified locations as required.

Nearly all rental programs have hidden costs which are not visible up front. For example, you pay new installation costs if your replacement employee is not the same size as the previous em-

ployee.

On the other hand, a uniform rental service may be the right choice for you if you have an unusually high turnover rate. Another benefit of rental services is that some of them will mend small rips or replace buttons when needed.

A company that specializes in brokering uniforms is normally your best bet as a source of pur-

.....

It is very important to your customers that your service person is fully professional both in actions and appearance. If the worker looks classy and sharp, you put the customer's mind at ease.

chasing uniforms. This is true even for larger companies who might consider purchasing directly from manufacturers. The reason is simple. If you have five or six types of garments which make up your uniforming program, chances are strong that you will have to deal with five or six manufacturers which becomes quite a headache for you.

Uniform broker companies deal in such extremely large volume that their volume buying discount becomes their margin of profit, so you pay the same or nearly the same price that you

would pay each manufacturer, but you are able to answer all of your uniforming needs from a single source. Your uniform broker helps you select exactly the right products for your specific needs, makes arrangements to have the goods made for you according to your specifications, inventories all of your goods, packages the way that is most convenient to your needs, sets up an ordering

which no single manufacturer can begin to match.

Uniform brokers customarily assign a well-trained and heavily experienced customer service representative to counsel you on the style, fabric, colors, trim and accessories which meet your needs. Because you usually have contact with the same person, this representative learns quite thoroughly the specifics of your company and its uniforming requirements. The broker also provides you with brochures explaining your uniforms to all those in your organization who need to understand it, and furnishes you with customized order forms as a clear and convenient means of ordering items as you need them.

Even the smallest companies can look sharp by purchasing their uniforms through specialty uniforming catalogs. Catalog uniforms are sharp in appearance and surprisingly reasonable in price.

Special trim, embroidery, emblems and your company name or logo can be added to give these uniforms a distinctive look. Furthermore, by ordering most of your items all together once or twice a year, significant volume discounts can be achieved, further extending the value of your uniform purchasing dollar. Even the smallest companies taking this route are finding that they have a considerably larger selection than if they chose to rent uniforms.

The quality of professional uni-

(continued on page 46)

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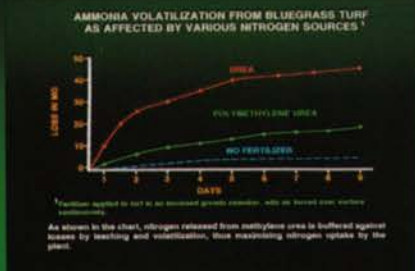
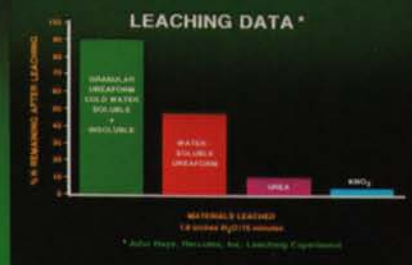
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Circle 71 on reader service card



Business Image

(continued from page 44)

forms is normally considerably higher than standard work clothing that is purchased from local department stores, especially in terms of durability. Another consideration is continuity of availability. If your work uniform is purchased from a retail outlet, matching items may not be available six months or 18 months down the line. You won't be plagued by style changes and color changes when dealing with a uniform company. Even in very small quantities your prices will be lower than retail, yet you get the more durable and sharper looking uniform.

Carefully examine the total package. Consider the uniforming company's overall commitment to quality for both uniforms and services. Check references with both current and previous customers. Look at delivery time frames, new order turnaround time for your new employees and turnaround for fill-in or replacement orders. Check out the com-

pany's expertise and reputation in its industry. Find out about the company's current and past experience with other firms in your industry. Consider both flexibility and variety of product.

What quality and level of service and follow-up will the uniform company offer in servicing your account? Do they offer, for example, monthly computerized management reports showing a

want garments that will hold up well in the long run, which are comfortable for our employees to wear, which have sharp styling and for the availability of colors which will match our company's colors and logo," Kelley said.

More than ever before, image is important to lawn maintenance companies. High visibility through positive images projected by sharp uniforming can

vice, people simply can't think about both at once. They may want your product to have a variety of virtues — but one is most important to them and defines their idea of what they need.

You must choose a market identity and avoid packaging incompatible claims. This is harder than you might think for companies in need of a turnaround.

The final link between the image projected by your employees and success, is to make sure you deliver the high quality of service that your top-notch appearance promises. When you do, you will achieve not only a strong first impression, but also a deepening and frequently reinforced assurance that your lawn maintenance service is reliable and fully professional.

When you deliver all that you promise, your reputation among today's customers will contribute to the power of your appeal to tomorrow's. — Ann R. Brade ■

The author is a nationally known speaker and expert in image apparel and uniforming programs.

The final link between the image projected by your employees and success, is to make sure you deliver the high quality of service your top-notch appearance promises.

breakdown per employee and per division on the level of activity and type and quantity of services furnished?

"When shopping for uniforms we aren't looking for garments which are the least expensive. We

help you to achieve the competitive edge to boost your business and increase your profits.

People are not always rational; they are emotional. Even if, in reality, two incongruous claims are true of your product or ser-

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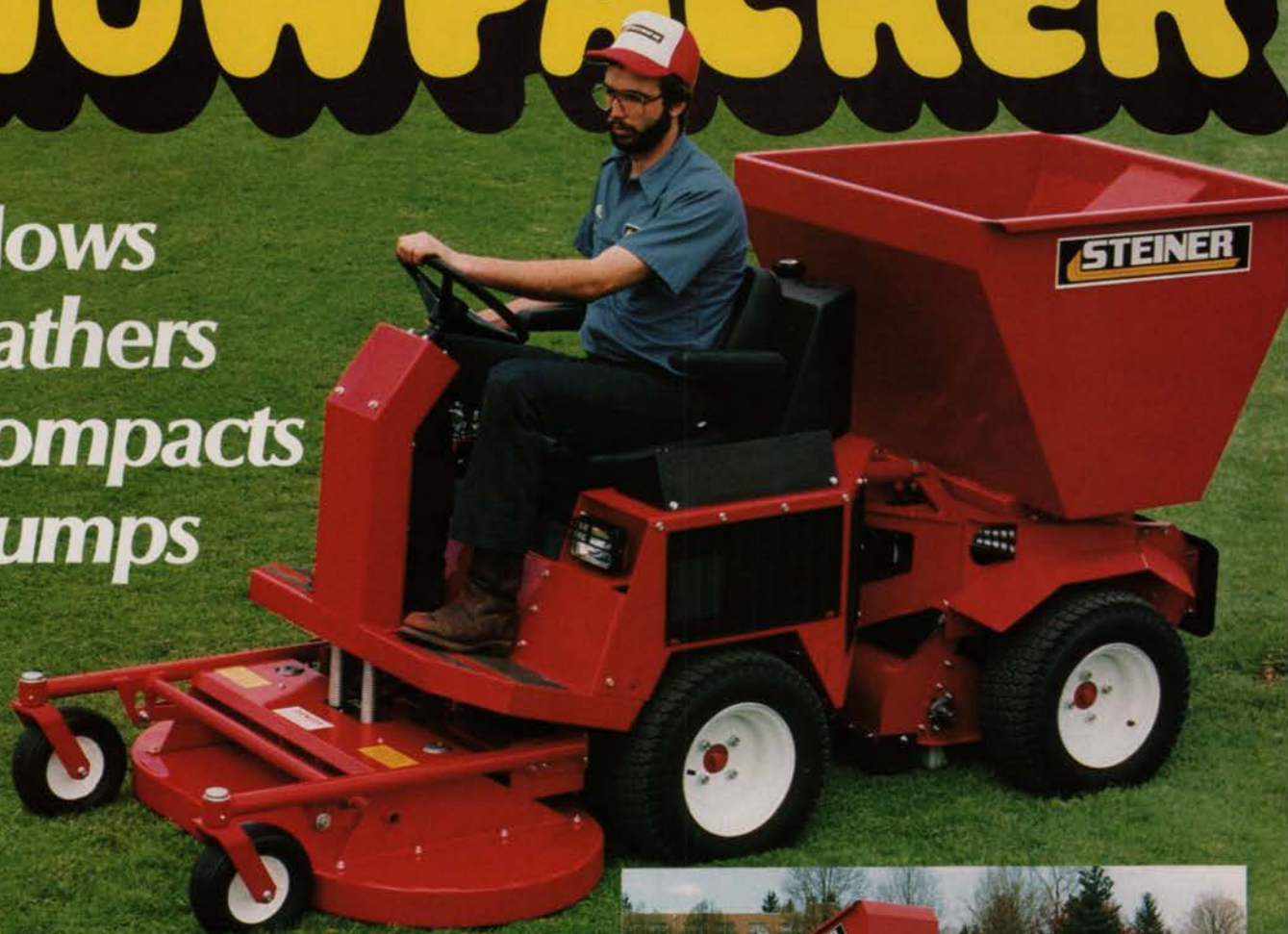
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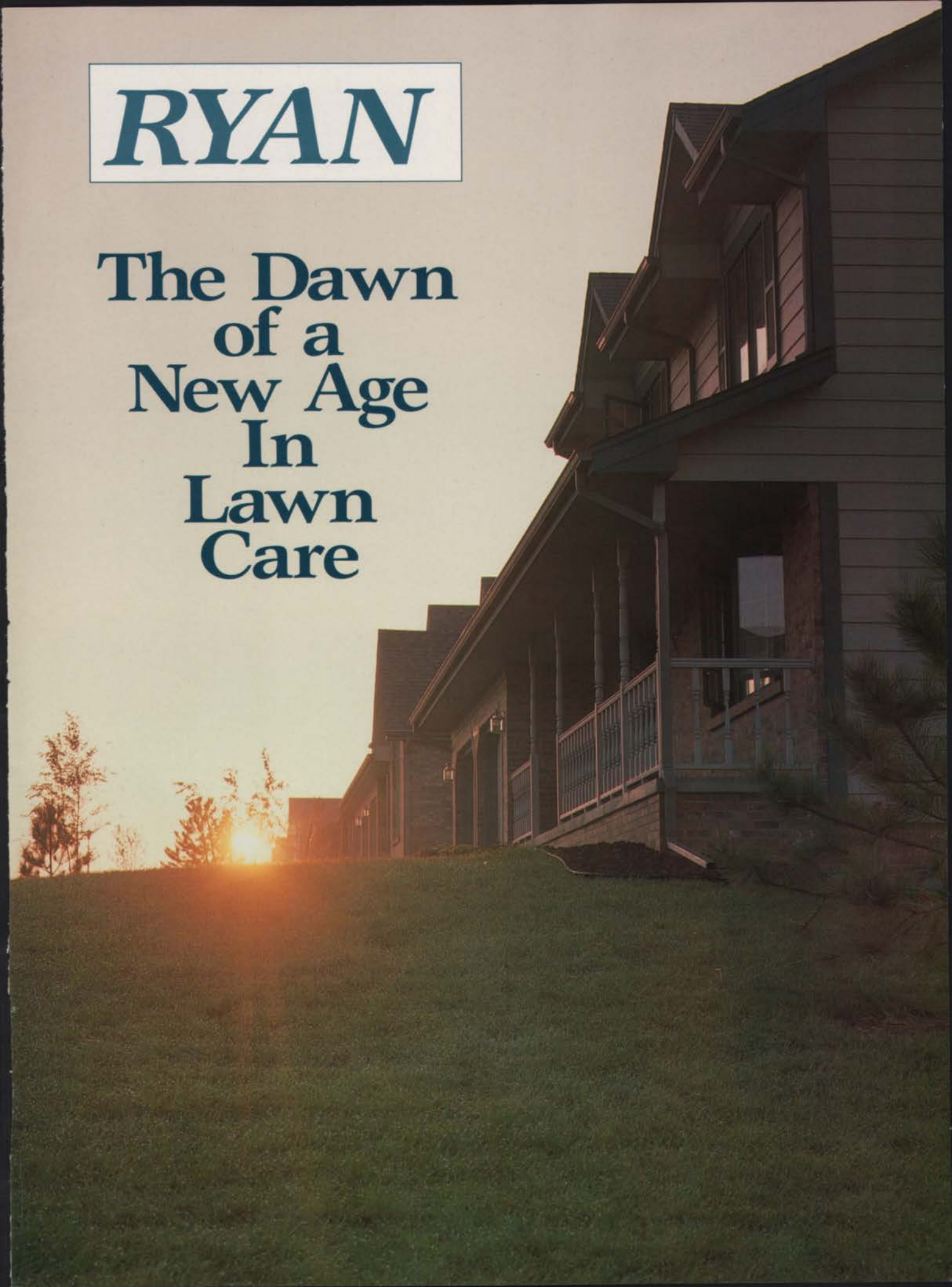
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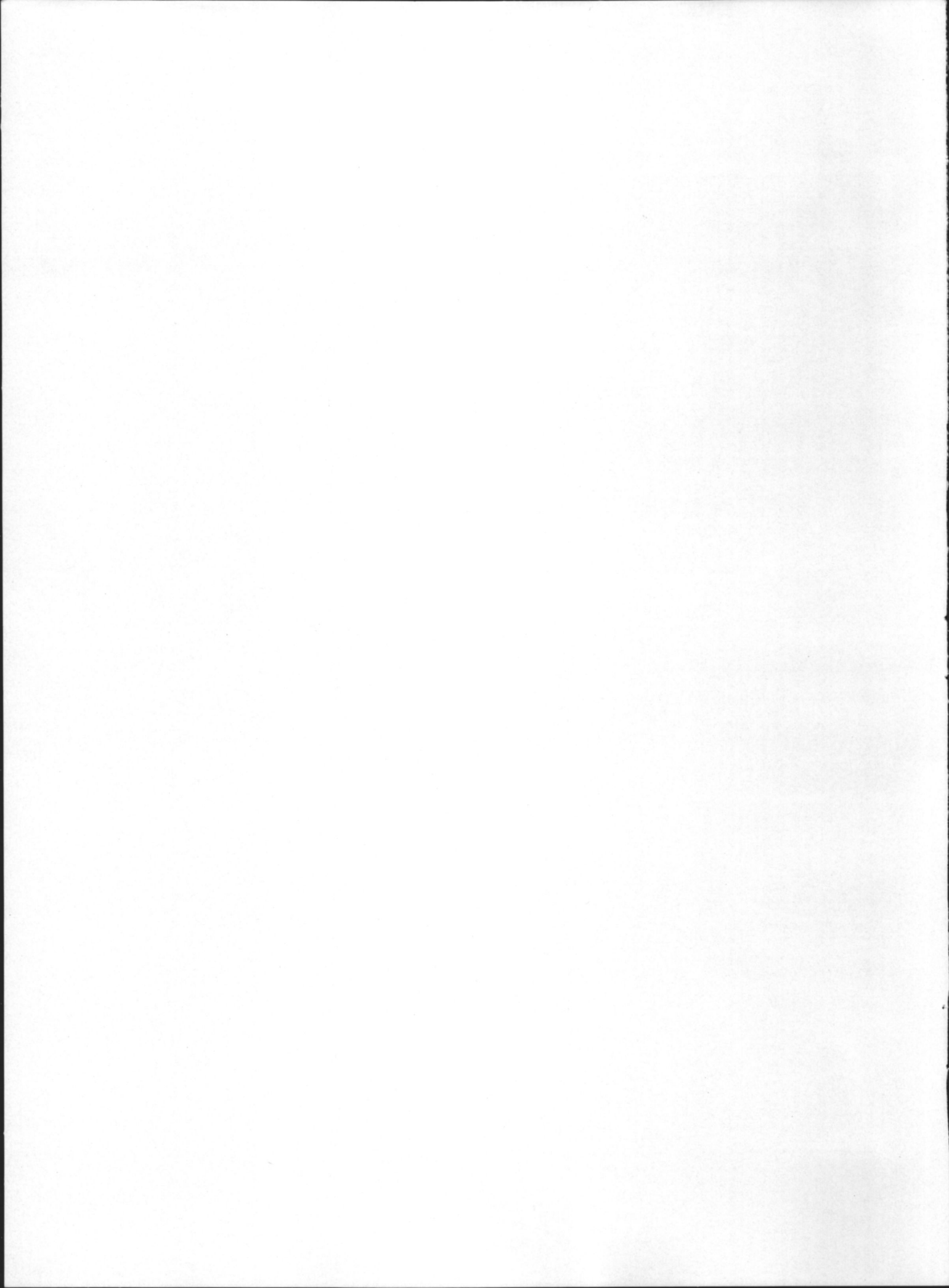
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Ryan's Commitment to the Lawn Care Industry

The manufacturers of RYAN products are pleased to present the following information on aeration and overseeding.

RYAN products have played an ever increasing role in professional turf management since 1946. That role is expanding today at an even faster pace. Just in the past 18 months, we have introduced major new products — the Lawnaire 28 aerator, the Mataway Overseeder, the 48-inch tractor-mounted Lawnaire aerator and the newest, the RYAN Spotseeder.

These new products have been designed and developed based on what you — the lawn care professional — has asked for. At trade shows, in the field and from our own RYAN customer council, we have put together development programs based on what you have indicated the industry needs.

And, we back up our products with an extensive parts and service distribution network that includes more than 76 distributors and 450 dealers across the U.S. and Canada.

Like RYAN equipment, we hope the information on the following pages serves to help make your business even better in the years ahead.



Sincerely,

Robt C. Brophy

Robert C. Brophy
Manager, Lawn Care Product Sales

Ryan: Supporting Its Own

Distribution and a strong internal support system are the keys to continuing growth and development at Ryan.

With 76 distributors and 450 dealers in North America, Ryan distribution ranks among the best. But its success was not achieved overnight. Ryan selectively crafted its system so that from dealer to distributor to the main office in Lincoln, Nebraska, everyone has a shoulder to lean on.

It's taken years of deliberate planning and work, but Ryan is practically at the beckon call of its customers — delivering needed parts overnight in most cases.

"That's what this industry is based on, service and support," said Bob Brophy,

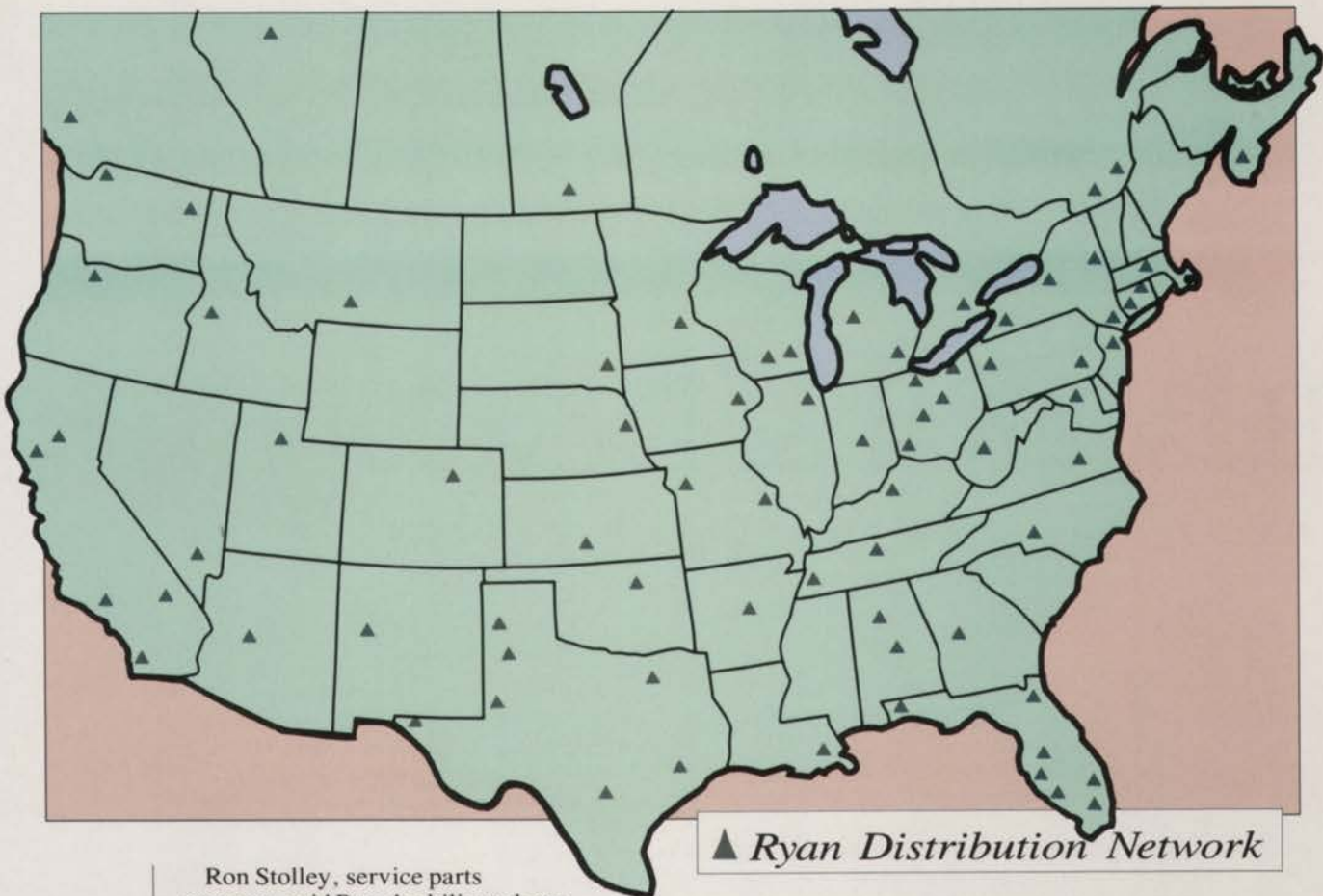
manager of Ryan Lawn Care product sales. "One of the key factors that makes us a company with the strength and the background that we have, is that we build all of our products ourselves. We design it, build it and supply the parts as well as the service and service training."

At Ryan, supplying a customer with a part is just as important as the original sale of the equipment. If a part order comes into the Lincoln plant by 8 a. m. Central Standard Time, it is usually shipped out the same day by UPS. The company ships between 150 to 200 orders a day worldwide.

A 1 p. m. (CST) emergency order deadline is also in place for guaranteed same day shipment.



Cushman-Ryan parts distribution center.



▲ *Ryan Distribution Network*

Ron Stolley, service parts manager, said Ryan's ability to keep about 12,000 part numbers on hand, virtually every day of the year, comes from the enhancement of its distribution center and state of the art material planning system.

Ryan's distribution center was moved into a new 70,000 square-foot facility in December 1987 as a result of what the company saw as a need for maximizing customer service.

"We organize the work before it begins which really minimizes the steps that we have to take. That's where we get our efficiency," Stolley said. "We've better than doubled our efficiency from previous methods."

Deliberate goals and planned growth rates have been established. That's why Ryan makes the effort to provide constant training for the 650 people at its Lincoln headquarters and all of its outlying staff.

Yearly distributor meetings keep personnel on top of new product and program introductions, and allows them time to take new products out for testing.

"Ryan feels it has the best distribution to serve the lawn care market in North America," Brophy said. And for a company which has doubled its turf equipment sales in the last 10 years, it's a matter that's not taken lightly.

"Technical support is very important. Not only in sales training, but service training all the way up the ladder. That's why we have a full-time training manager here," Brophy said.

In the service department, Ryan has four full-time instructors as well as three traveling regional service managers, according to Ivan Vagts, Ryan service manager.

The in-house and traveling service reps handle the service training of distributors, dealers and their personnel. During the winter months, Ryan also holds revolving classes in Lincoln for distributors and dealers to send their technicians for additional training.

Although the bulk of the company's business is in North America, overseas distributors are also included in the Ryan support system.

Ryan Equipment Co., formerly of St. Paul, Minn., became part of the Outboard Marine Corporation in 1969, and originally began as the K & N Works in 1946.

The first Ryan Sod Cutter was produced in 1948 and the Ryan Jr. Sod Cutter was introduced in 1956. The first step into the field of turf aeration came in 1958 when the company came out with the Ryan Greensaire Special.

Cushman Motors became a subsidiary of Outboard Marine Corporation in 1957, and a division of OMC in 1972.

In 1977, Ryan moved to Lincoln and became part of Cushman.

Today, the Cushman and Ryan plant facilities cover approximately 900,000 square feet, manufacturing industrial and turf equipment for distribution throughout the world. ■

Research & Development Ryan Style

Ryan turns to its customers, dealers and distributors before a new piece of equipment is designed and produced. From the beginning design to prototype testing, input from a variety of sources, particularly Ryan's customers, holds a lot of clout before the product reaches its final form.

Take the LA 28 for example. The aerator was on the drawing board in 1985, but the first production run wasn't completed until February 1988 after receiving substantial input from customers.

An aeration survey published in *ALA*

magazine also confirmed what Ryan suspected; that there was a need for new aeration equipment and that industry professionals were willing to pay the price for quality equipment. Forty-two percent of those questioned in the 1985 survey said they were willing to pay more for a dependable aerator.

Before adopting its final look, the LA28 underwent several adjustments and extensive testing by staff and professional lawn care operators. Allowing professionals to test the equipment in their working environment gives Ryan an idea of the type of difficulties turf maintenance professionals encounter day to day.

Ryan often conducts its own long-term test program in which the company hires people to take its equipment for extensive use in large city parks, university grounds and hospital grounds to build up test hours.

In addition, the company has an extensive university support program which loans equipment at no charge to colleges throughout the country which are involved in turfgrass research.

The same customer awareness held true in the development of Ryan's Mataway Overseeder. Ryan management recognized the need for overseeding equipment in a market which was beginning to



Ryan LA28 in final assembly.

The Mataway Conversion

When Ryan recognized that a growing share of the lawn care industry was becoming more involved in the revitalization of established lawns, it decided it was time to manufacture a product to serve such a need.

Ryan needed to look no further than its own product line to find the answer.

Since its Mataway already came close to meeting the requirements of an overseeder, it was the logical choice.

"We looked at it and knew it was a versatile, rugged, maneuverable unit and it was easy to adapt to the overseeding concept," said Ward Svoboda, project engineer for the Mataway Overseeder. "Half of the requirements for overseeding are that you provide slits in the ground; we had that already. The next thing was to provide a means to put the seed in the slits."

Since the Mataway had proven itself a dependable product for more than 20 years, Ryan decided that the overseeding component should follow suit. In order to maintain the Mataway's high degree of quality, Ryan decided to incorporate a hopper provided by a well-established company in the hopper and spreader business.

As a result, the Gandy® seed met-

tering device was added to the Mataway, and Svoboda went to work on developing the seed delivery system.

"We looked at different ways of delivering seed directly into the slits. After going through a number of different methods, I found the only really effective method was to use concave disks and seed tubes," Svoboda said.

This seeding method was incorporated into the lower delivery assembly design of the Mataway Overseeder. The disk opens the slit, and the seed tube directs the seed along the inside radius of the disk, and deposits the seed into the open slit. Because the Mataway Overseeder provides 10 slits in the ground with two-inch spacings, a more uniform distribution and a higher seed germination rate can be achieved, according to Svoboda.

While designing the overseeder, the Mataway itself was upgraded to provide even more dependability when used as an overseeder. Such things



Ward Svoboda

as belts, blades, control handles and the drive train were improved and the sound level of the product was reduced to provide more operator comfort.

The Mataway Overseeder gives the user the ability to power rake/dethatch or overseed, or to do both at one time.

One of the unique characteristics of the Mataway Overseeder is its seed chart. It was developed by Ryan to

give the user an easy-to-read chart which shows the approximate setting per pound of seed needed, per thousand square feet of lawn covered. The seed chart covers basic seed varieties.

Other unique features are the control of the rotor bar and seeder gate. The rotor bar in the hopper engages and starts to turn as the Mataway reel is lowered and the unit is propelled forward. The seeder gate automatically shuts off when the unit is raised out of the ground, ensuring that none of the seed is wasted. ■

place more emphasis on the revitalization of established lawns.

Through Ryan's marketing department and its far-reaching dealer network, management instincts were then confirmed by customer input — an overseeder could be successfully marketed. Later, test program feedback would result in several parts being redesigned and improved so the best possible quality and dependable unit could be built.

At the time the Mataway Overseeder was being developed, there were already similar products on the market. However, the maneuverability of the Mataway and the relative ease with which it could be converted into an overseeder was the incentive Ryan needed to go ahead with its plans.

Ryan's two latest pieces of equipment illustrates just one area in which it strives to maintain its commitment to the lawn care market. While the industry has seen what kinds of products Ryan can produce, the innovativeness by which Ryan accomplishes its task is less pronounced.

Ryan has been making use of in-house project teams for each new product. One such team was created as the LA28 was in the prototype stages. It was comprised of people from the engineering, accounting, experi-

mental, production, tool engineering, purchasing, industrial engineering, quality control and marketing departments.

The team brought all those involved in the making of the LA28 together to create a team effort, and to decrease the likelihood of details falling through the cracks.

"It was helpful as we got close to the build date. Communication between departments was enhanced. Because of the team, there was a better appreciation for what each department was doing," said Mark Cozine, project engineer for the LA28.

One aid in particular, the computer-aided design system, created greater design freedom in the development of the LA28. Used by the engineering department in the design of most Ryan equipment, the computer system allows the product to be displayed on the computer screen.

At any time, the system can display a single portion of the product, or show any portion of it in relation to its neighboring pieces or the whole product.

"It enhances the development of a product because you can draw something and really see how closely it fits with the other surrounding components," Cozine said. "It's better than a flat piece of paper — you can put in more detail. My LA28 layout had

The Aeration Line Continues

The LA28 is the latest in a long line of aeration equipment from Ryan.

Ryan's Lawnaire IV was already a proven product in the market, but the company realized it needed a walk-behind reciprocating aerator — something that had more precision than a Lawnaire IV, but was still a walk-behind durable unit, according to Mark Cozine, project engineer for the LA 28.



Mark Cozine

Design of the LA28 began at the end of 1985, and became a workable model in February 1986. Three months later the first prototype was made. It basically did what Ryan wanted, but lacked durability, Cozine said.

"We knew we had something that we could develop," he said. "We liked the idea and the way it was laid out, we just had to refine it."

The LA28 is considered a precision machine — providing more holes per square foot, as well as a deeper hole. It's a faster and more productive mach-

ine than the Lawnaire IV. The LA28 is generally used on a yard that's 6,000 square feet or larger. Some companies take advantage of both machines, Cozine said.

The LA28 works like this: as its tines enter the ground, they cut a plug out of the thatch and soil. That plug of thatch and soil remains in the tines until the next cycle. The next plug of thatch and soil then pushes the

first one out.

The LA28 features hollow, steel tines, which make a $\frac{3}{4}$ -inch diameter hole in the ground — 2½ inches deep. It does this on a pattern of 3½ inches wide by 5 inches long between holes.

The Lawnaire IV, on the other hand, is a walk-behind roll-type aerator. The tines stick radially out of the drum, and as it rolls, the tines roll into the ground and then right back out.

The reciprocating aerator provides a straighter hole and closer pattern. On the other hand, the roller-type is

a very rugged simple machine, with only a few moving parts.

The main difference between the LA28 and others on the market is that the LA28 has wheel drive and a unique return linkage. The linkage allows the tine that's in the ground to pull the one that's out of the ground forward. In other words, the tine action walks the tines along.

More than 500 test hours were split between two prototypes, Cozine said.

A unique feature of the LA28 is its number of lube fittings. Generally, a lawn maintenance professional will find any number of lube fittings in the aerating mechanism, the tine arms and the linkage that runs the tine arms. Consequently, it takes a lot of the operator's time to lube the fittings like he should.

In the LA 28, all the linkage was developed with sealed bearings so an operator doesn't have to worry about doing lube work in the aerating mechanisms.

The LA 28 has five lube fittings: one on the front wheel, two on the drive and two on the differential gear. But in the aerating mechanism itself, there are no lube fittings. ■

8,000 lines, circles and arcs in a 3-dimensional computer model. If I tried to put that many things on a flat piece of paper, you couldn't tell one from the other."

An engineer can display as many as 254 different layers on the terminal.

Ryan has been using CAD for about four years, but CAD systems are just now becoming more prevalent in the industry.

The LA28 joins a long line of aeration equipment provided by Ryan. In addition to the LA28, Ryan manufactures the Lawnaire IV, Greensaire 24, GA 30 and the Tow Lawnaire. The GA24 is considered a standard in the industry for golf courses. The GA30 is a direct relative of the LA28 and uses some of the same parts. The GA30 is used on golf courses as well as large commercial properties.

Ryan isn't content to rest on its laurels, choosing instead to develop products that meet the future needs of its customers.

"It's a company effort," Cozine said. "As a group, we're getting a lot smarter that way." ■



Mark Cozine, project engineer, studies the LA 28 on Ryan's CAD system.

Quality Turf Through Core Aeration

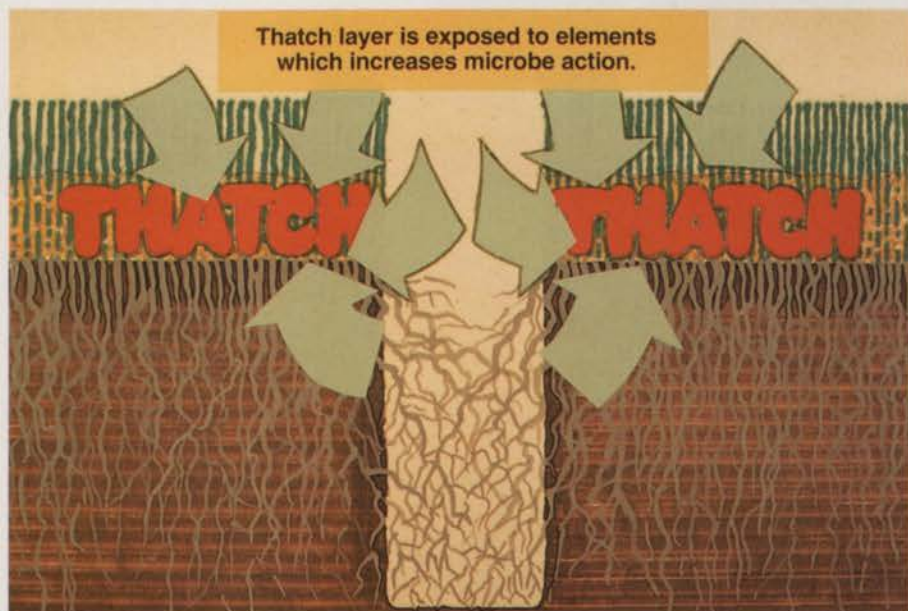
Since the first practical aerator for home lawns was developed in 1946, the lawn maintenance professional has been striving to improve and promote the performance and benefits of core cultivation.

Now, some 40 years later, core cultivation is a widely accepted practice on home lawns, athletic fields, city parks and other fine turf areas. Where once thought only to be a fall maintenance practice, aerification is now accepted nearly year-round — often biannually on any given property.

“The benefits which existed then still hold true today,” said Thomas Mascaro, an originator of the first aeration equipment. “The more you disturb the earth, the better the grass grows. If you can cultivate the grass, you get a lot of root growth.”

Good root growth can't be achieved in compacted soil, however, and the need for aeration quickly developed from the standpoint of trying to relieve soil compaction.

“We don't have the privilege of turning the soil over like the farmer does. Yet we put all that traffic on the turf, frequently when it's wet,” said Paul Rieke, Crop and Soil Sciences, Michigan State University. “We know that that's the condition under which soil compaction is going to be the greatest — when you have traf-



fic and when it's wet. So we're bound to run into that anywhere we have a reasonable amount of traffic.”

Aerification benefits are generally thought to be noticeable only over the long run. However, the practice has both long- and short-term benefits. Immediate benefits can be seen as core cultivation changes the physical and chemical properties in the thatch, enhancing moisture retention. Over the long haul, core cultivation can substitute as a direct topdressing for the turf, and continually assist in breaking down the thatch medium.

Thatch is a tightly intermingled layer of living and dead stems, roots, rhizomes, stolons and crowns which develops between the green vegetation and the soil surface.

As compaction and thatch become more of a problem, desirable conditions for proper turf growth decrease, and the

turf becomes more susceptible to stresses such as drought, heat, insects and disease. Increased stresses will require additional maintenance to produce quality turf, and diminish the negative influence of thatch.

Don't be fooled by the short-term benefits. Although they're important, some regularity in aeration is needed to keep soil and thatch conditions at their optimum. In many instances, it will take a number of years for improvement to become evident.

Severe compaction, in particular, calls for on-going aeration. The compaction is not going to be solved in one pass of the aerator. Seriously compacted areas may need to be aerated two or three times a year, both as a preventative and curative measure.

No one can estimate how long the benefits of aeration will last, but industry professionals are sure that benefits increase with each aeration.

Aerification is a means to an end. Through the core cultivation process, soil is mechanically removed from the ground, usually to a depth of two to three inches. Aeration increases the air in the soil by replacing solids from the soil with air from the atmosphere — ultimately allowing the surrounding soil to move into the newly created space, relieving compaction.

Although core cultivation is used primarily to remove thatch, an even larger benefit of aeration is the soil modification process.

"I think that's the key," said Mark Kelley, Leisure Lawn, Dayton, Ohio. "I think people are starting to see the value of cultivating more and more. We have some lousy soils out there no thanks to the people who originally landscaped the property."

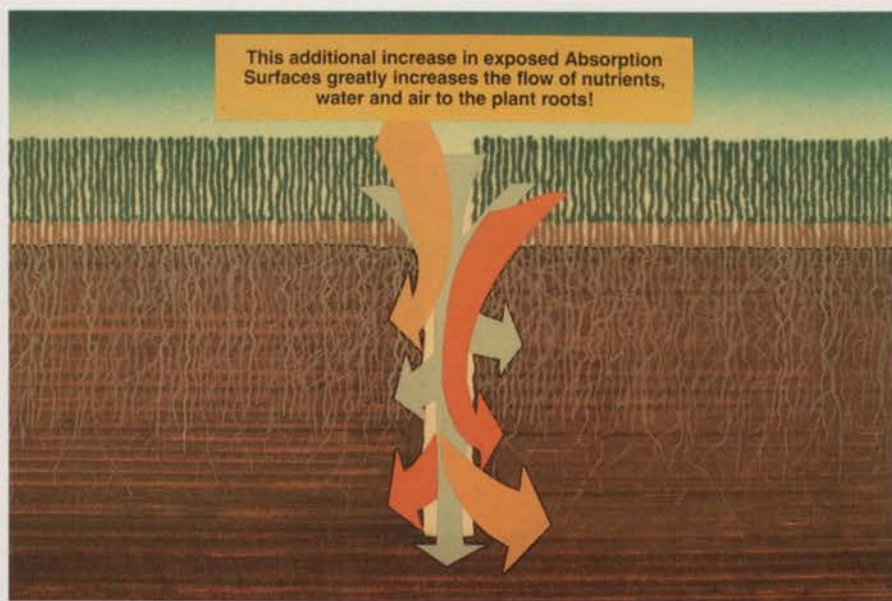
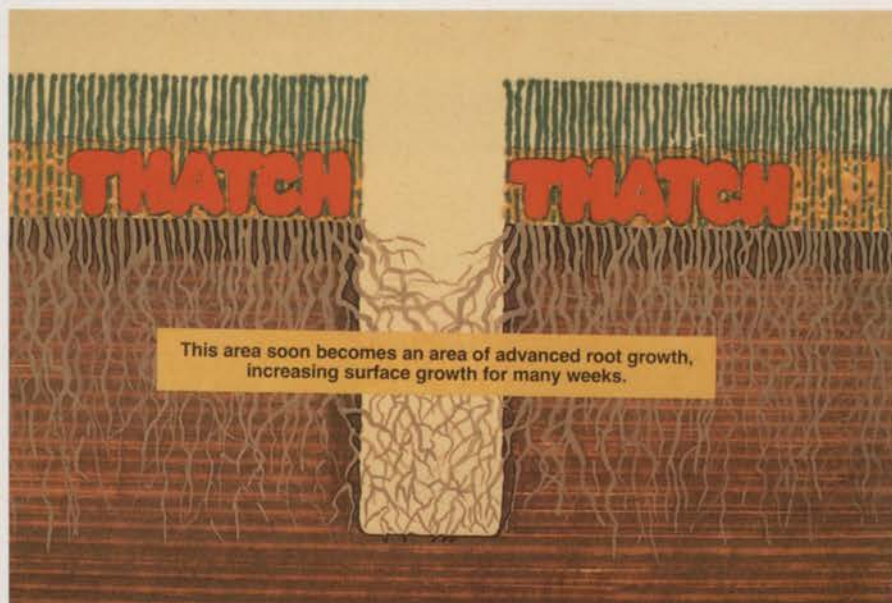
The soil modification process allows for the intermingling of the soil with the thatch, favoring decomposition and alter-

ing the physical structure of the thatch layer. The large pore spaces from the thatch layer are intermingled with the soil brought to the surface.

An ideal soil is made up of 50 percent pore space and 50 percent solids. Of the 50 percent pore space, half should be small and filled with water for proper soil moisture content while the other half should be large and contain gases. Many soils that are compacted and high in clay content have less than 50 percent pore space. This restricts the amount of water and oxygen available to the grass plant, inhibiting the proper growth and development of the turf.

With the removal of cores, water can penetrate the surface easily, fertilizer can more readily move to the root system and effective gas and heat exchange can take place.

In heavy clay situations, soil modification pulls the



hard clay soil out of the ground and lays it on top. It's then able to break down with the help of moisture and mowing traffic, gradually filling up the holes.

Core cultivation provides for a looser or more porous soil content that enhances root production and helps the root system tremendously in its development. In new housing complexes, aeration helps anchor the roots which in many cases have been planted in poor subsoils.

"Core aeration is a blessing to soils. If you were to core aerate twice a year, in my opinion, you can maintain a consistent thatch layer of 1/2-inch," Kelley said. "Some thatch is good. You want some insulation in there — some buoyancy for turf."

A 1/2-inch of thatch also provides a holding area for fertilizers and pesticides, and provides insulation against heat and cold. If a lawn is core aerated twice a year, and receives a normal five application lawn care program, the soil will consistently improve. But if it's let go, the turf's thatch will creep to 2 1/2 inches of thatch in no time.

Thick thatch isn't necessarily a result of neglect. A well-kept lawn is often the one which suffers most because a fast-growing turf tends to produce more thatch.

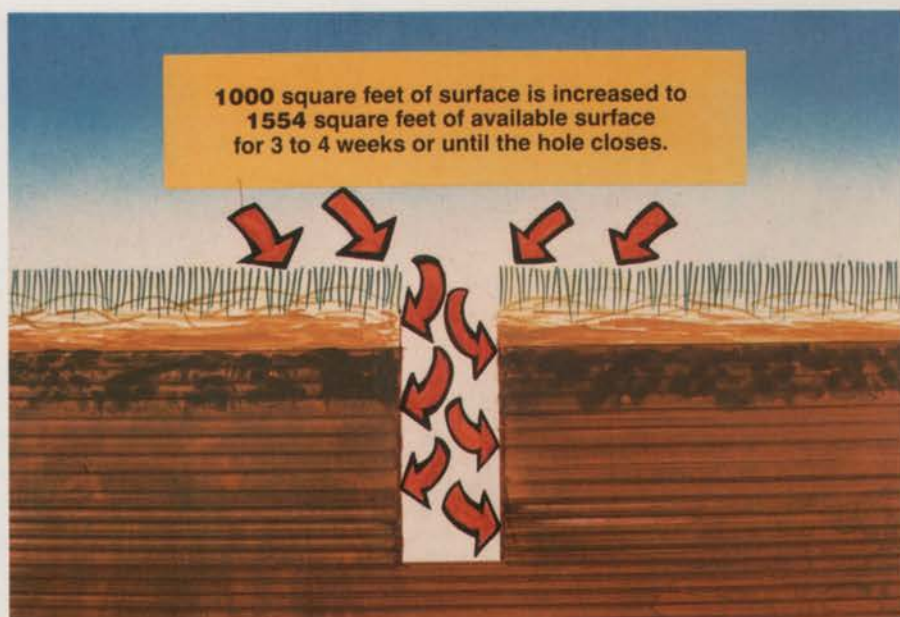
"It's important to get started on that core cultivation right away. As soon as that lawn goes past 1/2-inch, I'd start on it," he said.

Increasing moisture infiltration, achieving better rooting, improving nutrient uptake and improving gas exchange in and out of the root zone are considered the main benefits of aeration.

One of the keys is to get good infiltration, so the water doesn't run off the turf. The percolation of water into a yard which has been aerated will be much better than one which hasn't been aerated. It doesn't solve the deep drainage problem, but at least it gets drainage into the soil. Not only does it reduce runoff, but it also allows you to use water more efficiently.

Since well-aerated soils are essential for soil microbial activity, coring may further enhance decomposition of the remaining thatch because more air and moisture are able to enter the thatch and soil.

Core aeration encourages healthy turf and a subsequent resistance to disease.



"That's one of those things that probably isn't real clear. It generally encourages the grass, and allows the grass to grow better so that it can compete with certain pests," Rieke said. "In a lot of cases, a good healthy turf is a key factor in being able to tolerate pest problems or any stress problem."

For example, sod is often put down on compacted subsoils so that turfgrass not only has bad soil conditions going against it, but if disease comes along, it has no reserve to fight it.

Diseases won't be eliminated through core cultivation, but it will help the lawn breathe better and ultimately fight disease more efficiently.

Aeration isn't the cure for every lawn, but it helps where topsoils are known to be shallow, and subsoils are poor.

The objectives of core aeration will vary on different soil types. For instance, compaction can be a problem in sandy soils, but not as much as a fine-textured soil. In fine-textured soils, rooting and infiltration can pose significant problems.

Although often thought to be unsightly, the plugs from core aeration should remain on top of the turf. The plugs will eventually breakdown and fill the space back up, acting like a topdressing of sorts. Depending on the type of soil, the plugs will last anywhere from one to two weeks.

If it's a sandy soil, plugs will break up very easily. If it's a loamy soil, it still shouldn't be too much of a problem. Core aeration on a moist clay soil will generally result in plugs which persist for some time.

There are many variables when it comes to aerating a home lawn, athletic field or city park, but the benefits are clearly evident in turf which is consistently and properly cultivated. ■

Setting a Course for Your Lawn

The difference between fall and spring seeding is like night and day according to industry professionals.

And although seeding can be successful in the spring, the seed is more likely to find weed competition in that sensitive growing time of year.

"Many people think spring seeding is the best because the snow has just melted (in the North). But the time to do it is the fall, when there's no annual weed competition and no worries about crabgrass, foxtail or barnyardgrass," said Joe Churchill, product manager, medalist turf products division, Northrup King.

In the fall, seeds benefit from consistent soil temperatures, unlike the spring months when the soil temperature fluctuates between warm and cold, causing the seed to be confused about what it should do.

Fall seeding also gives the seed a chance to "grow up" before it has to face environmental stresses.

"In the fall, a plant experiences two to three months growth with no stress. That growth continues in the spring, when we still have relatively pleasant temperatures," Churchill said. "So we have a plant that's nine months old before it's really tested by stress."

Spring-planted seed, on the other hand, is only about 30 days old when it is first challenged by environmental conditions.

The end of August and the first part of September is generally a good time for seeding in the North. Further south, seeding may take place as late as October. In any event, the seeded area should have a chance to become well-established before the first hard frost comes.

Exceptions to the fall seeding theory

are athletic fields and home lawns equipped with irrigation systems. Athletic fields are regularly seeded in the spring because of the fall football season. In addition to plenty of irrigation, a spring seeder should also be aware of the controls necessary to prevent annual weeds.

Spring is also the best alternative should fall seeding be impossible, or in the event that a second seeding is necessary.

It takes quite a bit of up-to-date information to successfully complete an overseeding job, whether a complete renovation is being attempted or a spot seeding.

Be sure that the conditions which have caused the stand of turf to lose its vigor in the first place have been remedied so that successful turf establishment can be expected. If the turf declined because the original grasses were not suited to that site, it will be necessary to select other species which are better adapted to the situation.

Depending on the immediate goal, the proper seed variety can change depending on the area of the country and the circumstances surrounding the overseeding. Shady areas, high traffic areas and low fertility areas all require different seed varieties at different seeding rates.

A general rule of thumb for overseeding is if the turf is 50 percent or more undesirable, whether that means it's 50 percent thin or 50 percent full of weed and disease problems, then a complete renovation is most likely warranted.

On the other hand, if there is still a good percentage of healthy turf, then it's better to work with what is present by incorporating a better variety into the existing turf.

In general, the ryegrasses, bluegrasses and fine fescues, or varying blends of

them, provide solutions for most seeding situations.

The two primary fortes of the ryegrasses are fast establishment and traffic tolerance. Bluegrasses are good for heat and drought tolerance, color and are known for having good recuperative ability.

Bluegrasses have rhizomes which seed together and establish a nice dense, thick turf. Bluegrass, at least in the northern climate, is the foundation of all grass seed. It has good texture, good color and works well with other grasses.

The fine fescues are great for shade and low fertility situations. Tall fescues do extremely well in heat and drought situations. In the mid-South, they're also extremely traffic tolerant.

Common in overseeding lawns or sports turf are the blends of new turf-type perennial ryegrasses. They germinate quickly and establish with a vigorous seedling. The new ryegrasses are said to make an ideal overseeding, and have sparked a lot of interest because of their broad geographical adaptation and low maintenance requirements, according to John Hopko, a seed specialist for Northrup King.

Generally considered the number one overseeding material, the perennial ryegrasses are consistent in all areas of the country, including the South, for overseeding dormant Bermudagrass, according to Eliot Roberts, executive director of The Lawn Institute.

Other viable winter overseeding mixtures for the South include *Poa trivialis* (rough fountain bluegrass) — often mixed with ryegrasses and fine fescues. However, the perennial ryegrasses remain the all-around favorite because of the rapidity of seed germination and the strong healthy seedling. As the seedling begins to grow, a green cover quickly establishes over the ground as the Bermudagrass goes dormant.

The perennial ryegrasses can be used for overseeding in the North, but there's also the option of using mixtures containing Kentucky bluegrass. The mixture should include a bluegrass blend that is the same type already in the turf.

The fine fescues make an excellent ingredient in an overseeding mixture because they germinate quickly. They're not as quick as the ryegrasses, but they establish well.

In an overseeding mix, perennial ryegrasses would probably comprise only 10 percent to 20 percent of the mixture, so the bluegrass and the fine fescue have an opportunity to exert an influence on the overseeded stand without it becoming 100 percent ryegrass.

As a general rule, the overseeding mixtures for bluegrass, ryegrass and fine fescue would be somewhere in the neighborhood of 50 percent fine fescue, 30 percent bluegrass and 20 percent ryegrass. There's a lot of room for variation with the fine fescues and bluegrasses,



Seed plants in different stages of development.

but more than 20 percent perennial ryegrass should generally not be included.

Compatibility is the name of the game in overseeding. With the new improved ryegrasses, fine fescues and bluegrasses, they all tend to match well in overseeding. However, if an old Kentucky bluegrass lawn is overseeded with a new ryegrass, it will create a mismatch.

Another variety considered poor for overseeding is bentgrass. A bentgrass overseeded into a bluegrass lawn, or any other lawn, is a good example of incompatibility. Such a match could result in clumping.

The seeding rate is generally determined by the number of viable seeds — potential grass plants — that it takes to end up with turf that has about six plants per square inch. To accomplish this, it may be necessary to aim for 12 plants per square inch just to get six healthy plants, according to Roberts. In overseeding established turf, however, it takes almost 50 percent less seed than it would when starting from scratch. And that too depends on how thin the turf is, and the overseeding practice used.

Seedling rate determines how rapidly ground cover will be achieved for a given cultivar. The more rapidly the soil is protected with vegetation, the less moisture evaporation, and the more favorable the surface soil conditions are for turfgrass growth and development. Seedling turf of greater density usually allows

fewer weeds to become established.

Seedlings that are excessively crowded are more subject to disease. This may be avoided by keeping seeding rates reasonable and applications uniform.

Unfortunately, determining a seed rate is not an exact science, according to Hopko. The amount of seed really depends on what species or mixture is used. An average rate would run about 150 to 175 pounds of seed per acre, or just under four pounds per 1,000 square feet.

"It really depends on if we're working with a mixture or a straight species," he said. "Most of the time, a professional can pick up information on the suggested seeding rates with the product. Most professionals agree that it's generally better to have too much than not enough."

That's not to say that massive quantities of seed should be thrown on the turf.

Overseeding in extreme amounts can have some negative effects on turf. There is a point of diminishing returns in seeding, whether it's a new seeding or overseeding, Churchill said. If you get too many plants per area, they're not able to establish and fill in as well as they might if they had room to grow.

As a result of overcrowding, plants can be brittle, have shallow root systems and are not nearly as tolerant to the environmental stresses as they would be if seeding was done at a proper rate.

In overseeding, it's most important to get the seed in contact with the soil. In a new lawn, depth becomes especially important because small seeds shouldn't be planted too deep or they won't germinate and grow. With large seeds, you don't want them too close to the top because they'll dry out and won't germinate.

The depth range depends on the size of seed. In general, when a new turf is being seeded, and the soil surface can be watched, rake the seed in so that 10 per-

cent or 15 percent of the seed can still be seen. When this much is visible on the surface, then the rest of the seed is at the proper depth.

Overseeding established turf is a whole different practice, however, because the soil is being sliced with a renovating machine or a slit seeder. The important consideration here is getting enough of the soil cut so that there's good seed to soil contact in those slits.

The depth of placing the seed is really up to the slits, which will vary in depth from 1/4 inch to 1/8 inch. Most machines in the industry meter the seed, so just the right amount of seed is delivered at the right rate.

Before overseeding, it's wise to make sure the turf has been fertilized and is the proper pH level. It's also important to make sure that the turf has been limed within the last two to three years so that conditions for turf establishment are good.

Overseeding can be performed on sod, but it's important to get the seed through the sod where it can come into contact with the soil.

The width of the seeding pattern varies with the equipment. The further apart the slits are, the longer it will take for the grass to fill in. In many cases, seeding must be done in two crisscross passes.

Slit seeders and broadcast seeders are both viable methods of seeding, although slit seeders are often preferred by industry professionals for overseeding on established turf. Drop-type seeders generally are said to spread seed too heavy — releasing too many seeds per square inch.

Spot seeding is good under circumstances which prohibit complete renovation. For instance, when turf is beginning to thin because of heavy traffic, a perennial ryegrass is a good, quick option to reestablish a ground cover. Not

only will it be green, the turf can still be used until there's time for proper renovation.

A basic objective for turfgrass seeding operations is to establish a healthy stand of turf which satisfies the design requirements of a landscape situation.

Communicating with the customer to find out what his needs are and how much he is willing to spend to maintain the property are important considerations as well. ■



Uniform distribution and a higher seed germination can be achieved with the overseeder.

Planting the Seeds for Tomorrow's Turf

For the most part, seed varieties released today are head and shoulders above what was available 15 to 20 years ago, according to knowledgeable industry researchers.

There's 10 to 20 new varieties of species coming out every year, most of which probably won't last more than 10 years. The short-lived nature of these seed varieties stems from the volume of new ones coming out, which are better or as good as the older species. The end-user is always looking for something new and a little bit better.

The life span of a variety released this year will be nowhere near as long as a variety released 20 to 25 years ago. As a result, it's becoming difficult to stay abreast of developments in seed varieties. But rest assured, there are some industry seed renovation standards one can fall back on.

Bluegrasses, ryegrasses and fine fescues are probably the three varieties that are used in the Northern half of the United States for renovation and new seedings.

Kentucky bluegrasses, perennial ryegrasses and fine fescues will cover 90 percent or more of the situations in the Northern half of the country and the tall fescues will cover about 80 percent to 90 percent of the situations in the mid-South, according to Joe Churchill, product manager of the medalist turf products division at Northrup King Co., Minnesota.

For renovation of Northern or Eastern lawns, Kentucky bluegrass is generally the foundation in the mixture. However, some of the perennial ryegrasses are becoming more of a viable option because of some attributes they have that the bluegrasses don't.

The ryegrasses not only bring fast establishment into a grass seed mix, but also high traffic tolerance. The bluegrasses pretty much tie it all together, Churchill said.

For the renovation of home lawns in the

North, use 70 percent Kentucky Bluegrass and 30 percent of one or more of the ryegrasses, according to William Meyer, president of Pure Seed Testing in Oregon. Some common bluegrasses include Midnight, Eclipse, Aldephi, Glade and Columbia.

Bluegrass/ryegrass mixtures are probably the most popular in the Northern and Eastern states as well as in Northern and Central California.

A wider use of fine fescues can be found in the East. The fine fescues seem to be widely used there because the growing conditions are suitable for them, plus they also have some benefits as far as shade tolerance and low fertility requirements.

For renovation purposes in a shady area which has thinned out, an LCO has more options — depending on the reasons for the renovation. Most of these areas can be renovated with a grass seed mix high in fine fescue.

Renovation of a high traffic area will probably be best served by a grass seed mix that has a fairly high percentage of perennial ryegrass.

In the deep South, there's a whole new set of rules in the use of warm season grasses like hybrid Bermudas, St. Augustinegrass, Bahiagrass and Centipedegrass. They behave differently, and often the renovation is performed differently because quite a few of the grasses do not produce seed. Instead vegetative establishment with sprigs or stolons or vegetatively established sod is



The Matabay Overseeder performs well on home lawns.

necessary.

Varieties such as Citation II, Palmer, Prelude, Manhattan II, Omega II, Dasher II, SR 4000, SR 4100, Gator, Pennant, All-Star, Birdie II and Sunrye are some common varieties which are used for overseeding dormant Bermudagrass in the South.

In areas like Southern Iowa, Illinois, Indiana and the Virginias, tall fescues start to be a much bigger player not only in new seedings, but in renovation.

With the onslaught of new turf-type tall fescues, the options available for renovating turf in the mid-South area have become much greater because there are so many new tall fescues available, Churchill said.

There are some warm season grasses that will work well like Zoysiagrass and Bermudagrass, but tall fescues are by far the most widely used grass seed in the mid-South.

In the transition zone, pure mixtures of Falcon, Olympic, Rebel II, Mustang, Apache, Bonanza, Jaguar, Adventure and Cimarron, to name a few, are gener-

ally used.

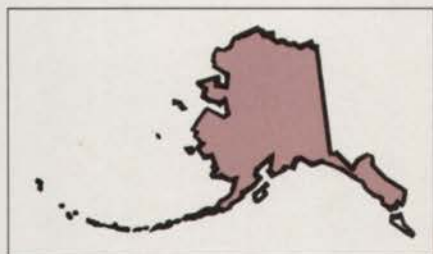
Depending on why the renovation is necessary will help determine what turfgrass seed should be used.

In spot seeding, ryegrass is generally the best to use, according to Meyer, because of its hardiness under tough conditions. In low maintenance and shade conditions, hard fescues such as Aurora, Spartan and Reliant are good. Chewings fescues such as Shadow, Victory and Enjoy are also good.

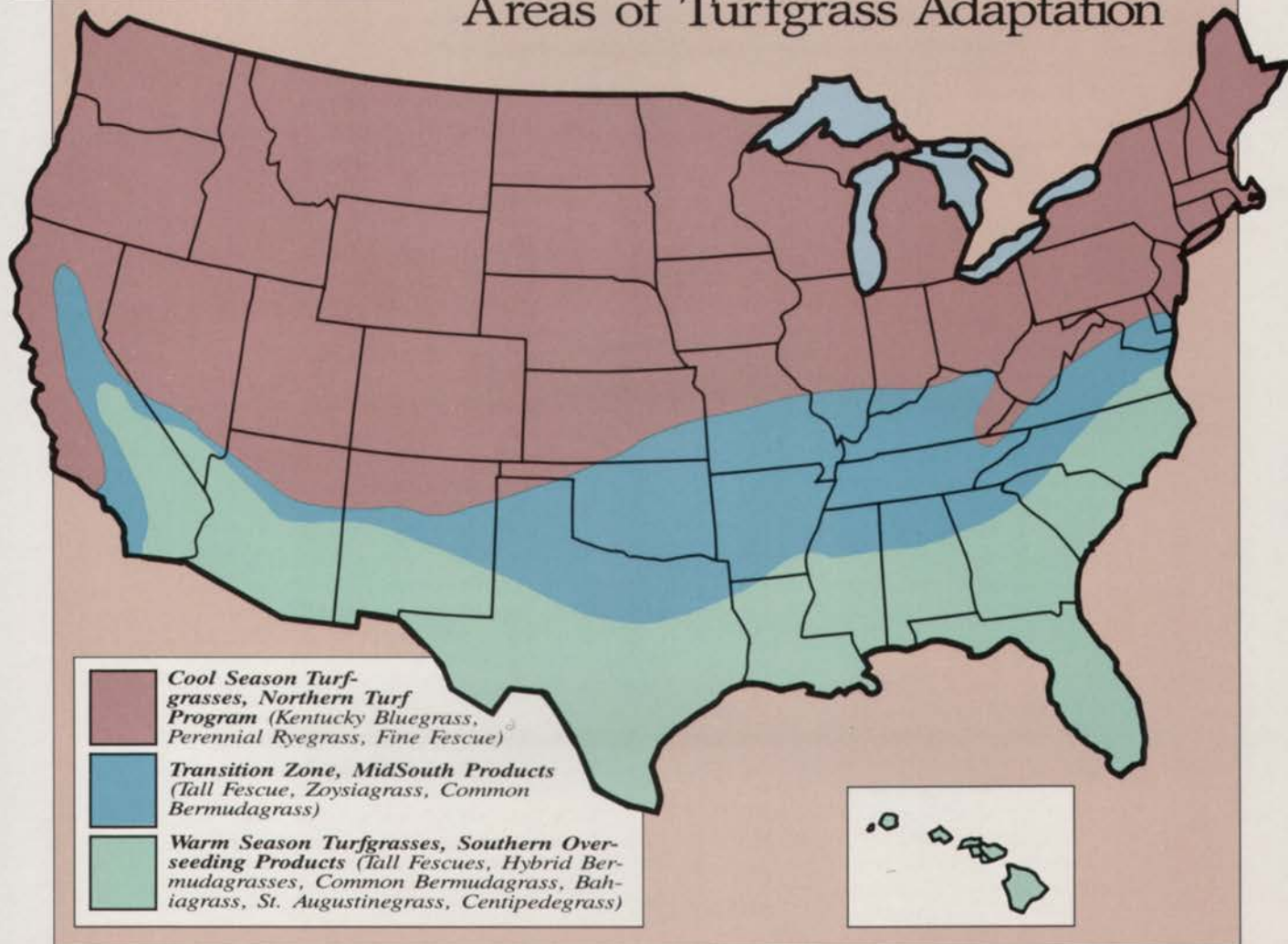
There's a wide range of different types of grasses depending primarily on geographic location. And quite often within those geographic locations — depending on the intended use — other sets of options are available.

Increased disease resistance is just one of many characteristics that plant breeders are trying to capitalize on and breed into new seed varieties. With the high level of maintenance that many turf areas receive, many different situations promote disease activity. By incorporating disease resistant varieties into those areas, there's a better opportunity of maintaining a lawn. ■

For more information on the seed varieties mentioned in this article, contact your local seed supplier.



Areas of Turfgrass Adaptation



Striving for Profitability

Pricing for profit is a tricky business. Not only does it depend on the mechanics of a well-run company, but cooperation from Mother Nature. A firm may have aeration and seeding jobs scheduled throughout the spring and fall, but it won't do them any good if the ground becomes too hard and dry in the spring, and all the jobs have to be postponed until the fall.

Consequently, the weather and a large number of variables must be taken into consideration before pricing a seeding or aeration job.

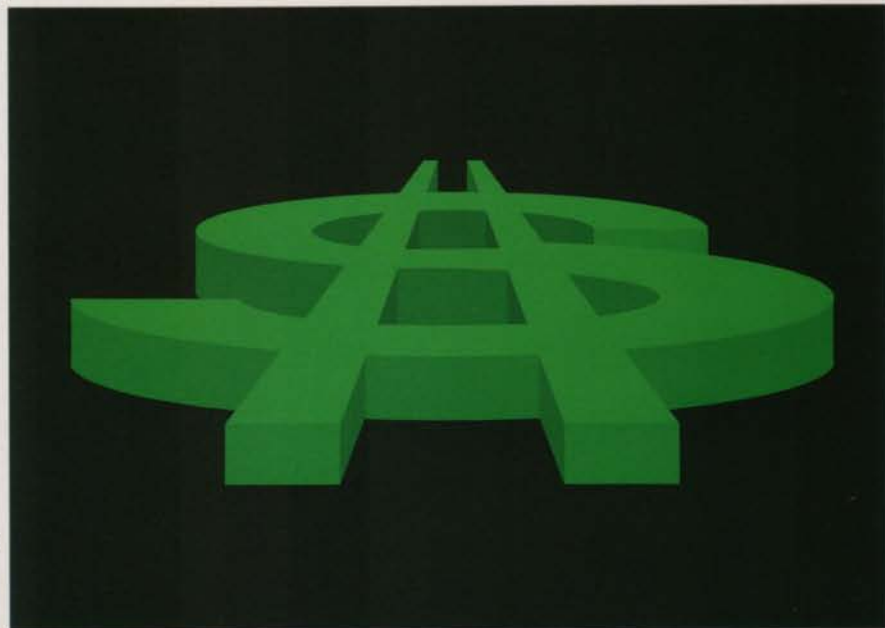
All money matters aside, the lawn maintenance professional must first clearly indicate to the customer the benefits received from both an aeration and overseeding job.

Core aeration encourages healthy turf and a subsequent resistance to disease. Increased moisture infiltration, better rooting, improved nutrient uptake and improved gas exchange in and out of the root zone are other benefits of aeration.

With overseeding, better color, disease resistance, density and traffic tolerance are just a few areas in which customers will see improvements in their lawns.

It's also important for the professional to talk with his customers about the money they intend to spend in maintaining their lawns.

While most companies follow highly personalized budget plans, the fol-



lowing four companies gave us an idea how they go about successfully pricing aeration and seeding to make a profit.

Mark Kelley of Leisure Lawn, Dayton, Ohio, based his projections on the number of dollars the company would pull in, keeping all of its trucks busy doing about seven jobs per day, five days a week for a five-month period. Such variables as labor, equipment depreciation and other budget considerations were taken into account.

His formula looks like this: labor costs, 17 percent of the billings; vehicle and equipment depreciation (in the first five years) about 8 percent; advertising (i.e. pamphlets, brochures) and commission to sell the services about 6 percent; fuel and maintenance of vehicles and equipment about 4 percent; and over-

head about 3 percent.

Under these extremely ideal conditions, a company could clear more than 60 percent profit.

"This formula is based strictly on the notion that everything has gone well. Profit is going to be a varied affair," Kelley cautioned. "This is an optimum-type situation. When you first get into it, it won't happen. If you can clear 20 percent, you're doing pretty well."

Kelley based his formula on a one-man unit — one man with a pickup carrying a tractor, Ryan Tow Lawnaire and a Ryan Lawnaire IV. Depending on the size of the company, however, more trucks and two-man crews can be factored in.

If the ideal amount of work doesn't pan out, all other costs — not labor, but advertising, depreciation, etc. — will increase with a lack of billings to complement it.

"The busier you are, the more billings you put out, you can shrink these expenses even more," he said.

Kelley explained that many companies are looking at aeration and overseeding as a supplement to their main area of operation. As they are able to fill the five-month period, higher prices can be charged, resulting in increased profitability.

Pricing in many areas, follows the going industry rate. Some charge a little bit more or a little less, depending on what it takes to ensure a profit, Kelley said.

In projecting costs, you must also remember that aeration equipment may be idle for seven months of the year. Without charging massive amounts, a company must price for the unpredictable. For example, if bad weather hits an area, or a company doesn't sell as many aeration and overseeding jobs, then it's left with a lot of idle equipment, reducing profits, he said.

To ensure customer satisfaction, it's important that the customer know what he's going to get before the job is done. Literature defining and explaining the process, along with a verbalized statement from the technical representative is sufficient, Kelley said. "If the customer knows what he's going to get ahead of time, there aren't as many callbacks."

Steve Derrick of Orkin Lawn Care, Atlanta, Ga., said the price should be set high enough to allow for those customers who are not going to take care of their lawn. For example, those who aren't going to water their lawn.

"We leave a lot in the hands of the customer, and you have to allow for that," he said.

Pricing must also include allowances for a certain number of people to be dissatisfied, and either not pay their bill or demand that their lawn be reseeded, he said.

Equipment Payout Schedule

LAWNNAIRE 28

These figures are based on the Lawnaire 28 doing an actual 19,200 sq. ft. per hour or 115,200 sq. ft. per day. All dollar figures are based on an average of \$9 per 1,000 sq. ft. in a 6 hour (machine) working day.

Lawnaire 28 per day
total billing\$1,036.00

Operator \$7 per hour
(10 hour day)\$70.00

Lawnaire 28 fuel and
repairs, 6 hours at \$2/hr\$12.00

Truck and trailer
at \$30 per day\$30.00

Total daily operational
expense\$112.00

Daily Income\$924.00

Lawnaire 28 features: a 7-horsepower OHV Wisconsin Robin engine; 28-inch aerating width on a 3 1/2 by 5-inch coring pattern to a depth of 2 1/2 inches; and a 3/4-inch core diameter.

State up front that the company guarantee only goes as far as to ensure that the lawn will be thoroughly aerated, and that the company will supply them with certified seed, Derrick said.

Leave the homeowner with thorough instructions of what he needs to do to get maximum germination. Make it clear the company is not responsible for the germination of the lawn — that a majority of the work is left in the homeowners' hands.

Derrick said replacement parts are not really a consideration in his pricing formula. "We use all Ryan aerators, and don't have many maintenance problems. The labor is more expensive than the equipment."

Derrick added that aeration equipment in general is continually improving — particularly for home lawn use.

Orkin tries to overseed and aerate 8 to 10 lawns per day. The company usually sells aeration and overseeding as one package, especially in tall fescue areas.

"The best figures I can find show that if you go out and scatter the seeds on top of the ground, all you get is 15 percent to 20 percent germination. If you aerate (poke holes, slits in the ground), you may get 75 percent germination," he said.

As in the rest of lawn care, routing

Equipment Payout Schedule

MATAWAY OVERSEEDER

These figures are based on the Overseeder doing an actual 12,000 sq. ft. per hour or 72,000 sq. ft. per day. All dollar figures are based on an average of *\$15 per 1,000 sq. ft. in a 6 hour (machine) working day.

*This figure is at \$23 per 1,000 sq. ft. less \$7.50 for seed.

Overseeder per day
total billing\$1,080.00

Operator \$7 per hour
(10 hour day)\$70.00

Overseeder fuel and repairs,
6 hours at \$12.37/hr\$74.22

Truck and trailer at \$30
per day\$30

Total daily operational
expense\$174.22

Daily Income\$905.78

Mataway Overseeder features: cuts up to 1 1/2 inches into the ground; has a 19-inch operating width; a 4-cycle, 10-horsepower cast iron block, recoil starter; and a hopper and metering system available for any seed type.

Equipment Payout Schedule

LAWNNAIRE IV

Since a Lawnaire IV only does 9 holes per sq. ft., these figures are based on the Lawnaire IV going over a yard twice. The Lawnaire IV does 16,800 sq. ft. per hour, therefore, our figures will be based on 8,400 sq. ft. per hour or 50,400 sq. ft. in a 6 hour (machine) working day. Billing will be at \$9 per 1,000 sq. ft.

Lawnaire IV
per day total billing\$453.60

Operator \$7 per hour
(10 hour day)\$70.00

Lawnaire IV fuel and repairs,
6 hours at \$1.10/hour\$6.60

Truck and trailer
at \$30 per day\$30.00

Total daily operational expense ...\$106.60

Daily Income\$347.00

Lawnaire IV features: 30 3/4-inch coring tines providing an aeration pattern up to 9 holes per sq. foot; penetration up to 2 3/4 inches; and a 3-horsepower industrial engine.

plays a big part in efficiency. A company must take into consideration the time it takes to travel between jobs.

For a good selling measure, many companies are beginning to compare the price of seeding to that of sodding, according to John Hopko, a seed specialist from Northrup King.

The cost of sodding a lawn can run as much as five times higher than a seeding job. Of course, the amount of seedbed preparation for overseeding must be taken into pricing considerations.

Most overseeding is done in smaller settings, so companies generally charge per thousand square feet. In larger settings, acres are a more practical measure.

Following still yet another option, a number of large companies use a set pricing schedule. A 45-day window, for example, may be used to get seeding done. The longer the time frame, the more opportunity for profits.

"In my area, seeding is usually done from early August to mid-September. But you have to allow for Mother Nature, whether it's drought or too much rain," Hopko said.

To increase the profitability of aeration, many companies are successfully offering the service in the spring as well as the fall. "You can do it anytime as long as it's not too hot," he said.

Other pricing considerations include: labor costs, seed, type of equipment, wide open lawns compared to lawns with many trees and whether irrigation is available.

The main thing to consider is that the company offers a complete service, said Greg Schreiner of Aeration Consultants, Englewood, Colo. The customer will always pay for a quality job.

That includes worrying about such things as sprinkler heads, sections of overseeding and aeration that may have been missed and making follow-up calls as needed.

Schreiner said a standard aeration charge for his company would run about \$30 a lawn (for 30 minutes work), but he prefers to work through package deals.

"Everybody in the Colorado area has irrigation systems so aeration is promoted as a water savings to the homeowner," he said. "Selling overseeding and aeration together is another great promotion. We aerate three times before overseeding, and it makes a good spring/fall package deal.

"It can be very profitable if you do it right," he said.

Aeration and overseeding have become such viable services, many lawn care companies have started to offer them, making pricing more competitive, he said. ■

Overseeding: The Turf Enhancer

Overseeding and renovating turf today are growing in popularity because the varieties used 15 to 20 years ago are now becoming obsolete. By renovating turf, new varieties can be incorporated into an older turf to improve its general condition and appearance.

In general, the new seed varieties are going to be more disease resistant and have the ability to improve turf color, hardiness and density. New varieties are also more capable of accepting fertilizer and chemical applications because of the new characteristics bred into them, according to Joe Churchill, product manager, medalist turf products division, Northrup King.

"That's become more and more of a concern with LCOs in cases where they're pumping lots of nitrogen on these older lawns that, quite frankly, can't take it. The (older) grasses in many cases have become very disease susceptible," he said. "By incorporating new varieties that will accept those levels of management, you get better response to applications. At the same time, you're minimizing your risk to disease instead of promoting it. So there's a lot of good reasons today to overseed."

Any number of benefits can be achieved by overseeding including better color, disease resistance, density and traffic tolerance.

There is no-exact science for judging the need for overseeding. It's something that should be done when the turf begins to show signs of damage and wear. Popular reasons for renovating include worn-out turf resulting from high traffic areas, turf which has been desiccated by disease and areas in which the wrong grasses have been used: i.e. low fertility grasses

in high fertility situations.

Carefully planned establishment practices can improve the soil environment and avoid many turf maintenance problems. Proper seedbed preparation will also result in the development of turf which can use water more efficiently.

Soil remedies, dates of seeding and species in mixtures should be manipulated to ensure rapid seedling establishment and weed suppression. Field studies have shown that certain annual weeds failed to germinate under dense vegetation. On weedy sites, companion grasses for quick establishment may also help to suppress weeds.

Seasonal and year-to-year performance of turfgrasses is strongly dependent upon the influence of various management practices that affect the growth and physiology of both warm and cool season grasses.

Through renovation, a professional will try to bring the turf back to life or to incorporate grasses that are more readily adapted or suited to a given situation or level of management. Before renovating, the cause of the failure should be determined so that any management practices that contributed to the loss of the turf can be corrected.

Since Kentucky bluegrass lawns are so common in the Midwest, they're often placed in a situation where the homeowner isn't going to fertilize or take care of his lawn. As a result, the turf is not going to tolerate it and will start to thin out.

Here's where renovation works best. It provides the opportunity to select the type of grass to be overseeded into an established lawn, ensuring the best fit.

Overseeding doesn't necessarily imply that the whole turf is being replaced. In fact, renovation seldom requires going in with a totally new plant population. In-

stead, it involves incorporating grasses into existing turf, to improve its agronomic abilities or performance.

The best benefits can be achieved by carefully studying the turf and choosing the right seed to fit the situation. In high traffic areas on athletic fields, there has been a high percentage of bluegrass use in the past. By incorporating a grass seed mix that has a high percentage of perennial ryegrass into the worn-out areas, traffic tolerance can be improved without starting from scratch.

The choice of grass for use under stress of traffic will be influenced by the season in which the traffic occurs. The grass must have the ability to recover from injury, and to grow during the stress period.

Ryegrass mixes often serve best as a strong customer satisfaction tool. Ryegrass germinates so quickly, that the customer is less likely to become discouraged.

Even properly maintained turf can eventually wear-out. Grasses can become less aggressive and less tolerant of the environment, and as a result start to thin-out.

"The beauty of renovating into old turf is that you're incorporating newer, better varieties," Churchill said. "If the turf is even more than 10 years old, the turf has some out of date varieties in it."

In selecting a new seed variety, certain high thatch forming grasses can be avoided. Grasses that tend to spread horizontally are thatch-formers. Bluegrass lawns will develop thatch more readily than the tall fescue or ryegrass lawns, which don't spread horizontally.

Most thatch is produced by bentgrasses and old lawns of fine fescue, which are slow growing and have low maintenance requirements, said Eliot Roberts, executive director of The Lawn Institute.

Thatch should be reduced to a layer no thicker than 1/2 inch in most lawns before overseeding is attempted. The over-

Kentucky bluegrass:

- Athletic and general turfs
- Limited tolerance to drought
- Moderate tolerance to traffic and wear
- Moderate growth rate
- Excellent mowing quality
- Superior dark green color
- Excellent sod strength due to a rhizomatous habit of growth
- Compatible in a mixed stand but requires careful establishment methods
- Seeding rate - 2 to 3 pounds of Pure Live Seed per 1,000 square feet

Perennial ryegrass:

- Athletic and general turfs
- Good tolerance to traffic and wear
- Rapid rate of growth
- Poorer mowing quality
- "Turf types" have improved color, finer texture
- Nitrogen requirement is similar to that of Kentucky bluegrass
- Bunch type growth requires higher seeding rate
- Compatible in a mixed stand but requires careful establishment methods
- Seeding rate - 4 to 6 pounds of Pure Live Seeds per 1,000 square feet

Tall fescue:

- Athletic and general turfs
- Excellent tolerance to traffic and wear
- Rapid rate of growth
- Poorer mowing quality
- "Turf types" have improved color, finer texture
- Excellent tolerance to drought
- Requires 4 to 6 pounds of nitrogen per 1,000 sq. ft. for higher quality appearance
- Studies suggest that mowing at 1 3/4 inches provides better turf quality than mowing at 3 inches
- Bunch type growth requires higher seeding rate
- Compatible in a mixed stand
- Seeding rate - 4 to 7 pounds of Pure Live Seed per 1,000 square feet

Annual ryegrass:

- To be used as a nurse grass while establishing slower growing grass species
- Winter kill is nearly 100%
- Seeding rate - 3 to 6 pounds of Pure Live Seed per 1,000 square feet

seeding process fails if the seed is dropped into thatch and does not come into contact with the soil.

As LCOs are challenged to extend overseeding into a longer time frame, northern professionals have begun to drop seed onto snow in some instances.

With a relatively level home lawn or sports turf area covered by a soft, fluffy snow — not ice — an LCO can go out and spread the seed on top of the snow and wait for the warmth of the seed to melt a small channel to the soil. The seed then lodges underneath the snow until it melts and germination begins. ■

Planning An Aeration Job

The timing of an aeration job shouldn't be as limited in scope as has been previously thought. Although it certainly depends on the area of the country, temperatures and soil conditions, many researchers are now giving lawn and landscape maintenance professionals an open agenda for the performance of core cultivation.

"Anytime you can get on there and do it effectively, without unduly subjecting the turf to stress, it's fine as far as I'm concerned," said Paul Rieke, Crop and Soil Sciences, Michigan State University. "Look for good recovery conditions and make sure it's not too dry."

Obviously the drought which hit most of the United States in 1988 would prohibit such an open time frame for core cultivation. However, many companies have been encouraged by news that aeration can be successfully performed in both spring and fall.

What was once thought to be a troublesome period — spring — now proves to be an appropriate time for core cultivation.

"Breaking down the barrier of a pre-emergent herbicide by aerating in the spring is not as big a concern as we originally thought," said John Street, an agronomist at The Ohio State University. "Core cultivation after the application of a pre-emergent herbicide has little if any effect (on the herbicide)."

Street said such findings have been researched extensively by both Michigan State and Ohio State.

Summer aeration isn't bad as long as the grass isn't under stress or high temperature conditions.

Core cultivation should be done when the soil is neither too wet nor too dry. The equipment will penetrate better when the soil is saturated, but it can

cause a lot of damage if it's too wet. When it's too dry, an aerator can't get into the ground. In soil which is moderately dry, a better shattering effect from the cultivation treatment will be achieved than if it's real wet.

Regardless of industry findings, the fall tends to be preferred by many for core cultivation because the grass is growing more aggressively at that time of year.

Fall aeration also prepares and conditions the soil, readying the seedbed for optimum germination and seed growth.

For aeration to do its job in the turf, the deeper the tines dig into the soil the better. An industrywide depth standard tends to average 2½ to 3 inches. The deeper the soil can be loosened, the better the growing conditions for the grass.

The spacing of the tines makes a big difference, both in terms of how deep they penetrate and the amount of soil they remove. If a lot of tines are put in the ground, it will be tough to get good penetration. However, if there's too few, then the spacing is so far apart that aeration won't do any good. In many situations, if the aerator gives good penetration, but the spacing isn't acceptable, then several passes of the aerator over the turf will do the job.

At any tine diameter, a spacing of 2" by 2" will remove two times more soil than a 2" by 4" spacing, four times more than a 4" by 4" spacing and six times more than a 4" by 6" spacing.

To get the best percentage of the surface exposed during aeration, it's important to use a machine which has tines as close together as possible, and is capable of achieving decent penetration.

Generally, 2" by 4" and 4" by 4" spacings are considered good. Going so deep over the lawn, at a certain spacing,



The LA 28 performs well on a variety of turf areas (top left). A visible hole pattern (below) and cores from the Lawnaire IV (top right) show the customer that a quality aeration job has been performed.

won't do the turf any good if the machine isn't pulling a certain percentage of the soil. In one pass, most aerators can pull anywhere from 1 percent to 5 percent of the surface exposed. Ideal exposure is between 3 percent and 4 percent of the soil.

"The tighter the pattern the better, but you don't want to remove any more than 10 percent of that exposed soil in any given day as far as core aeration is concerned," according to Mark Kelley, Leisure Lawn, Dayton, Ohio. "You'll take too much out of it and then you get into an excessive dry pattern."

Tine diameter is important on home lawns, because once the best spacing is achieved, the only other way to increase the amount of soil exposed is to increase the tine diameter.

If a 1/2-inch tine and a 3/4-inch tine on the same spacing and tine penetration depth were compared, the 3/4-inch tine diameter will remove more than twice the soil as a 1/2-inch and more than nine times the soil as a 1/4-inch tine.

Generally, the larger the tine diameter the more durable the tine. The thickness of the tine wall also has an influence on how well the tines withstand heavy use.

A closed tine is often preferred over the open spoon tine because it tends to pull a more solid core. A 3/4-inch closed tine, penetrating the soil by 2 3/4 inches will pull that particular size core out.

"There's only enough support (in an open spoon) to pull what I consider to be about half a core, no matter what the penetration is," Kelley said. "With an open spoon, I'm only seeing about half the soil



pulled than I am with a closed spoon on the same spacing. We want to remove between 3 percent and 4 percent of that soil."

Vertical operating units with hollow tines are preferred by a number of industry professionals because they offer the greatest potential for depth, to bring soil to the surface while working under a wide range of conditions.

Before one aerates, he should make sure the area is mowed shorter than normal. This enables better penetration of the tines and more core visibility.

Choosing aeration equipment is a highly selective job. What may do the job for one maintenance professional may not work for another. The type of job which needs to be done, and the cost of performing that job must also be considered.

Durability, maneuverability and the number of passes required to do the kind of job desired, are all factors to be researched.

Aeration is a long-term practice designed to provide both preventative and curative relief to turf. Seriously compacted turf may be aerated two or three times a year, while others may only need to be aerated annually. ■

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E258070

Durable, Efficient Products Are Still The Rage

THE DEMANDS MAINTENANCE PROFESSIONALS put on equipment manufacturers to make more efficient and durable machines can be mind-boggling, but there never seems to be an endless supply of quality products for the lawn and landscape maintenance industry.

This year is no different. From suction sweepers and aerators to mowers and seeders, there's a lot in store for maintenance professionals in 1989.

Seeders and aerators are sure to be highly sought items as the true effects of last summer's drought becomes evident next spring. In addition, as industry professionals continue to diversify their businesses, mower sales are expected to increase significantly. A number of walk-behind and riding mowers will be on tap next season.

Several companies are coming out with asphalt sealing and paving equipment, and computer software, specific to the industry, continues to be in demand.

For more detailed information on new products for 1989, keep on reading.

BILLY GOAT INDUSTRIES introduces the 11-hp PB-110 IC suction sweeper for industrial and commercial uses. A rugged vacuum, the PB-110 IC has the additional power and large volume capacity needed for the largest cleanup jobs.

The PB-110 IC features the 11-hp Briggs & Stratton IC 4-cycle gasoline engine. The increased horsepower allows the engine to achieve a greater RPM and more suction power. With its wide intake flap, the sweeper can open



for a big-volume intake or close for a high-velocity pickup of fine debris. In addition, the convenient controls on the handle make the PB-110 IC easy to operate.

The PB-110 IC sweeper is available in push- or self-propelled models. The self-propelled vacuum comes with a 6-speed transmission (5-speed forward and 1-speed reverse) and an optional riding sulky.

Classen Manufacturing Co. introduces the turf plugger model 48R three-point hitch aerator. It covers a 42-inch swath and penetrates up to 3 inches on a 5 1/4-inch by 7-inch pattern.

C & S Turf Care Equipment Inc. will market the new Pro-tank® TT1050G-19 twin-tank skid sprayer. The sprayer comes with a 100-gallon PCO tank, 50-gallon PCO tank, 3-horsepower Briggs & Stratton I/C engine, hypro D-19 diaphragm pump, 2 Hannay ELE. Hose reels, and 2-piece welded steel

frame for installation in side door of 3-ton van.

Two new flow meters from Green Garde® are being introduced to the industry by **Encap Products Co.**

Both flow meters handle up to 20 gpm with the #901 carrying up to 200 psi while the #902 handles pressures up to 800 psi.

Both feature job amount totals as well as accumulative totals.

Encore Manufacturing Co. introduces its new line of PRO 36-inch and 48-inch mowers.

Special features of these intermediate size mowers include: 5-speed transmission for fast transport; diagonal left deck corner for easy trimming; blade drive linkages with adjustable yokes for fine tuning of the belt tension; lightweight, pneumatic tires that are easy on the turf; easy grip handle made to fit the hand; high lift blades for better clipping and grass catching, even under wet conditions, and easy attachment and removal of optional riding sulky and grass catcher.

Excel Industries Snow Track 440, the only snow grooming machine that can be converted into a lawn and turf tractor during the summer months, will have many notable improvements for the 1988-89 season.

Some of these improvements include: an 11 percent increase in horsepower to 50-hp; an 82 percent increase in track strength; increased operator comfort through an improved deluxe, adjustable seat and increased sound deadening; the front blade has increased height to handle more snow; and eight of the 12-way blade controls are now incorporated into a single T-handle.

The new **Bunton Co.** triplex greensmower is light, yet heavy-duty in construction. The triplex is designed to reduce the pressure transferred to the surface, resulting in more durable components that improve cutting performance for better greens surfaces and longer life.

Larger reel motors and counterweights sit solidly on the playing surface to eliminate bounce and produce a truer, more consistent cut. The unique

traction wheel design allows more tire surface area to meet the green, to keep ground surface pressure low.

Interchangeable parts keep inventories low and maintenance simple. Good performance also results from a hydrostatic transmission and dynamic braking, welded-steel frame construction, extra oil filters, independent reel operation and standard backlapping.

Feldmann Engineering and Manufacturing Co. is offering a new model 2340 pull-behind core plug aerator in a 48-inch wide swath.

For coverage at a faster pace, aeration productivity is 47 percent faster than a 25-inch aeration swath and 33 percent faster than a 32-inch swath. The unit is designed similarly to the 32-inch width 2340, and is simple and easy to operate. Core plug lawn aeration is quick, and the contractor is in a favorable competitive position for earning greater profits.

The lift-up handles will promptly pop the 10-inch pneumatic tires into position for transport and just as quickly let the unit down to start core plugging. Penetration up to 2½ inches allows air, water and fertilizer to penetrate the root system, as well as promote thatch deterioration.

In addition to the wider 48-inch width, a gang bracket is available and will gang three units together for an 82-inch swath with model 2340, and a 132-inch swath with model 2340-48 pull behind core plug aerators.



The Snow Track 440 can be converted to a Hustler lawn and turf tractor in four or five hours by two men. Hustler turf tractors can operate a variety of mowing decks from 60 inches to more than 12 feet with other attachments, including hydraulic edgers, grass collectors and rotary brooms.

Excel offers a free VHS video tape to those who are interested in seeing the Snow Track 440 in action.

Exmark Manufacturing has added a new patented self-steering sulky to its product line. The new sulky is designed to keep operator controls within easy reach, even when turning.

Running-board-type footrests and a cushioned seat increase operator comfort. The wide-wheel-base tires track directly behind the mower drive wheels, leaving no extra tire tracks. The low center of gravity provides stability on slopes and the steering mechanism design prevents jack-knifing.

Like Exmark's standard sulky, the flexible mower attachment eliminates "whipping" action when cornering. The self-steering sulky attaches in seconds and turns any Exmark intermediate mower into a riding mower, inexpensively.

Mix-N-Fill is a new chemical mixing unit from **Graham Lawn Equipment Inc.** The mixing unit

is used to pre-mix dry materials such as Pre-M, urea, phosphorus and potash; then transfer pre-mix directly into your spray unit.

New from **Goossen Industries**, the Van 'n' Load can be used with most midmount or 3-point rear-mount rotary mowers, for large-area mowing and cleanup in a single pass. The 128-cubic foot capacity Vac 'n' Load leaves a clean mowing path, and tilts for easy dumping when full.

The Grasshopper Company has added three new direct drive hydrostatic models to its line of zero-turn-radius outfront mowers. The new Grasshopper

Models 718, 718K and 718D, like the Model 721 introduced earlier this year, incorporate the new Gemini/Eaton high-performance direct drive hydrostatic system.

The direct drive hydrostatic system on each of the new models is teamed with a rugged and reliable powerplant. The Model 718 features an 18-hp Briggs & Stratton Twin II Pressure Lube I/C engine. An 18-hp Kohler Magnum M18 delivers power to the Model 718K. The Model 718D is equipped with a liquid-cooled, three-cylinder Kubota diesel powerplant. All drive system and engine combinations are designed to enhance productivity, and ensure ample power in demand-

ing commercial applications.

The 718 Series tractors can be equipped with PTO-driven out-front decks ranging from 44 inches to 61 inches. The diesel-powered Model 718D, like the Model 721 introduced earlier this year, can also be equipped with a heavy-duty 72-inch deck.

The 48-inch commercial sickle bar mower is now available from **Hako International**.

Powered by an industrial 203-cm³, 3.5kw, air-cooled engine with electronic ignition, the commercial sickle bar mower has two speeds forward and one reverse, all controlled from the handle.

(continued on page 76)



Gravely International's new Professional 24G riding tractor is equipped with a 24-hp Onan engine and a standard 72-inch mowing deck, capable of industrial-sized cutting jobs.

Designed for the wide open spaces of parks,

playing fields and industrial complexes, the 24G delivers more horsepower per inch of cut than other mowing options. The 8-speed Gravely-built transmission provides fast mowing speeds and, with the deck up, can cruise at 9 mph plus.

An especially long frame adds to the natural stability of a rear-engine four-wheel tractor, making this an option for uneven terrain. The center-mounted mowing deck follows changing contours without skipping or scalping. Though designed for wide area mowing, individual wheel brakes, power steering and a sharp turning radius give the 24G unexpected maneuverability in tight situations.

Though its large size means the 24G won't accept the wide variety of attachments of its smaller cousins, its ability to haul utility carts and other tools give it more versatility than many mowers.

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Equipment Guide

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A universal knife cutter bar is suspended in an oscillating arrangement to adapt to all types of terrain.

Dual drive wheels are available as an option for more stability on steep embankments. For transporting and storage, and easy patented (no tools needed) coupling device allows breakdown of mower from engine drive unit.

Also new from Hako is the 36" commercial broom sweeper that clears dirt, dried mud, debris and trash, including driveways, sidewalks, parking lots and loading docks.

Powered by an industrial 203-cm³, 3.5w, air-cooled engine with electronic ignition, the commercial broom sweeper has two forward speeds and one reverse, all controlled from the handle. Water spraying attachment and front rubber apron prevent excessive dust kick up. Broom angle is fully adjustable. For transporting and storage, an easy (no tools needed) coupling device allows

breakdown of sweeper from engine drive unit.

Jonesboro AR-FMC's Agricultural Machinery Division has introduced the Model DPI5 air sprayer which is designed for the small- to medium-size maintenance company.

The 100-gallon fiberglass tank features fluid agitation, and adjustable relief and spray control valves are mounted close to the tractor for operator ease of access. The 14.5 gpm diaphragm pump is PTO driven and is self-priming for reliability and long life.

The 32-inch axial fan features 8 blades and operates at 2140 rpm at the 540 PTO rpm rate. External "V" deflectors and 14 turnover nozzles with ceramic discs are

FMC standard features. Optional one- and two-way volutes are offered for specialty spraying.

Kubota Tractor Corp. recently introduced its new L2850 tractor with a Glideshift Transmission (GST), allowing for easy shifting through eight forward and reverse speeds without using the clutch.

The GST works to reduce engine and clutch stress, and lessen operator fatigue. Kubota's 4-wheel drive L2850 GST is powered by a four-cylinder, liquid-cooled diesel engine with 27 PTO horsepower and a gross horsepower of 34.

Developed for increased maneuverability and minimal power loss, the Glideshift Transmission means longer transmission and

clutch life. Power steering and draft control are standard on the L2850 GST. This model is also equipped with two-speed rear and midmount PTO and an Easy Checker® panel.

The L2850 GST performs well for lawn and landscape operators, even under a heavy workload, and is ideal for many applications including landscaping and construction work. Also, a variety of compatible implements are available for the L2850 GST for use in mowing, front loading, tilling and more.

New from **LESCO Inc.** is the Professional Drop Spreader. The versatile spreader provides accurate, professional application of dry, free-flowing products

(continued on page 78)

Estate II is a new commercial self-propelled walk-behind reel mower from **Jacobsen, Division of Textron Inc.**

The 25-inch mower is powered by the same Jacobsen 2-cycle, 4-horsepower engine used on many other Jacobsen commercial and turf products. Independent traction and reel clutches

allow the operator to inch the mower forward in tight areas with the reel running, or stop the reel to drive the mower onto a trailer.

Five- and 7-blade reels are available, and optional front-mounting grass catchers allow easy clipping collection and removal. Height of cut is easily adjusted with a handle-mounted control.

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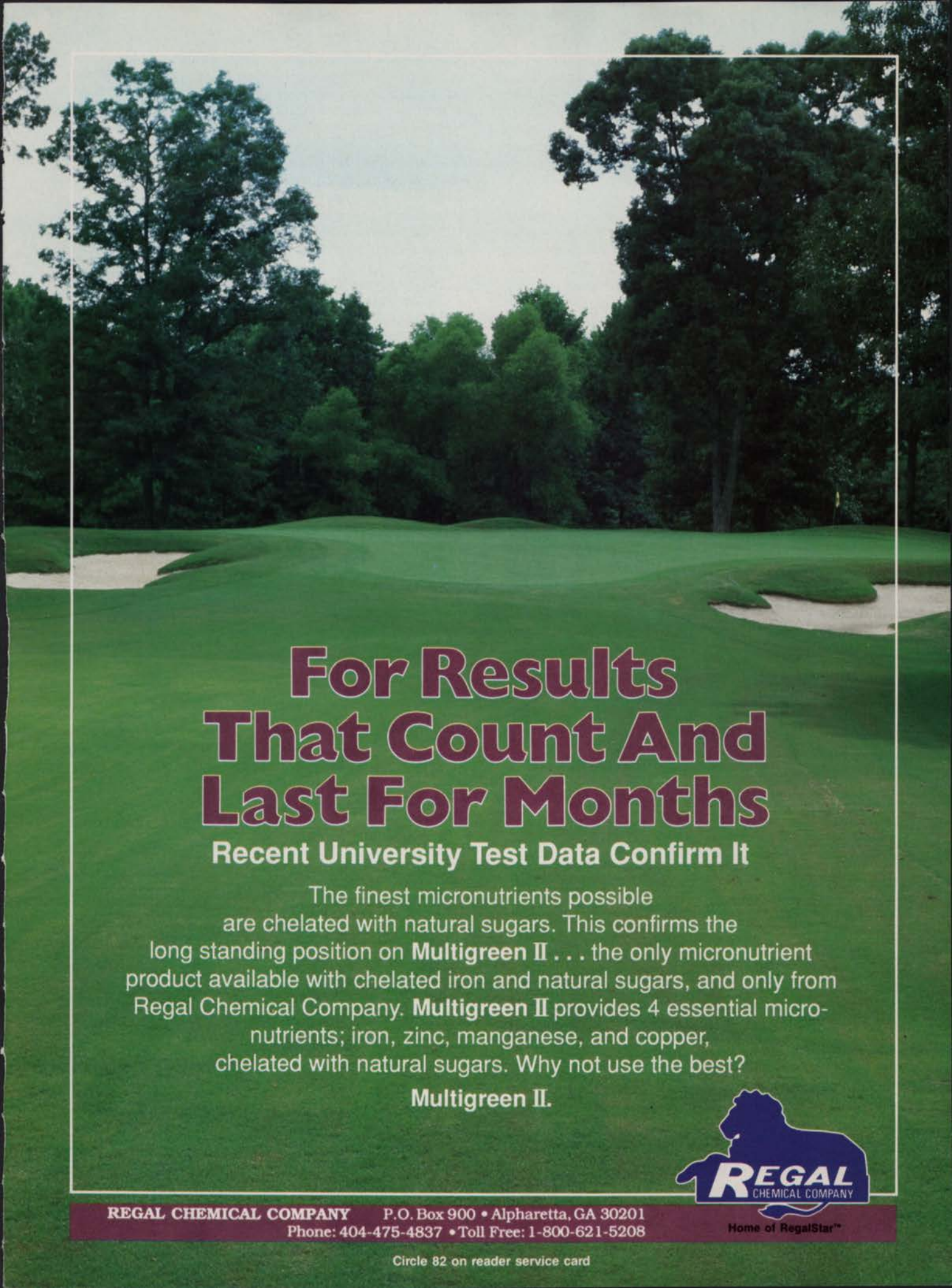
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Equipment Guide

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such as seed, granular herbicides and insecticides.

Using an interchangeable fixed-rate bottom as an added feature, the LESCO Professional Drop Spreader can be used to apply high-volume, bulky materials such as dry topdressing and pulverized lime.

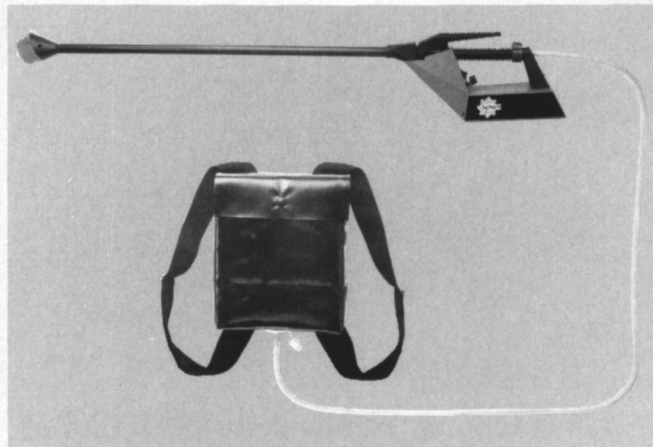
The spreader features a snap-off, corrosion-resistant stainless steel hopper bottom with precision-mated shutter slides with adjusting micro-meter. The hopper bottom, wheels, bearings and rotors all disassemble and reassemble without tools, allowing for quick and easy cleaning. The spreader has a hopper capacity of approximately 110 pounds and a spreading width of 36 inches.

LESCO is also introducing its new improved LESCO Backpack Sprayer. The new, bright yellow sprayer has a tank capacity of four gallons. It features two adjustable pressure settings of 15 and 43 psi. Spraying at the low pressure setting ensures on-target applications with maximum safety,

less drift and larger droplets. The higher pressure setting is ideal for spraying ornamentals, shrubs or trees (up to 15 feet tall).

Optional accessories include spray tips, booms and spray shields. Repair parts kits are available.

Now available from **Monsanto Ag Co.** is the Nomix™ application system, a complete pesticide delivery system. The system consists of a lightweight lance with easy-to-use fingertip controls, and ready-to-spray, specially formulated pesticides.



Olathe Manufacturing Inc. introduces the Model 88 walk-behind plugger with new plug ejector tines to eliminate clogging. Also new are the Model 31 truck loader, a 20-horsepower trailer mounted loader for leaves, grass clippings and debris, and the Model 42 compact tow behind Sweeper, now available with brushes and curb broom for hard surfaces and turf maintenance.

The PAL by **Paveman Inc.** is a mini asphalt sealing machine that applies abrasive materials either by spray or squeegee. PAL also

has many attachments that will permit the contractor to stripe parking lots, operate air tools and apply texture coatings and paints.

A new GN-600-LD spray truck from **Precision Tank and Equipment Co.**, is now available. The unit features a 600-gallon single or dual compartment spray unit, with a 30-inch deep lockable storage compartment built into the rear of the spray tank. This allows for storage of most any accessories or chemicals.

Rain Bird has expanded its EZ-1 controller family to include the six-station EZI-6MV with master valve/pump start capability.

This new solid-state controller can be used to control a master valve on a system. And for systems that operate with a pump, the EZI-6MV provides on/off activation of the pump for each irrigation cycle.

The EZI-6MV features an easy-to-use, open-access keyboard with only eight keys for complete controller operations. In addition, this economical controller

(continued on page 80)

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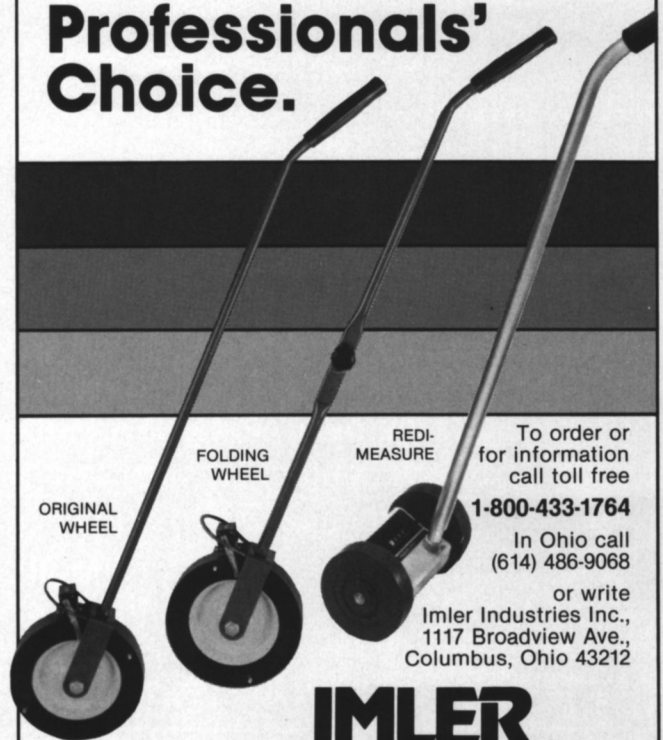
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Equipment Guide

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has a 24-hour clock that keeps time even during a power outage, dead battery detection circuit, manual start and station advance, auto/off key for rain shut-down and a sturdy, weatherproof, outdoor plastic cabinet.

Station timing is 0-99 minutes (in one-minute increments), and the controller has a variable day cycle from one to seven days with up to three starts per day.

The EZI-6MV's built-in watering schedule operates each station for 10 minutes a day in the event a program is lost due to extended power failure. The controller features a convenient master valve wire terminal for easy connection to a 24-volt holding coil for a pump.

A new attachment for the Ryan Ren-O-Thin power rake and dethatcher makes it easy to reseed bare spots, damaged turf and smaller yards.

The Ryan Ren-O-Thin Spot-seeder mounts on the front of



the Ren-O-Thin and, with the flick of a lever by the operator, the Spotseeder drive wheel engages the Ren-O-Thin front wheel and activates the seeder.

The spotseeder hopper holds .9 cubic feet or from 15 to 25 pounds of bluegrass seed, depending on the seed density. The adjustable metering gate accommodates any type of grass seed, and has seed openings spaced every 1/2-inch, on centers, to

assure good seed coverage.

Seeding ahead of the dethatching blades of the Ren-O-Thin means the seed gets power-raked into the surface for better germination and stand.

The Ryan Ren-O-Thin spot-seeder is available already mounted as a factory model, or as an attachment for existing Ren-O-Thin III and Ren-O-Thin IV models. The Ren-O-Thin unit is available with three fixed-

position blade reels or a flail-type reel, making it adaptable to any type of turf condition.

Salsco Inc. introduces two new series Loadervac truck loaders and Loadervac tailgate truck loaders.

The 716 and 720 truck loaders have powerful Kohler engines — the 716 a 16-hp and the 720 a 20-hp — with 3/8-inch thick steel impeller blades and a rugged, heavy-gauge steel construction.

There are two options to make the 716 and 720 independent trailer units — the Loadervac Trailer 750, for highway trailing and the Wheel Kit 751 which allows you to convert either truck loader to trailer units.

The 708 and 709 loadervac tailgate truck loader models mount easily on the tailgate of any truck, without tools or vehicle modifications. The 708 is powered by an 8-hp Briggs & Stratton engine and the 709 by a 7.5-hp Kawasaki engine.

A heavy-duty 8-inch pick-up
(continued on page 82)

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year 'round. Choose a 3 or 4 wheel design with 60- or 72-inch side or rear discharge mower deck. Or add the exclusive Cushman Grass Caddy™ system, which lets you cut, catch, and hydraulically dump 16 bushels of clippings without leaving the seat.

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Equipment Guide

(continued from page 80)

hose channels leaves into a four-bladed impeller with 1/4-inch thick steel blades. Rugged steel discharge chute swivels allow for an even flow distribution, and enables the operator to unload as well as load a truck.

The heavy-gauge steel frame has a padded lining to protect the vehicle.

Scag Power Equipment now offers an 18-horsepower hydrostatic riding mower.

This new rider, available with a 61-inch or 72-inch cutting deck, features an 18 Kohler cast-iron and twin-cylinder engine. The Eaton 850 hydrostatic drive transaxle offers smooth transition with just a touch of the foot.

Scag's exclusive hydraulic cooling reservoir offers twice the cooling surface, and every Scag hydro rider comes with a standard 5-gallon polyethylene fuel tank and oversized tires for better traction.

SCANA Software Services' Lawn Care Operator is designed to manage lawn care businesses from controlling operations and monitoring technician productivity, to tracking inventory and generating invoices.

The system was designed by lawn care professionals to specifically fill a need for software that functions according to the way a lawn care operator does business. Within seconds, the system enables one office worker to take a customer service order, post a payment and check customer files, without losing place in any activity.

Another useful feature permits a customer ser-

vice order to be generated without automatically creating an invoice. The operator has the flexibility to suppress the creation of an invoice for nonbilled activity such as resprays or cancellations. The system is easy-use and may be learned within several hours by those without computer knowledge.

Designed for multiple users, the on-line system runs on either a mini-computer or a PC. Lawn Care Operator is as effective in increasing efficiency for the smaller company with a few hundred customers as it is for the larger lawn care company with several thousand customers.

Simplicity Manufacturing Inc. has introduced several new convenient and versatile walk-behind

mowers for its 1988-89 product line.

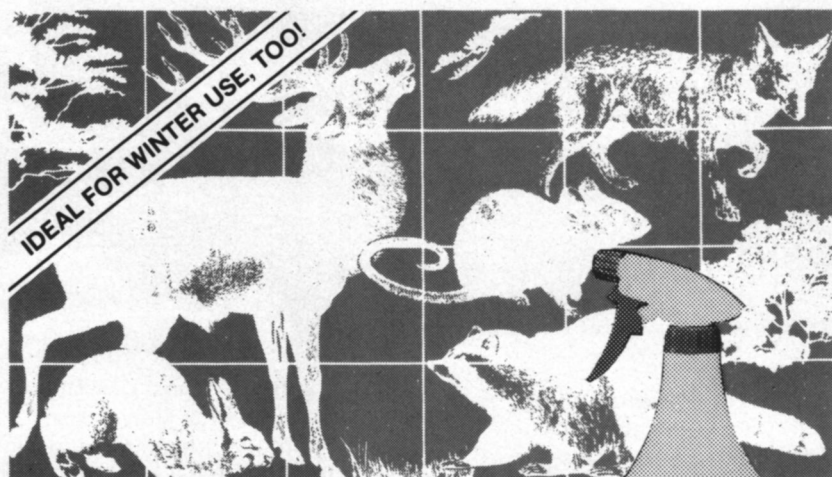
All models have aerodyna-



mic decks and high-lift blades that lift grass straight up and evenly cuts it off. The three 21-inch self-propelled, rear-bagger models feature 4-hp Briggs & Stratton MAX four-cycle engines with electronic ignition. Each has an adjustable 1/3-inch cutting height.

Standard features on these models include hand-mounted operator controls, a 1.5-quart fuel capacity, die-cast aluminum deck, convenient, adjustable handle height, easy on/off bag and

(continued on page 84)



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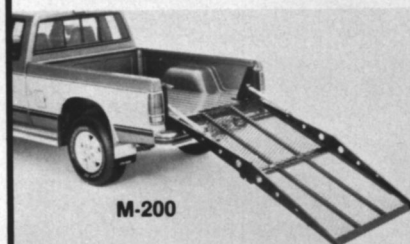
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M-200 Mini Ramp — built for mid size and mini imported pickup trucks, trailers and vans. Loading capacity 1000#. \$350.00.

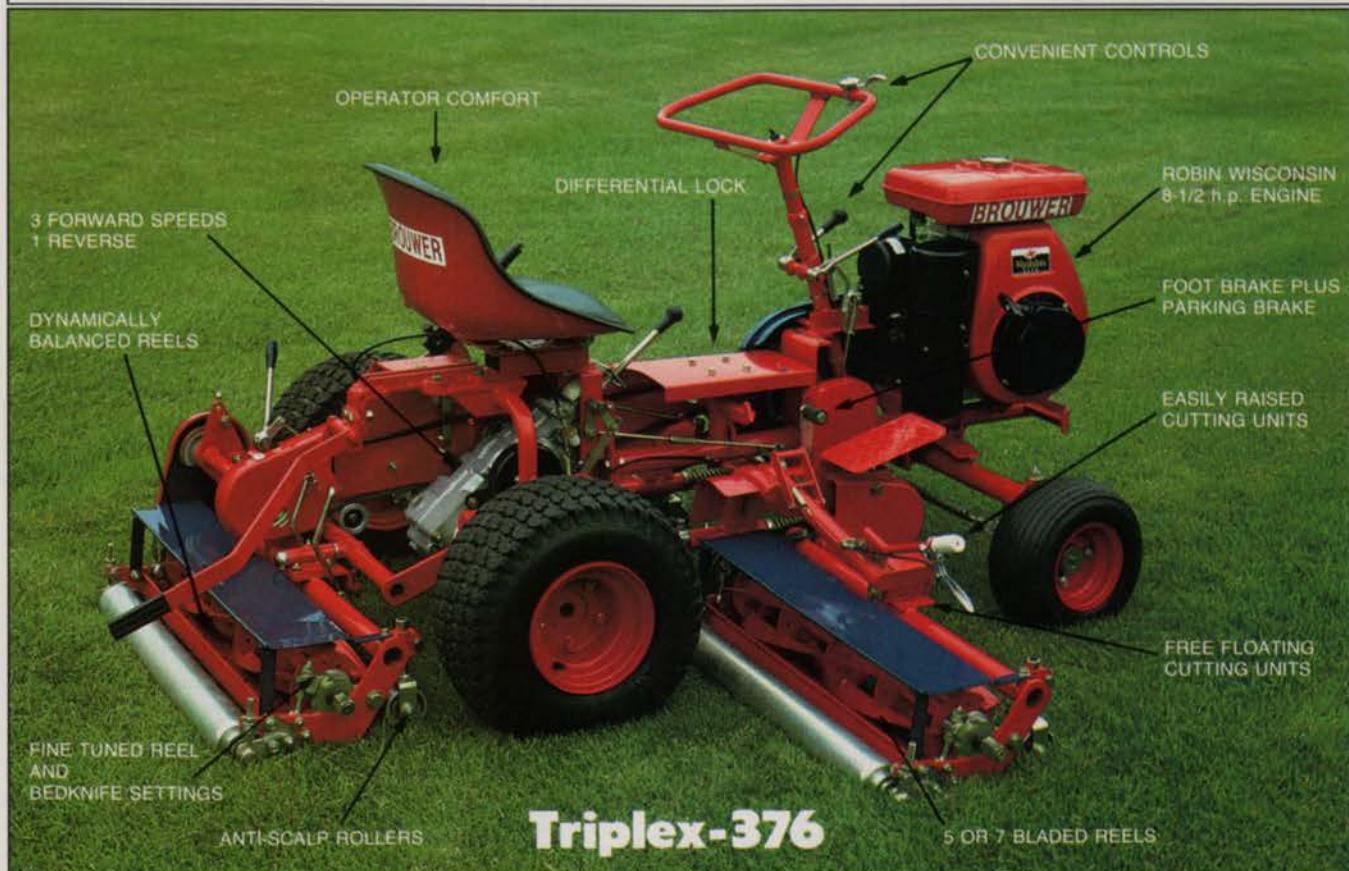
M-300 Porta Ramp — built for any size vehicle, trailer or van. Stores in vehicle while in transport. Loading capacity 800#. \$170.00.

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- Rear reel can be operated independently
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- Transport width only 69 in. (175 cm.)
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Equipment Guide

(continued from page 82)

two-speed drive. An optional side discharge chute is also available.

The Model 1550ZS features a zone start in which the blade and engine stop within three seconds when the control bar is released. All the operator needs to do is hold the control bar down and pull the conveniently located starter rope to restart the engine.

The Model 1550BBC has a blade-brake-clutch that allows the blade to stop within three seconds, but the engine keeps running when the control bar is released. There is no need to restart the engine to resume mowing.

The Model 1550ES has an easy push-button electric start that allows the blade and engine to stop in three seconds when the control bar is released. To restart the engine and blade, push the conveniently located start button.

Lawn Care Management System, a scheduling and accounting software package, is now available from **Softsource Infor-**

mation Services Inc.

LCMS is a comprehensive, fully integrated scheduling and accounting software package designed specifically for the lawn care professional.

LCMS is completely menu-driven to make it easy to learn and easy to use. It provides a complete data base for all customer information, zone-based scheduling, billing and accounts receivables, with optional general ledger and payroll.

Spraying Devices Inc. introduces two new compact sprayers. The newly styled, low profile 50- and 100-gallon fiberglass tanks fit the popular compact pickup trucks. Available with Briggs & Stratton or Honda engines.



Steiner Turf Equipment Inc. introduces the Mowpacker, a 4-wheel drive turf unit with grass-packer.

Power steering coupled with an articulated frame provides total maneuverability. The Mowpacker offers upfront driving for maximum visibility and ease of handling. Speeds are controlled smoothly with a fully hydrostatic transmission.

All routine maintenance areas can be instantly accessed through snap-out grills or by tilting the seat forward. The mower deck is full floating, single lever adjustable, with a rear discharge offering 2-sided trim capability.

Teledyne Princeton has introduced a new 3-point hitch cut-

ter head with a unique blade design. The unit has a specially angled cutter head that can cut widths from 12 to 24 inches.

Ideal for renovating lawns, cutting flower beds or other landscaping projects, Teledyne Princeton's 3-point Hitch weighs just 1,200 pounds. The unit can operate behind any small tractor that has a 3-point Hitch and tractor hydraulics.

The 3-Point Hitch can cut through soft, hard or rocky ground without difficulty.

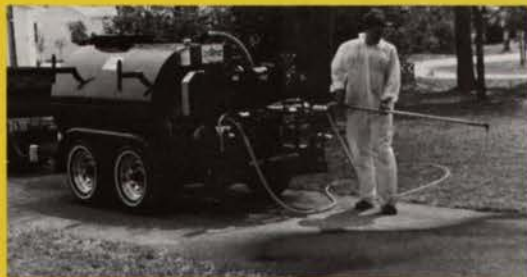
Also available from Teledyne Princeton is the Piggyback Material Handler. The piggyback material handler comes equipped with an air-cooled safety shielded engine in gasoline or diesel models with a horsepower range from 23 to 50.

Terracare Products introduces the new 98 Terra Aerator. This is available in a pull-type and 3-point hitch. The wheels are activated from transport to aerating position with an electric screw jack. The aerator can be used for large or small areas.

(continued on page 115)

THE PROFIT MACHINES!

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When Lawn Doctor franchises move up to TURFLON, broadleaf weeds take a fall.



"TURFLON is more effective on the broadleaves that the competition is missing."—

Russ Frith, president
Lawn Doctor,
Matawan, NJ

If "easy" weeds were the only ones cropping up in customers' lawns, 2,4-D would handle the job. But that's not the case. You need a tough product to keep tough weeds down. Maybe that's why you should move up to TURFLON* herbicide.

The real problem with lawn care.

"Weed control is the most important problem," explains Russ Frith. And as president of one of the nation's most successful lawn care franchises, he ought to know. In explaining how TURFLON has worked for Lawn Doctor, Russ says, "It does a better job on the tough to control weeds."

Prove it for yourself.

How do franchisers who use it justify broadcast spraying TURFLON at about \$9.50 per acre? "Reduced callbacks," Russ says. He adds that independent Lawn Doctor operators select their own products. Most are skeptical of TURFLON until they prove for themselves that it does a better job of controlling tough weeds. "Many who use it full service started with spot (spraying)."

Finally, Russ says one word describes the experience Lawn Doctor franchises have had using TURFLON: "Excellent."

Isn't it time you moved up to a better herbicide for better weed control? Call us to find out more. 1-800-373-4DOW (4369).

Move up to TURFLON



*Trademark of The Dow Chemical Company

Circle 26 on reader service card

Find Out What New Products Are On Tap This Season

YEAR AFTER YEAR, *ALA/MAINTENANCE* MAGAZINE brings its readers the latest in chemical products for the coming year. And 1989 has a large variety of products on tap for almost every facet of the lawn and landscape maintenance industry.

From herbicides and insecticides to wetting agents and turf colorants, the lawn maintenance professional has a huge selection from which to choose.

Some exciting new products scheduled for marketing this year include Gallery and Snapshot from Elanco — two preemergent herbicides for turf and ornamentals respectively. Also taking more of the spotlight this year are turf colorants and wetting agents.

Colorants are being used in applicator training, as well as to avoid excess application of a product during regular use. And in at least one instance, the use of colorants has become an effective marketing tool for company name recognition.

Because of last summer's drought and a general awareness of the need to conserve water, wetting agents are sure to grab more attention in 1989.

For a more detailed look at the products available in the coming season, read below.

AABACO INDUSTRIES INC. introduces Aab-Sorboil oil emulsifier. The product cleans oil, grease and carbon from turf, engines, heavy equipment, concrete and asphalt.

Brandt Chemical/Clawel Division is introducing See Spray

Colorant and Ov-R-Nite Green.

The colorant is a non-toxic liquid which enables applicators to see where they spray. See Spray aids in spotting drift, clogged nozzles and skips and adds safety to spraying. Color is temporary and dissipates with rain, dew and/or sunlight.

Ov-R-Nite Green is an amine compatible nitrogen/iron solution which provides a rapid response for treatment of chloric turf and ornamentals.

Environmental Protection Agency registration of Cutless, Snapshot and Gallery, all products by **Elanco Specialty Products**, is expected in early 1989.

The company had originally hoped to market the products in 1988, but were still waiting on EPA registration. Cutless is a turf growth regulator, Gallery is a broadleaf preemergent herbicide for turf and Snapshot is an ornamental herbicide.

Gallery and Snapshot are said to provide broad spectrum control of broadleaf weeds. Company officials said there is no risk of ground water contamination because the two products don't leach. After 1/2-inch of rain, Gallery and Snapshot become fixed in the soil, remaining there until decomposition.

A joint offering from Elanco, Reemay Inc. and Battelle's Pacific Northwest Laboratories is Ty-par® Biobarrier™ root control fabric.

The product was born out of a U.S. Department of Energy's search for a long-lasting way to keep plant roots from penetrating burial sites for radioactive residue, from processing uranium ore and releasing radioactive materials.

The product combines the geotextile Ty-par with pellets containing the herbicide Treflan. The pellets provide a reservoir for the herbicide, which is slowly released to stop root growth without killing plants.

The pellets are attached to Ty-par landscape fabric, a non-woven spunbonded polypropylene geotextile that is permeable to water and air.

Vita Krobe biological thatch reducer and Scanmask parasitic nematodes are new products from **Green Pro Services**.

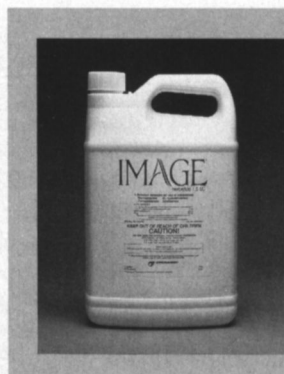
Vita Krobe is a formulated concentrate of microbes and biocatalysts in an easy to apply liquid. When applied to turf areas, the microbes become activated from their dormant state and act quickly to reduce the build up of harmful thatch.

ScanMask, which consists of microscopic parasitic nematodes, will attack only insects living in the soil. The nematodes actively hunt down and kill their insect prey, and will remain in the soil for up to two years.

Hydro-Wet turf wetting agent is being introduced by **Kalo Inc.** The wetting agent increases the efficiency of water and improves water infiltration.

By modifying water's surface

(continued on page 88)



American Cyanamid Co. will be offering Image® herbicide on a regional basis. The postemergent herbicide had previously been available in limited quantities only. The herbicide is selective on most major Southern turf species for control of purple nutsedge and dollar weed, among other things. Its chemistry makes it a slow-acting herbicide that doesn't show its results through turf brown-out.

When Jim Gourley moved up to TURFLON, callbacks in Kenosha went down, way down.



"Our resprays have decreased by almost 50%."—

**Jim Gourley, owner
Lawn Masters,
Kenosha, WI**

If you're like most LCOs using standard three-way herbicides, there are days when you wish the phone wouldn't ring again. Callbacks and cancellations can really get you down. Well, maybe it's time you moved up to TURFLON® herbicide.

One good reason to switch.

"We switched to TURFLON because we were having too many resprays," explains Jim Gourley. And after 22 years in the business, he's happy with the results: "Our records show that we do have much better weed control and many fewer resprays this year than we've ever had."

You'll save money in the long run.

"Yes, we pay more for TURFLON," Jim says. "But when I figure how much it costs us per respray, it's saving us lots of money. And that justifies the extra cost."

Jim adds that there's another reason he can't afford to make too many callbacks. "When you have to go out and do a respray, you're taking a chance on losing that customer."

Isn't it time you moved up to a better herbicide for better weed control? Call us to find out more. 1-800-373-4DOW (4369).

Move up to TURFLON



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Circle 27 on reader service card

Chemical Guide

(continued from page 86)

tension, Hydro-Wet enhances and increases water's ability to penetrate hard soil or dense thatch. As a result, less water gets more results.

Hydro-Wet is available in liquid or granular application.

Also from Kalo is a new montmorillonite mineral granule known as Terra-Green,[®] which provides soil conditioning capabilities.

Lebanon Total Turf Care has introduced Lebanon Insect Control with SEVIN 7G for use on lawns, parks, golf courses and other professionally maintained turf areas.

Lebanon Insect Control, with Sevin brand carbaryl insecticide, provides economical, safe and dependable control of common white grubs and a broad range of surface-feeding insects.

Turf care professionals can use this granular control product to prevent damage to turfgrasses as well as trees, shrubs and ornamentals. When used as directed, the product will provide effective

LESCO Inc. introduces LESCO TFCT[™] herbicide, a dispersible granule turfgrass herbicide for selective spot control of tall fescue.

LESCO TFC is registered for use on established Kentucky bluegrass, fine fescue, bentgrass, bahiagrass and bermudagrass turf. In the past, eliminating tall fescue often required either physical removal by digging or chemical removal by spot treating with a nonselective herbicide, according to company officials.

The product is a new sulfonylurea herbicide that is active at a rate of a few ounces per acre. LESCO TFC exhibits both contact and residual

soil activity. Once taken up by a susceptible species either through the foliage or by the roots, the product is rapidly translocated throughout the plant, quickly inhibiting root growth.

The tall fescue is slowly eliminated while the desirable grass fills in. The product remains in the top layer of soil and is decomposed naturally by soil microorganisms.



control of turfgrass pests including white grubs, armyworms, chinch bugs, cutworms, earwigs, grasshoppers and ticks.

As a perimeter treatment around buildings, the product will provide residual control of nuisance pests including ants, brown dog ticks, carpenter ants, cockroaches, fleas and spiders.

Lebanon Insect Control with Sevin is on a cob base to allow for easy application with a lawn spreader.

Lebanon Insect Control with Sevin 7G is available in 20-pound bags that provide up to 10,000

square feet of coverage and 10-pound bags that provide up to 5,000 square feet of coverage.

Mobay Corporation introduces Tempo 2 insecticide for use on ornamentals.

The advanced-generation pyrethroid provides control for a broad spectrum of plant and insect species. Extensive field testing has shown that Tempo offers effective control at significantly lower rates of active ingredient than most organophosphates, carbamates or other pyrethroid insecticides currently in

use, according to Mobay officials.

The product was tested on an excess of 250 plant species and only three showed any indications of phytotoxicity. For greenhouse and outdoor use, Tempo is compatible with all commonly used fungicides, miticides, liquid fertilizers and other insecticides.

Plant Marvel Laboratories Inc. introduces its "spoon-feeding"[™] water soluble fertilizer.

The term spoon-feeding refers to the concept of applying small amounts of water-soluble fer-

(continued on page 90)

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When Tim Doppel moved up to TURFLON, his bottom line followed.



"The first year we used TURFLON, we realized a \$1,200 savings on service call costs!"—

Tim Doppel, president
Atwood Lawncare, Inc.
Sterling Heights, MI

Keeping a lid on expenses becomes more and more important as your business continues to grow. Do things right, and profits will rise while the cost of servicing each new customer falls. If that's the kind of lawn care firm you want to run, maybe it's time you moved up to TURFLON® herbicide.

When more is less.

"Even though the product costs more, I still end up saving money by using TURFLON," explains Tim Doppel. And he has three years' worth of documented results to prove it pays to broadcast spray TURFLON at about \$9.50 per acre. "The first and foremost advantage of using TURFLON is its effectiveness. It works."

Reducing callbacks and cancellations is the key.

"The first year we used TURFLON, we had a 20 percent reduction in callbacks and that has held steady over the years," Tim says. "We've also seen an increase in customer retention in the three years we've been using TURFLON."

And using TURFLON has one more advantage, Tim adds. It's the reason he's been able to reduce callbacks and cancellations: "My customers are happier."

Isn't it time you moved up to a better herbicide for better weed control? Call us to find out more. 1-800-373-4DOW (4369).

Move up to TURFLON



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Circle 28 on reader service card

Chemical Guide
(continued from page 88)

tilizer to selected high-traffic or problem areas, to help the turf achieve total nutrient use with even, predictable growth.

Effectively spoon-feeding these areas is the subject of a new four-color brochure from Plant Marvel. The guide features a graph showing how better levels of nutritional control are achieved with spoon-feeding, as well as a chart for achieving desired nitrogen application rates.

New from Regal Chemical Co.



is TruGreen grass colorant. TruGreen is designed for use on off-colored grass and trouble-

some areas on athletic fields, lawns and golf courses. The patented, water soluble grass paint

is specially formulated for use with conventional liquid sprayers.

Chipco® Mocap® brand 5G pesticide from Rhone-Poulenc Ag Co. was recently registered by the Environmental Protection Agency.

The 5 percent granular product was registered for the control of white grubs and mole crickets, as well as other surface and subsurface turfgrass pests on home lawns and commercial turf.

In addition to white grubs and mole crickets, Chipco Mocap 5G was also registered for the control of chinch bugs, black turfgrass Ataenus beetle, bluegrass billbug, sod webworm and nematodes.

Chipco Mocap will be available in January in 50-pound bags.

Agricultural chemicals manufacturer Rohm and Haas Co. recently reported that its TRITON AG-98 adjuvant is now labeled for use with aquatic herbicides.

TRITON AG-98 is a low-foam, general purpose non-ionic spray adjuvant supplied as an 80/20 for-

(continued on page 92)

A pendimethalin 60 WP disposable packet and ProTurf® Fertilizer Plus Insecticide/Preemergent Weed Control are now available from O.M. Scott & Sons.

Packaged in 1 1/4-pound packets containing a premeasured amount of pendimethalin, Weedgrass Control 60 WP, controls six sprouting grassy weeds (crabgrass, foxtail, goosegrass, *Poa annua*, barnyardgrass and fall panicum), and nine sprouting broadleaf weeds (chickweed, cudweed, hop clover, henbit, oxalis, evening primrose, prostrate spurge, purslane and knotweed).

Weedgrass Control 60 WP is safe for use on many established turfgrasses, and is compatible when tank-mixed with most fertilizers and pesticides. Combining pendimethalin and Dursban,® the ProTurf® fertilizer is formulated to feed the turf and provide preemergent weed control of four sprouting annual grassy weeds (crabgrass, foxtail, barnyardgrass and fall panicum), control of two sprouting annual broadleaf weeds (oxalis and prostrate spurge) and control of five turfgrass pests (army worm, chinch bug, cutworm, sod webworm and the bluegrass billbug adult).

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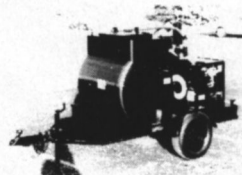
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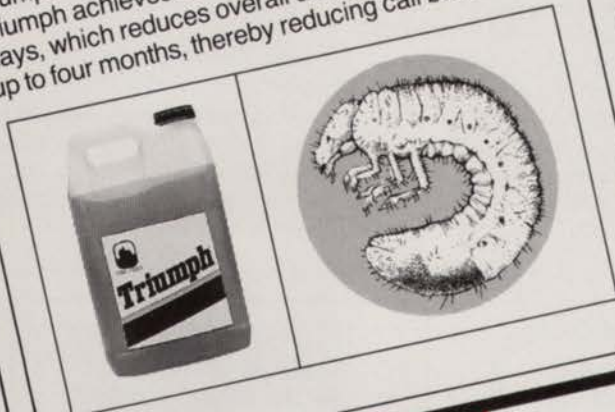
Prentiss Pest-Asides

Prentiss Drug & Chemical Co., Inc.

Product Notes

PRENTISS SELECTED AS A DISTRIBUTOR FOR TRIUMPH® 4E

CIBA-GEIGY Corporation has named Prentiss a national distributor for Triumph 4E insecticide. Dr. Harry Niemczyk of Ohio State University calls Triumph the best grub control product on the market. Triumph achieves 90% or better control in only a few days, which reduces overall danger. It is effective for up to four months, thereby reducing call backs.

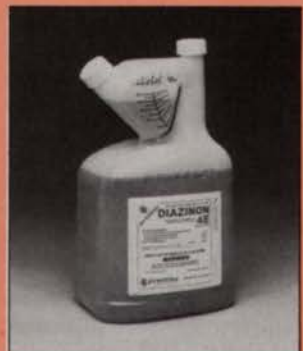


Happy 70th

A big Thank You to all our customers and friends who have made it possible for us to celebrate our 70th year in business.

As we approach the end of 1988, we want to thank all of you for your support through the years and to reaffirm our pledge to continue to supply you with the finest quality products, service and support possible.

Prentiss Drug & Chemical has been extremely fortunate to maintain loyal customers and suppliers who combine to make our longevity possible. We sincerely thank you for your business, professionalism and friendship and look forward to serving you in 1989 and for many years to come.



PRENTOX® DIAZINON 4E IN 1 GALLON TIP-N-MEASURE®

Prentox® Diazinon 4E now available in 1 gallon Tip-N-Measure® containers. The increased popularity of measuring containers has prompted us to respond by offering this new packing. In spite of the higher price of the container, we are able to offer this product at only 50¢ per gallon more than our regular F-Style 1 gallon. This, along with 60 fl. oz. Tip-N-Measure® containers of Prentox® D.Z.N.® 2.0 MEC Micro Emulsion Diazinon concentrate, expands availability of Tip-N-Measure® containers in our line. Let us hear from you regarding this new package and tell us if there are other products you would like to purchase in Tip-N-Measure® containers.

Prentox® - Registered trademark of Prentiss Drug & Chemical Co., Inc.
Tip-N-Measure® - Registered trademark of Container Mfg. Co.
D.Z.N.® - Registered trademark of Ciba-Geigy Corporation.

Government Regulations Update

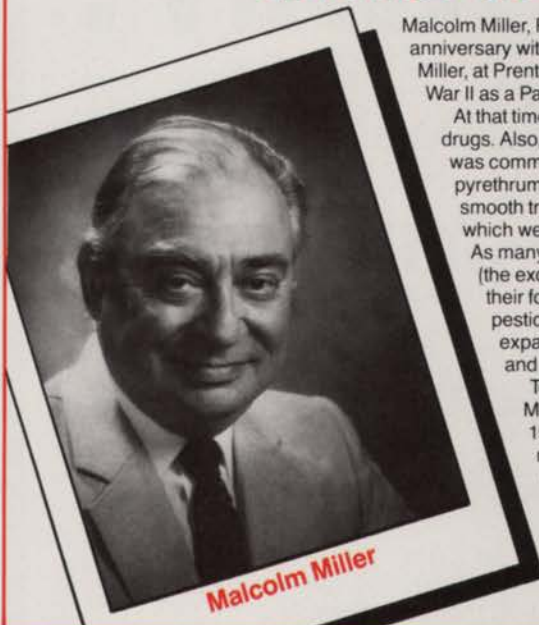


HOUSE TACKLES FIFRA "CORE" BILL

As we go to press, the House DORFA (Department of Operations, Research and Foreign Agriculture), under Chairman Brown of California, will soon begin debating what has become known as the FIFRA "Core" Bill. Because of the breadth and complexity of FIFRA issues, Congress may try to pass a stripped down bill which would only address certain "core" issues: Reregistration fees, and storage, disposal and indemnity for cancelled products. But, according to Congressman Brown, even this bill has only a 50/50 chance of being signed into Law during this session of Congress.



IN THE SPOTLIGHT



Malcolm Miller

Malcolm Miller, President, soon will be celebrating his 40th anniversary with the Company. He joined his father, Mr. J. Miller, at Prentiss in the late 1940s after serving in World War II as a Paratrooper with the 11th Airborne Division.

At that time, Prentiss imported and milled botanical drugs. Also, in conjunction with "Botanicals", Prentiss was committed heavily to botanically-derived pyrethrum and rotenone. This made for a logical and smooth transition to the early chemical insecticides which were developed shortly after World War II.

As many of the botanical drugs were phased out (the exceptions being pyrethrum, rotenone and their formulations), Mal guided Prentiss into the pesticide business. Through evolution and expansion, today we are involved with new and sophisticated chemicals.

To continue the family tradition at Prentiss, Mal's son, Jeffrey, joined the company in 1976 and has progressed through the ranks to management responsibility. Two years ago, Mal and his wife, Rita, became proud grandparents for the first time. Their daughter, Stacey, and her husband, Alan, presented them with a grandson, Matthew.

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Chemical Guide
(continued from page 90)

mulation (80 percent of the product consists of principal functioning agents). The adjuvant is designed to improve the performance of herbicides for more effective weed control.

The function of the adjuvant is to improve herbicide penetration into plant tissues. When used with aquatic herbicides, the adjuvant changes the surface tension of the spray droplet, resulting in a more uniform spray coverage.

Ringer Corp. introduces a new fall/winter fertilizer called WinterStore. The fertilizer supplies nutrients for all root growth and potassium that acts like winter anti-freeze.

Winter Store is a late-season application that provides the appropriate foods, microorganisms and enzymes to strengthen the root and enhance cold tolerance. Extra potassium in the product enhances the cold tolerance of roots and the stored nutrients go



into action in the spring to speed the greening process of lawns.

Winter Store is the result of extensive research and testing by the company's scientists.

Riverdale Chemical Co. introduces Triamine™ jet spray spot weed killer and DiBro™ granular weed killer.

Triamine is a three-way selective herbicide for spot treatment. It controls dandelions, clover, chickweed, poison ivy, poison oak and many other listed broad-

leaf weeds. It contains a foam tracer for easier coverage on lawns and ornamental turf.

DiBro is a non-selective herbicide containing Diuron and Bromacil. It's custom-formulated to control weeds and grass in small (spot treatment) noncrop and industrial areas.

Ruffin Tuff Chelated iron granules are now available from **Ruffin Inc.** The natural chelated iron granules are especially created to give full summer control on iron chlorotic shrubs and trees. Ruffin Tuff Iron comes in 25- and 50-pound bags.

Sierra Crop Protection Co. introduces Hydraflo™ soil wetting agent.

Hydraflo is a new non-ionic soil wetting agent that gives an efficient and economical method of preventing turf losses due to excessively wet or dry conditions. Available as a liquid or granular.

Ornamite ornamental miticide, now available from **Uniroyal Chemical** is a mite control with

long-term residual that is gentle on beneficial insects.

Available in a dry wettable powder, Ornamite controls two-spotted spider, strawberry spider, Pacific spider, European red and cyclamen spider mites without damaging injury-sensitive crops like ornamentals. Coupled with its long-lasting residual activity, ornamite controls both adult and nymph feeding mites, as well as new egg hatches.

W.A. Cleary Chemical Co. introduces Trugreen 1-2-3 fertilizer plus micronutrients. The product promotes and stimulates chlorophyll production and is essentially a fertilizer plus a chelating agent, combined with the necessary elements to bring about foliar absorption to promote chlorophyll reproduction immediately. ■

Although we have spotlighted many companies and their new offerings for 1989, we should note that space restrictions prevent us from attempting to include every new product available in the lawn maintenance industry.

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Proper Pesticide Storage Vital For Safety, Cost Savings

STORAGE OF LAWN care material is nothing new. All companies use some kind of system which ultimately organizes the way materials are stored in a facility. Winter storage usually comes to mind at the end of the season, but in actuality, thorough plans to store materials should be made well in advance of the season's end.

An inventory should be used in this planning process. By definition, an inventory is nothing more than a documented accounting

of the amount and types of material used in your business. Monitoring the inventory throughout the season allows for adequate supply for production while controlling averages and storage problems.

This process is most important as the end of the season draws near. More frequent accounting should take place to allow for maximum product use and minimal carryover. Do not overlook the "half bags" that appear on an out-of-the-way skid. These should be used daily along with open containers of pesticides. The goal is to store as little opened material as possible over the winter.

Proper winter storage is essential for two reasons: in-house safety and saving money.

In-house safety refers to storage of material so as not to cause a hazard to anyone entering or working in the area. It is important to keep the equipment maintenance area and the material storage area separate. Avoid performing maintenance in the storage area where skids of material could be used for a "workbench." Additionally, do not paint or store parts in the material storage

area, so as not to contaminate your supplies for next season.

Saving money is foremost on everyone's mind. Substantial savings can be realized if the stored product remains viable until next season. The viability or usefulness of a product is influenced by storage practices.

As final preparations begin for over-winter storage, a year-end inventory should be completed. This process not only documents those materials on hand, but also allows for close scrutiny of each container. If a container is found with an unreadable or missing label, it must be replaced. Make sure, if you can, what product is in each container and label it properly. If the contents cannot be ascertained, dispose of the remaining product following all rules and regulations pertaining to pesticide disposal. Remember the label is the most important safety factor with respect to material use and storage.

During this inspection process, any containers found to be leaking or damaged must be replaced. Transfer materials from a damaged container into a like container (bag to bag, gallon can to gallon can, etc.) and label it properly. Do not put pesticides into household containers such as bottles or cans, plastic or glassware, or the like. After transfer of the materials, clean the old container according to industry practices and dispose of properly following legislative guidelines.

Upon completion of inspection and documentation of the inventory, date all the containers. This will allow the older material to be identified and used first next season.

The next step is to designate a storage area. When selecting an area to be used, consider the fol-

lowing criteria:

1. Is it large enough to store all the materials inventoried?
2. Is it secure enough to prevent theft or vandalism?
3. Can the area be entered by children or domestic animals?
4. Is there space to store pesticides securely by themselves?
5. Is the area away from the office, rest rooms and other public access?
6. Will the materials be stored near a pilot light or other open flame or sparks?
7. Is it in an area subjected to standing water?
8. Is it away from doorways, loading docks or windows?
9. Is the area subjected to fluctuating temperatures?
10. Is the area segregated from other areas, such as tool cribs, paint bottles or parts storage areas?

Once all of these criteria are met, define the area by marking the floor, installing fencing or even building a separate room. However the area is designated, it must be marked using appropriate signs such as "Pesticide Storage Area."

Now that the area has been decided upon, the materials can be positioned for storage. Like materials should be stored together, such as fertilizer with fertilizer, herbicide with herbicide, insecticide with insecticide, etc. Combination products like fertilizer with preemergent herbicide or insecticide should be stored separately from other fertilizers to guard against cross-contamination. Some of the pesticides used are fairly volatile and could cause contamination problems.

All material should be stored off the floor, the exception being bulk containers or other large storage vessels. Fertilizer should

Materials should be stored on shelves sturdy enough to handle the quantity involved.



be stored on the pallet on which it was shipped, never on the bare floor. Try to keep like fertilizer blends together to avoid confusion during inventory or use of the products. Unopened pesticide containers may also be stored on pallets. Once opened, however, the containers must be stored off the floor, preferably on impervious shelving of some type.

Do not use untreated or unpainted wood because spills and/or leaks may be absorbed and cause contamination of other stored material. When using shelving, make sure that it is sturdy enough to handle the quantity involved, remembering that liquid pesticides weigh approximately 10 pounds per gallon. All the shelves should be easily reachable. Store the heavier materials on the lower shelves to prevent them from tipping over. When possible, store liquids below dry products in case a leak happens, preventing contamination problems. Try to store volatile products (ester formulations, etc.) separately to prevent contamination of porous material such as fertilizer.

There is a tendency to store safety gear with the stored materials so it is available when needed. The gear should be conveniently located near the area, however, **DO NOT STORE** gloves, boots, respirators, goggles or other safety gear with the pesticides. Remember, even when moving stored concentrated pesticides, use protective clothing.

Throughout the storage period, visually inspect the materials

Illustration: Velsicol Chemical Corp.

on a frequent basis. If a container problem is detected, address it immediately. Prevention of a spill will save time and effort as compared to that required for proper cleanup procedures.

Keep a copy of the inventory along with accompanying labels and Material Safety Data Sheets in a safe place. This information must be readily available in case of an emergency. In certain areas of the country, local regulations may mandate that copies of this

information be filed with the fire department. Check with your local officials.

Proper storage requires planning and management. The safety environment and the cost savings realized are directly related to the amount of effort used to provide proper winter storage of lawn care material. — *Dave Jones* ■

The author is director of training for Lawn Doctor Inc., Matawan, N.J.



Choosing the Appropriate Insecticide Pays Off

A SWEEPING EXPANSE of green landscape is pleasing to the eye of the layman and the lawn care professional alike. Homes, parks and business sites are all enhanced by grounds that sport healthy, neatly manicured turfgrasses. And while the aesthetic beauty is important, perhaps more important is the fact that healthy grasses improve our environment. They help filter our air, generate oxygen, absorb sound and control erosion.

Occasionally, though, the green beauty is marred by brown or yellow patches of dead or dying grass. More often than not, the blame for this lies with destructive turf insect pests such as grubs, billbugs, sod webworms or chinchbugs. These and other tiny insects can ruin the beauty and viability of lawns and yards. Unfortunately, their damage is often invisible until it's too late.

That's why it's important to discover and accurately diagnose an insect problem, analyze the proper use of insecticides in your company's program and select an appropriate insecticide to do the job. Needless to say, poor insect control can impact your bottom line in terms of costly callbacks and cancellations.

How should you go about pro-

fessionally diagnosing the problem and solving it? Lawn care experts agree that these six steps are vital. (See chart below).

HOW TO CHOOSE. Choosing an appropriate insecticide can go a long way in eliminating those pesky surface feeders, but care must be taken in the selection process.

"Using the wrong chemical can be a costly mistake," said Bob Howe, senior technical service and development specialist for The Dow Chemical Company in Midland, Mich. "Safety to the applicator, customer, customer's property and nontarget organisms should be the number one priority in selecting a product."

"All products should deliver what they promise," he said. "They should be effective on specific target pests when used by your personnel, with your equipment and on the accounts you normally service."

Discussing compatibility, Howe said, "Think about how the insecticide fits into your company's overall goals and objectives." It's important, he adds, to seriously consider the advantages and disadvantages of products which require additional training, extra equipment or

specialized storage.

According to the Dow specialist, the chemical manufacturer must demonstrate a willingness to help an LCO use the product efficiently and effectively. The LCO must feel confident that technical support will be provided when needed.

"Although you should know comparative costs, keep in mind that loyalty and product support are more important than cost," he said.

Jerry Faulring, president of Hydro Lawn Inc., Gaithersburg, Md., said the first thing his company looks at in a new product is its label. "This will tell us if there are any unusual problems unique to that product concerning operator safety. We also look for something in the label that enables us to delegate the watering-in responsibility to the customer."

Dave Smitley, entomologist with Michigan State University, East Lansing, suggests looking at the signal word on the label to help you select "the least toxic, yet effective insecticide."

Problem lawn areas should be targeted for spring applications for preventative treatment, according to Smitley. "In that case you need broad spectrum control on surface feeders. Several products are effective on the major insect pests. You'll be successful in controlling overwintering webworm larvae, billbug adults and chinchbugs with an application of an insecticide such as Dursban,TM Oftanol,TM Triumph,TM TurcamTM or diazinon."

KEY ISSUES. Faulring is also concerned with a product's spectrum of control, but is not quite as sensitive to its price as he is to its safety and efficacy. "I think those are key issues. As long as



6 STEPS IN DIAGNOSING PROBLEM AREAS

- Inspect the grass and root zone.
- Identify the insect.
- Know the life cycle and habits of the insect.
- Choose an appropriate insecticide.
- Apply that chemical properly by following all label directions.
- Time the applications properly.

a product is priced in a reasonable range, if it's a good product, the LCO and consumer will be willing to pay for it."

The LCO and customer are looking for results, adds Faulring. "Clearly, there's a threshold where price may become unacceptable, but we're always looking for any product that does the job. It must reduce callbacks and cancellations, prevent damage to the lawn and be safe to handle for the applicators."

Compatibility is also important in Faulring's selection process, as is ease of handling. "Our company is increasingly combining our insecticides, with dry fertilizers. So from a handling per-



Illustration: Dow Chemical Co.

spective, any product we choose should be effective when combined with fertilizers and still be safe."

Faulring said his company sprays insecticides as special ap-

plications from time to time. "Then we get into packaging considerations. I'm finding that the use of properly sized water soluble packets is an important trend today. That's an important feature when you consider operator safety, disposal and environmental issues, and economical factors such as accurate dosage."

Michigan State's Smitley also feels that residual and long-term control are two important factors to consider.

Experts agree that in the long run, it's much more profitable to apply the right insecticide at the right time with the right rates. The cost to acquire a new customer far overshadows the cost of doing the job right.

A recent lawn maintenance industry survey indicated that customers today have higher expectations for perfect lawns than they had three years ago. And good insect control was cited by nearly half of the respondents as a very important factor in retaining customers and reducing cancellations.

An LCO has to be meticulous in choosing the right insecticide to do that job. — *Bader Rutter & Associates.* ■

The public relations firm represents The Dow Chemical Co.

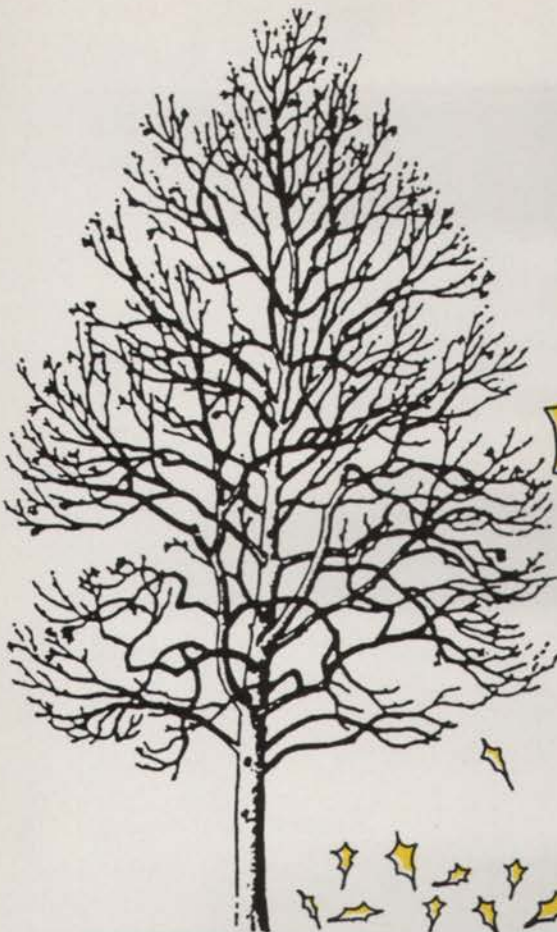
CONTROL STRATEGIES

WHEN AN INSECT INFESTATION IS KNOWN to occur, it is necessary to decide whether to treat with an insecticide or not. Several factors should be considered, the most important being populations present per unit area, vigor and condition of the turf and time of year. Infestations found late in the season should cause little concern, since insect activity is greatly diminished with cooler weather.

Threshold populations that may produce sufficient damage to be of concern are so dependent on the vigor of the turf and on available moisture that the decision to undertake treatment must remain purely subjective.

The commonly used turfgrass insecticides in the 1980s belong to two classes, the organophosphate and carbamate compounds. It is considered wise to alternate between the two classes if possible in order to discourage insecticidal resistance from developing.

Continued use of one insecticide or one class of insecticide places a definite selection pressure on certain genes for resistance. Alternation between insecticides of different structure and class is recommended, although there is no empirical evidence that it prevents the development of resistance. — *Haruo Tashiro.*



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An Improved Spreader Pattern Starts with the Spreader

CAN YOU IMPROVE YOUR SPREADER PATTERNS BY changing the direction in which you operate your spreaders? Most turf spreaders are operated in a back-and-forth (or continuous) mode. It is generally assumed that a circuitous mode (going round and round the turf area) will result in a more even distribution pattern.

However, a study at the Louisiana Agricultural Experiment Station comparing these two modes of operation indicates that it doesn't really make much difference which mode you use if you start out with a good spreader delivering a decent pattern.

A back-and-forth mode, as shown in Figure 1, means that you will be overlapping the left side of the pattern back onto the left side, and the right side back onto the right side. Logically, if the pattern is skewed (more material going to one side than to the other), this operating mode will exaggerate the problem and result in high and low density bands in the overlapped pattern.

A circuitous mode, as shown in Figure 2, results in overlapping the left side of the pattern onto the right side and the right side onto the left side. Logically, this mode should tend to cancel out the extremes in the pattern due to skewing and result in a more uniform overlapped pattern.

Figure 3 illustrates the effects of the two modes of operation. Figure 3 shows the pattern delivered by a spreader with a large-particle, ag-grade granular fertilizer product. The pattern is skewed to the right (41 percent of the material applied is on the left compared with 59 percent on the right side of the pattern).

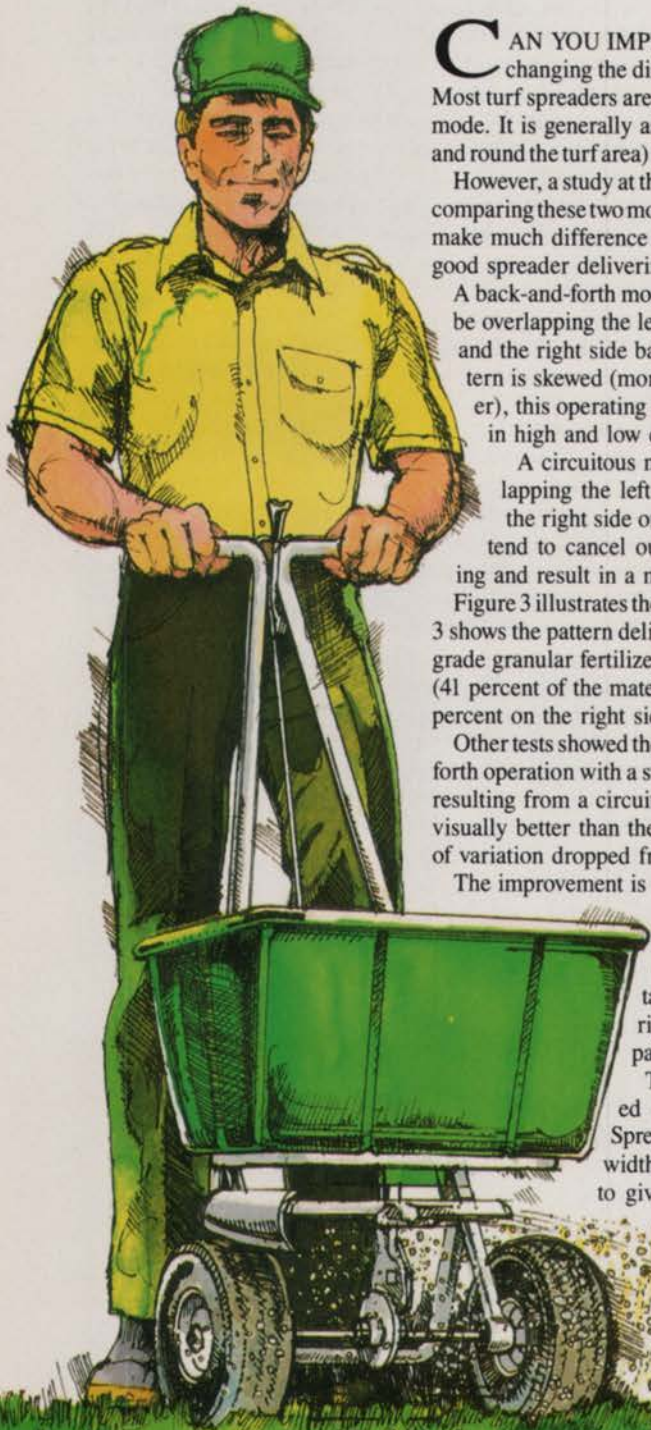
Other tests showed the overlapped pattern resulting from back-and-forth operation with a swath width of 14 feet. The overlapped pattern resulting from a circuitous operation with the same swath width is visually better than the back-and-forth pattern, and the coefficient of variation dropped from 20 percent to 12 percent.

The improvement is due to the light left side of the pattern being overlapped onto the heavy right side of the pattern with the circuitous mode. This produces a more uniform pattern than is obtained when left is overlapped on left, and right overlapped on right in a back-and-forth pattern.

This is somewhat the same principle involved in the half-width mode of operation (see *Spread It Right*, *ALA*, July 1985). In the half-width mode operation, the rate setting is adjusted to give half the normal delivery rate, using half the normal swath width.

This method has been

Illustration: Dow Chemical Co.



demonstrated effective at improving pattern uniformity in almost all cases, but has the disadvantage of requiring twice as much travel over the turf area. It is thus practical mainly for correcting severe pattern problems that remain after all possible mechanical adjustments to the spreader have been made. The half-width mode is also useful as insurance when ultimate uniformity is required on fine turf.

The same *ALA* article discussed the then widely recommended right angle operating mode in which the turf area is covered twice at right angles. This mode was shown to be considerably less effective than the half-width method, yet required as much extra travel. It is not recommended.

The circuitous operating mode would seem to be a welcome alternative to professional applicators. It requires very little additional travel compared with the normal back-and-forth mode, but apparently offers an opportunity to improve the overlapped pattern.

EVALUATION PROCEDURE. A study was undertaken at the Louisiana Agricultural Experiment Station to determine how much real spreader patterns are actually improved when the operating

mode is switched from back-and-forth to circuitous. A computer program for spreader pattern analysis, *SPREADER.EZ*, was modified to allow the analysis of spreader patterns with the overlap based on either or both modes of operation. This computer program calculates coefficient of variation (CV), degree of skewing and the minimum and maximum points in the overlapped pattern based on either operating mode.

Coefficient of variation is generally considered to be the best criterion for evaluating the uniformity of spreader patterns, and is defined as the standard deviation of the pattern divided by the mean of the pattern data. It is expressed as a percent. The lower the value of CV, the more uniform the pattern. A completely uniform pattern would have a CV of 0 percent; a typical value for a "good" spreader pattern is 10 percent. CV values of 40 percent to 60 percent are not unusual with some spreaders and products.

Data from a large number of spreader pattern runs are available at the Louisiana Agricultural Experiment Station from prior spreader pattern research. Data from a total of 21 test runs were selected to evaluate the effectiveness of the circuitous mode

of operation compared with back-and-forth operation.

The spreaders used in the test runs included a typical low-cost type spreader, high-quality professional walk-behind turf spreaders and a tractor-powered turf spreader. These spreaders covered the full range of granular applicators commonly used by turf maintenance professionals.

Spreader patterns with five different products were available for some of these spreaders. Patterns from the tractor-powered spreader were available with two of the products; patterns with four of the products were available with the other spreaders. The products represented four different product categories as follows:

- large, ag-grade fertilizer
- small, high-density granular fertilizer
- light, vermiculite based fertilizer
- ground corn cob (pesticide carrier)

The spreader pattern setting giving the most uniform distribution with the particular product was used in each case.

For each of the test runs, the pattern data were analyzed using the computer program. The overlapped patterns resulting from back-and-forth and circuitous

modes of operation were evaluated for uniformity.

RESULTS. Data showing the results of the analysis of the spreader patterns indicated the circuitous mode of operation did not always offer a significant advantage over back-and-forth operation — even when the basic pattern was badly skewed.

The data indicated that using a circuitous mode has no benefit, and may even be slightly detrimental in cases where the pattern is already fairly good. This is the case with the two walk-behind turf spreaders. Also, the data shows that a circuitous mode of operation is of little value in cases where the pattern has little taper at the edges, and thus the effective swath width is nearly the same as the overall width of a single pass. This is the case with the tractor-powered spreader when applying the large ag-grade fertilizer.

A circuitous mode of operation does appear to be helpful in achieving a more uniform overlapped pattern in cases where the basic pattern is badly skewed, and the effective swath width allows a great deal of overlap. Without a substantial amount of overlap, the advantages of a circuitous mode of operation are not present.

Operating in a circuitous mode

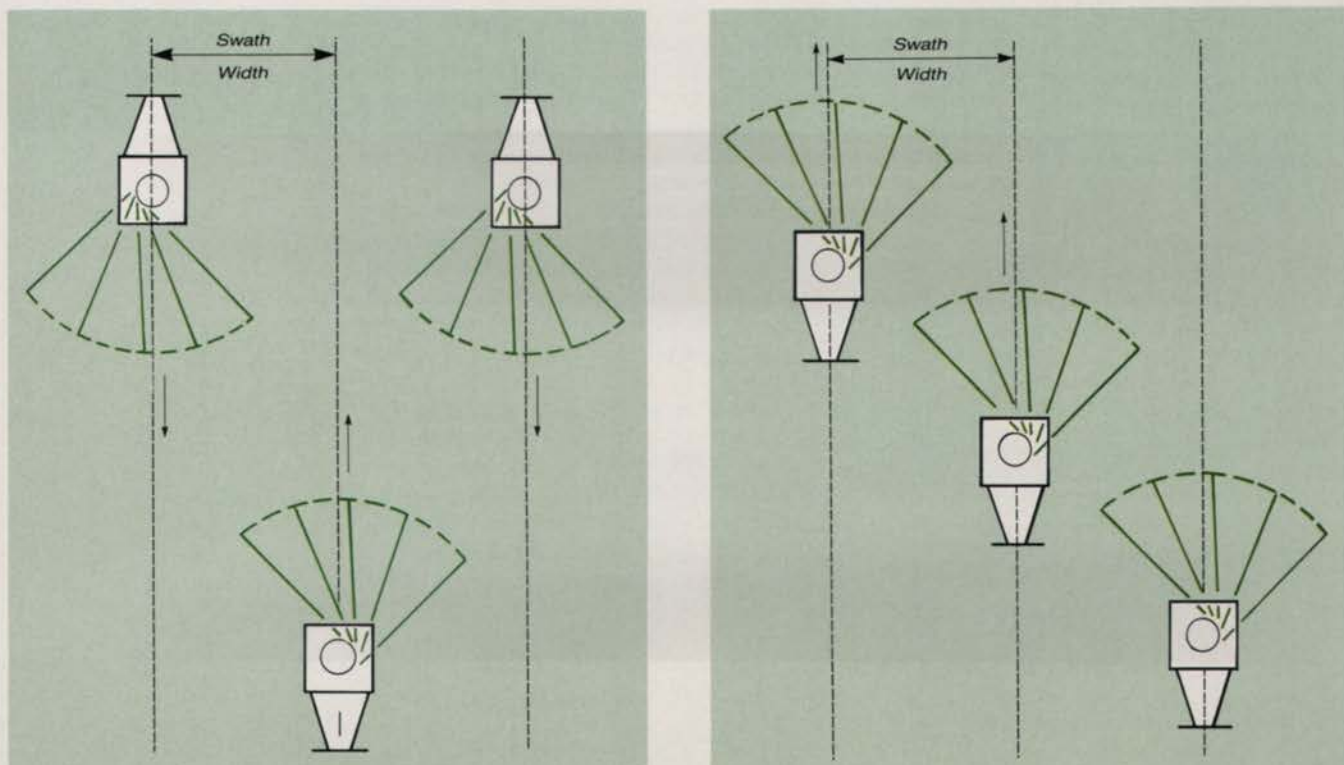


Figure 1. (left) Back-and-forth (or continuous) mode of operation. Left side of spreader pattern is overlapped by left side of next pass. Figure 2. (right) Circuitous mode of operation. Left side of spreader pattern is overlapped by right side of the next pass.

is generally more difficult for turf applicators than in a back-and-forth mode, and may cause problems with either "deadheading" across headlands at the ends of the turf area, or trying to uniformly treat corners if a full round-and-round mode is used. It may also be more difficult to keep track of proper swath width with the circuitous mode since adjacent swath widths are not covered sequentially.

CONCLUSIONS. In general, it would seem that the use of a circuitous mode of operation is not a cure-all for most of the problems turf applicators face. If the basic spreader pattern is badly skewed and a relatively narrow swath width (compared with overall width) is selected, use of the circuitous mode may help. The half-width method will probably be more effective in such cases, is easier to use and requires very little additional travel over the turf area. If the spreader is generally doing a good job, there is little or no advantage to the circuitous method. — *Richard L. Parish*

RATE IN POUNDS PER 1,000 SQ. FT.

PAN LOCATION	0	1	2	3	4	5	6	7	8	9	10	LB/M
-12												0.02
-11	X											0.07
-10	XX											0.21
-9	XXX											0.33
-8	XXXX											0.60
-7	XXXXX											0.82
-6	XXXXXXXX											0.98
-5	XXXXXXXXXX											1.74
-4	XXXXXXXXXXXX											2.15
-3	XXXXXXXXXXXXX											1.82
-2	XXXXXXXXXXXXXX											1.56
-1	XXXXXXXXXXXXXX											0.00
0	XXXXXXXXXXXXXX											0.00
1	XXXXXXXXXXXXXX											2.08
2	XXXXXXXXXXXXXX											2.13
3	XXXXXXXXXXXXXX											2.09
4	XXXXXXXXXXXXXX											1.99
5	XXXXXXXXXXXXXX											2.26
6	XXXXXXXXXXXXXX											1.96
7	XXXXXXXXXXXXXX											1.36
8	XXXXXXXXXX											0.88
9	XXXXXX											0.65
10	XXXX											0.57
11	XXX											0.36
12	XX											0.34

Percent of material left/right — 41.39971/58.6003

Figure 3. Example of pattern from professional turf spreader applying ag-grade granular fertilizer. Note that 41% of the material goes to the left and 59% to the right in this case.

The author is a professor in the agricultural engineering department at the Louisiana State University Agricultural Center, Baton Rouge, La.

The revised version of the computer program for spreader analysis, SPREADER.EZ — Version 2.0, is available from the Louisiana Cooperative Extension Service,

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OVERSEEDING WARM SEASON GRASSES WITH WINTERGRASSES

WINTERGRASS IS A TERM USED particularly in the South for turfgrasses interseeded into the permanent turf when dormant, to provide attractive green cover during the winter. The following tips may serve as an introduction to wintergrasses. They will help in the development and maintenance of attractive winter lawns.

Wintergrasses are cool season types especially selected for interseeding into dormant turf. They may be annual or perennial because they will be used as annuals and expected to gradually thin out and finally disappear as the permanent turf revives from winter dormancy.

Wintergrasses are planted with the onset of warm season grass dormancy. This may be as early as October in the upper South or as late as November in

the lower South. From December through March in more northerly regions, and from late December through early March in warmer regions, wintergrasses should be at their best.

Wintergrass transition back to the permanent warm season type should be gradual. As the warm season grasses resume growth and become green, the wintergrasses should slow in growth and gradually die out. This is brought about by temperature increases causing the permanent turf to be much more competitive than the wintergrasses.

Annual ryegrasses were perhaps the first wintergrass used. Seed is large, so rates of seeding must be high. Vigorous seedlings develop rapidly and provide good cover. Susceptibility to diseases and less than desirable transition in the spring

have provided incentive to research other wintergrass types.

TIMING OF WINTERGRASS SEEDING.

- Seed before warm season grasses are dormant to avoid too much competition for the wintergrass to survive. Seeding too long after warm season grasses are dormant, however, will bring establishment too late for full season cover.
- Ryegrasses germinate and establish most rapidly.
- Fine fescues germinate and establish slightly less rapidly.
- Rough bluegrasses are almost as rapid in the development of winter cover.
- Kentucky bluegrasses are slower to become established.
- Most bentgrasses take even longer to provide color and cover.

•Mixtures of these grasses, rather than individual species, are recommended to provide a broad base for timing of stand development.

•As more bahiagrasses, zoysiagrasses, centipedegrasses and other seeded types become available, some of the finer wintergrasses can be included to provide an "any-time-of-the-year" blend.

WINTERSEEDING OF LAWNS. Emphasis is on easy fall establishment and minimum attention throughout the winter.

Ryegrasses are best for easy establishment, but fine-leaved fescues and other cool season types may also be used.

Winterseeding in the upper South where warm season grasses are dormant some five months a year is desirable.

Prior to seeding, mow permanent turf low — about one inch. This is a more important practice than vertical thinning and topdressing, which may also be done.

Seed ryegrasses at 10 to 20 pounds per 1,000 square feet, or seed finer textured mixtures at five to 10 pounds per 1,000 square feet. — *The Lawn Institute.*

PERENNIAL RYEGRASS

PLANT: Turf-type cultivars form a dense turf with a bunch-type growth habit; leaf folded in bud-shoot, blades with prominent veins above but glossy below, sharply pointed tip; ligule medium long and membranous; auricles moderate sized and claw-like; inflorescence an erect, long, narrow, flat spike; established primarily by seed; many cultivars available.

USE: Fairways, lawns, parks, roadsides, sport fields and general-use turf areas. Com-



monly used in polystands with Kentucky bluegrass. Also widely used in monostands and po-

lystands in winter overseeding of dormant warm season turfs.

CLIMATE: Best adapted to the southern cool humid region and along the Pacific Coast and extends into the transition zone. Also used in the semi-arid plains and Rocky Mountains area, if irrigated. Northern extension limited by cold stress and the southern extension limited by heat stress. A few cultivars have improved cold tolerance or heat tolerance.

FINE FESCUES

PLANT: Forms a dense, tight sod, with a very fine leaf texture; range varies from the creeping rhizomatous type of red fescue to the bunch-type growth of the chewings and hard fescue; leaf folded in bud-shoot, blade bristle-like, sharply pointed tip; ligule minute and membranous; auricles absent; inflorescence a narrow, lance-like, contracted panicle; estab-

lished primarily by seed; numerous cultivars available.

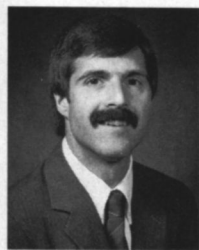
USE: Fairways, lawns, parks, roadsides, roughs and minimal maintenance areas. Frequently used in polystands with Kentucky bluegrass.

CLIMATE: Best adapted to the northern cool climatic regions. Performs better in the semi-arid



region if it receives moderate irrigation. Southward extension is limited by heat stress.

PEOPLE



Kuhl



Reid

ROBERT REID JR. WAS RECENTLY named president of Jacobsen Division of Textron Inc. He succeeds **John Dwyer Jr.**, who is now president of E-Z-Go Division of Textron. Reid joined Jacobsen in 1987 and became vice president of marketing earlier this year. He previously worked with Outboard Marine Corp. where he held senior management, marketing and sales positions with Lawn-Boy and other turf, commercial and marine product lines.

Larry Kuhl has been promoted to vice

president of manufacturing for Ransomes Inc. Kuhl will be involved in both the short-term and long-term direction of Ransomes' manufacturing operation in Johnson Creek, Wisc. He will directly oversee production control and stores, manufacturing engineering, purchasing, plant maintenance and plant supervision.

He joined Ransomes in 1977 as plant manager.

Weyerhaeuser's Specialty Plants business recently appointed **Robert Hyland** as district manager/commercial sales. Hyland will be responsible for developing and implementing marketing programs to support the dealer network for the company's Inscape™ Interiorized™ commercial landscaping products.

Hyland has been active in the interior plantscape industry for more than 13 years, serving three years as president of Hyland Associates, an interiorscape and sub-irrigation consulting firm.

John Devouassoux was appointed

director of information systems for Kubota Tractor Corp. He will be responsible for the development of Kubota's information systems, computer and communications program and technical support.

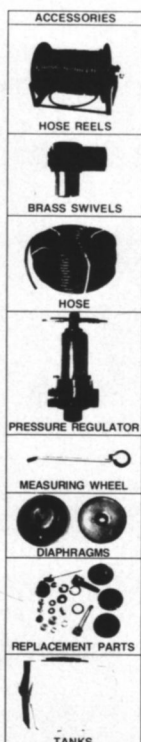
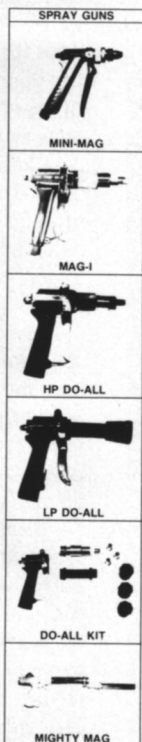
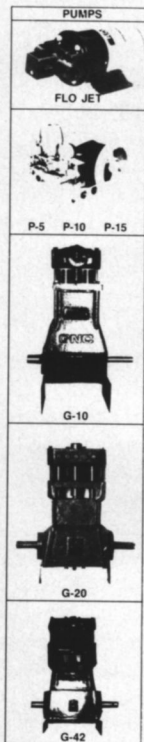
Ron Zwiebel has joined the staff of LESCO Inc. as a fertilizer and seed specialist serving Alabama, Tennessee and central Georgia.

Previously, Zwiebel was president of Green Care Lawn Service, a Birmingham, Alabama-based company he founded 15 years ago. He also worked for the ChemLawn Corp. in Indianapolis and Atlanta.

Briggs & Stratton Corp. recently appointed **Stephen Rugg** as vice president/marketing and planning.

Rugg joined Briggs & Stratton 15 years ago. He's held a number of sales and marketing positions in the company, most recently as manager of marketing and planning.

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(713)937-3449 Dir. Inquiries Welcome Houston, TX 77040

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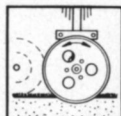
TURFCO EDGE-R-RITE MULTI-PURPOSE TURF EDGER



Just like a small sod cutter, the Blade does not spin, the oscillating motion does not throw debris.

Self-propelled and push models available.

Rugged design for commercial use.



Disc Blade

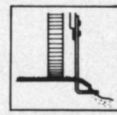
Optional Blades:

Disc Blade for cutting straight edge along sidewalks and driveways.



Right Angle Blade for golf course sand traps, and flower beds.

"V" Blade for removing a strip of turf along a sidewalk.



V-Blade

Right Angle Blade

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TURFCO

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FOCUS ON: TREES & ORNAMENTALS

HOW WILL TREES AND SHRUBS STAND UP TO THE DROUGHT?



IT'S BEEN A BAD YEAR FOR trees in some areas of the country, and a frustrating one for arborists caring for them. But there's never been a more perfect time for client education programs to help sell tree work in the years to come.

When the drought first hit various regions of the United States, no one could predict the harsh impact it would have

on trees and ornamentals. And while the drought is no longer directly affecting those plants, tree care professionals should carefully plan their programs, now and until the plants have fully recovered.

In some instances, it may be too late for water to do much good. But in those cases where the water has proven a source of revitalization for plants, the water can be supplied to the plants without harm until the ground freezes.

In some areas of the country, some researchers are concerned that the drought may have injured or even killed the fine feeder roots of trees, so that the tree becomes unable to intake enough water to supply the foliage.

Some tree care professionals are experimenting with the slowing down of tree transpiration by applying antidessicants. Although professionals have mixed opinions on the use of antidessicants, many are optimistic about their use.

The Ajax Tree and Landscape Company in Avon, Ohio, uses antidessicants for both winter protection and transplanting plants out of season.

As a winter protection, spraying the

antidessicant on the plant is like putting a "trench coat" on the plant. The company likens the use of antidessicants to an insurance policy for trees and shrubs, saying that it often provides the plants a better chance than if it wasn't used.

The drought didn't necessarily hinder all pruning and trimming programs of tree care professionals, but some caution should be used before trees are trimmed. For instance, most evergreens and hardwood trees will be OK for pruning, but it might be wise to hold off on the pruning of blooming plants, according to the Ajax Tree and Landscape Service.

Instead, pruning these plants next spring after they have bloomed rather than this fall, will promote a healthier stronger tree system.

The stress of the summer drought is also apparent by the early changing of the trees' leaves. The trees are defoliating early as a defense mechanism, enabling them to acclimate themselves to what's going on.

No one knows for sure what long-term effects the drought will have on trees and ornamentals. However, some researchers believe that the drought may leave the plants in a weakened condition, and ultimately more susceptible to a range of insects and diseases which seldom harm healthy, vigorous trees. This is particularly true in instances where the plant didn't have time to build up a food supply for the winter.

Additional stressors such as soil compaction and construction injury will only compound the problem. Other effects may be seen next spring in blooming plants which may bloom early in robust colors, but then defoliate and dieback sooner than normal.

The bottom line is that trees and ornamentals, particularly those affected by last summer's drought, are going to require more professional care than ever before; even in the ensuing years when there is sufficient soil moisture and normal weather conditions. ■



Tree trimming and pruning helps create a stronger tree system.

Photos: Mickey Jones

BUYING A BUSINESS THE PAINLESS WAY



EVERYBODY KNOWS THAT BIG companies buy smaller companies. But did you ever stop to think why, and if their reasons might apply to your business, too? By acquisition, big companies gain product diversification. While successful development of a new product may take years, acquisition puts it on the table within months.

By acquisition big companies enter new markets, gaining in a few months what might otherwise take years. Other reasons for acquisitions are to get experienced people, combine related production facilities, increase sales and distribution and acquire new equipment.

Once it's determined that acquisition is the way to go, where does the money come from? This is an astonishingly well-kept secret, but most acquisitions almost buy themselves.

First of all, an acquisition must be

profitable or readily made profitable. The value of a business can be determined only by its earnings record, either past or projected. And as with any other income-producing property, it must pay for itself within some reasonable time span. For this reason, most acquisitions are made on terms.

Sellers accept terms of one sort or another, and make out just as well (if not even better) than if they held out for cash. Cash buyers at reasonable prices are very rare. A seller who demands cash usually has a long wait.

HOW DO YOU FIND A SELLER? The first step is to decide in what direction you want to expand. If you have a well-developed, long-term growth plan, where do you plan to be in 10 years? What products or markets do you plan to serve? Next, buy a directory which lists this kind of business. It could be the yellow pages of your city and the nearest large town, or an association membership directory.

From these directories, glean as many names as possible. Ask your banker to secure credit reports on each business. Then, gather information about each business on your list — specifically, its size, ownership and the ages and circumstances of the owner(s), and their

heirs and/or managers.

Remember, the value was based upon past performance. Do not buy any business unless you can improve it. For example, let's say you plan to improve the operating earnings to \$90,000 and expect it to improve 10 percent a year. Your first year investment is \$25,000 plus \$15,000 as payment, a total of \$40,000. You break-even on the cash flow the second year, get \$19,000 out the third year and the rest the fourth year. Four and a half years into the deal, your cost is zero. But it will take \$40,000 up front and a good credit rating to swing the deal.

Don't make an offer in writing. Talk over and agree on terms before you talk price. A cash sale is always at the lowest price, but if you are short of cash, or the buyer wants long terms, you can stretch the period out until the price is of little consequence. Analyze it more from a cash-flow viewpoint: The first (down) payment is your investment. If the company will return your down payment from its profit during the first five years, pay against any loans and still show a positive cash flow, then the price is of little importance. You are making some profit on the deal, getting a reasonable annual return on your investment and can spread paying for it across years.

To nail down the deal, ask his price, then show him how you arrived at your value; if the two are different, ask him what you overlooked or misjudged. Hold a we'll-make-a-great-team position and keep talking. Never break off your negotiations or let him "cool off"; do not play hard to get or appear disinterested.

Keep on talking and you will buy his business. When you do agree, immediately write down the price, terms, his income and pension, if any, and other key points. ■

The preceding condensed information was provided by the Independent Business Institute. For a complete copy of the report, send \$1 to the Independent Business Institute, P.O. Box 1048, Norton, Ohio 44203-9448.

STEPS TO DETERMINING THE VALUE OF A BUSINESS

IF ONE PARTICULAR BUSINESS interests you, determine what it's worth to you. Determining the value of a business is a very time-consuming project, demanding considerable judgment. But the basics are simple enough and consist of seven steps:

1. Determine the fair market value (replacement cost) of the assets less the liabilities.

2. Determine nonproductive (excess) assets in A/R, inventory, equipment, etc. This includes any real property.

3. Calculate the value of the productive assets as collateral at the bank.

4. Determine the inflation-

adjusted operating earnings for the past three to five years — the cash remaining each year after all unavoidable expenses and an allowance for the cost of a manager.

5. Multiply the average "operating earnings" by a multiplier based upon the target return on investment (ROI), derived from your perception of risk.

6. To this add the excess assets you want to buy (as opposed to the seller keeping them, selling them on the side or you accepting them on consignment.)

7. Find out what kind of deal the seller wants and compute the value of the business to you by blending points five and six

into the deal.

For instance, a business with (1) liabilities of \$50,000 and total assets of \$400,000, of which (2) \$100,000 is excess inventory, and (3) the \$250,000 of productive assets could be used for a \$150,000 loan. The average operating earnings (4) are \$80,000 a year, (5) a 3.5x multiplier (28.6 percent ROI) is selected and gives \$280,000 "value" (6) after the seller dumps off his excess inventory (so he nets \$280,000 plus \$100,000 plus his cash). The seller wants his cash plus \$400,000. Naturally, he wants cash, but will settle for 50 percent down and a five-year deal.

PRODUCTS

SNAPPER POWER EQUIPMENT introduces its patented fixed line cutting head for string trimmers. The fixed-line cutting head features easy feeding of the monofilament lines without loosening bolts or tricky threading through alternating holes, allowing quick line changing by the operator. The glide ball with replaceable wear pad helps prevent scalping by allowing the head to glide along the ground above the grass.

Galvanized steel construction provides the durability required for tough commercial use, and prevents rust and corrosion build-up in the line feed areas.

Circle 101 on reader service card

Dandl Manufacturing Co. is now marketing a 60-inch front-mounted flail. The unit has 120 fine-cut or 60 thatching blades. The operator can easily change from fine-cut to thatching using the same reel.

The two blades enable the machine to verticut, thatch, fine-cut, break up aeration cores and mulch leaves.

Circle 102 on reader service card

Weather-Watch rainwear/windbreaker from **Impro Inc.** is designed for high breathability and water repellency in hot or cold weather.

Made from 100 percent nonwoven polypropylene, the rainwear is lightweight and durable and will not rot or mildew, even when stored under the seat of a truck. The rainwear is puncture resistant and machine washable in plain, cold water.

Circle 103 on reader service card

Saturn Turf Type perennial ryegrass is now available from **Garfield Williamson Inc.**



Saturn grows in sun and light shade, resists insects and diseases, has excellent summer performance and is winter hardy, according to company officials.

In national perennial ryegrass trials, Saturn was noted for seedling vigor, genetic color and resistance to diseases such as blotch and brown patch.

Circle 104 on reader service card

Three products available from **Gill ClerVu Industries Inc.** include the gill spiker with split-front roller, the gill spiker and the gill seeder attachment.

The gill spiker with the split-front roller is available in two models, with a 6-inch or 8-inch rear roller. The gill spiker aerates, seeds and is capable of a spiker-seeder combination. It also comes

with adjustable front angle rollers.

Circle 105 on reader service card

"Pressure-treated Wood in Landscape Architecture," a four-page, full-color booklet, has been updated and reissued by the **Western Wood Preservers Institute.**

The manual illustrates uses of pressure-treated wood in decks, steps, fences, parks and marinas and provides basic information on pressure treatments and their characteristics.

Circle 107 on reader service card

Blackburn Manufacturing Co., has recently developed low-cost guy wire covers for the nursery, landscaping and grounds maintenance industries.

The plastic covers snap easily over the guy wires used to stabilize young trees. The covers come in white or bright yellow, making them easy to see and less likely to cause accidents.

The Blackburn guy wire covers are impact resistant, long-lasting and reusable. They come in six-foot lengths which can be easily cut to meet requirements.

Blackburn guy wire covers are shipped 1,000 feet per box. **108 on reader service card**

Two new tire sealants, Flat Shield and Aqua Plus, are now available from **Kubota**

(continued on page 112)

SEED GUARD FROM The DeWitt Co. can easily cover a newly seeded area faster without the hassle of hay, straw or peat.

Seed Guard, a spun-bonded polypropylene blanket, conserves moisture, requiring less watering than conventional mulches. Due to its characteristics, it retains the moisture needed for germination.

The blanket produces a greenhouse effect by controlling the amount of heat and moisture, promoting a 90 to 95

percent germination, instead of the usual 60 to 65 percent, in half the time of straw. Seed Guard shields against the enemies of seeding, reduces the impact of wind and rain that causes bare spots and clumping of seed. Seeding can be started in the spring and later in the fall with Seed Guard, minimizing scorching and frost damages.

Also new from DeWitt is N-sulate, a new lightweight, porous blanket of protection made from spunbonded poly-

propylene. Its fiber-like fabric will not weigh down hardy overwinter and tender bedding plants. Even when wet, N-sulate weighs the same — 1.25 oz./sq. yd.

During frost warnings, N-sulate will quickly cover the ground without blocking out precious water or light. And when you keep it on, it enhances plant growth by keeping the temperature above freezing and below scorching.

106 on reader service card

LAWN AND LANDSCAPE
ALA MAINTENANCE

**PRESENTS...
AN AWARD
FOR
PROFESSIONALISM**

*Mail in Nominations
by Dec. 31, 1988*

In our continued effort to promote professionalism, be involved in community awareness and help our industry create a positive public image, *ALA/Maintenance* magazine is sponsoring its 3rd Annual Award for Professionalism.

The winner will be presented a plaque with the company's or the individual's name inscribed on it, and camera-ready art stating they were chosen to receive an Award for Professionalism, suitable for reproduction in advertisements, brochures and letterheads. In addition, a brief article about the company and the award will be sent to the winner's local newspapers. *ALA/Maintenance* will also do a brief article on the winner in a future issue.

Do you know a lawn or landscape maintenance company or operator who deserves to be recognized for efforts in operating a professional business? Is the operation respected in the community and by its peers? If so, why not nominate the business, or an individual from the business, to receive *ALA/Maintenance's* Award for Professionalism?

Here is what you have to do: read over the nomination form on the following page. If you work for, or know of, a company or individual that meets most of the criteria, then nominate your choice by completing this form and returning it to us. All information must be verifiable, and nominations must be received no later than Dec. 31, 1988 to be eligible. A company need not meet all criteria to win. The winner of the contest will be announced in the March issue of *ALA/Maintenance* magazine.



I am nominating: Name _____

Company _____

Address _____ Phone: () _____

for ALA/Maintenance's Award for Professionalism as I feel this company fulfills most of your criteria for nomination.

CRITERIA:

1. Supports the local community in the following way:

- _____ sponsors youth sports program
- _____ donates to scholarship program
- _____ volunteers labor to community project
- _____ donates to local fund-raisers
- _____ other (please explain) _____

2. Belongs to a trade association.

- _____ local
- _____ state
- _____ national

3. Has the following employee benefit programs:

- _____ insurance plan
- _____ paid vacation
- _____ savings or retirement plan
- _____ company-funded education plan incentive program
- _____ other (please explain) _____

4. Is supportive of, and involved with, industry problems at the:

- _____ local level
- _____ state level
- _____ national level

(Explain) _____

14. Additional comments if any: _____

Your name: _____

Your company's name: _____

Address: _____ Phone: () _____

Please tear this form along the dotted line and mail to: Award for Professionalism, ALA/Maintenance Magazine, 4012 Bridge Ave., Cleveland, Ohio 44113

5. _____ Monitors customer satisfaction with some form of "quality assurance" system.

6. _____ Equipment is kept clean and in good operating condition.

7. _____ Safety shields and/or guards recommended by the manufacturer are still in place.

8. _____ Employees are informed of and educated on potential hazards associated with the use of all equipment and materials being handled.

9. _____ Has instituted a comprehensive training program for employees.

10. _____ Chemicals that would constitute a hazardous waste are being disposed of in accordance with local and/or federal regulations.

11. _____ Lawn care chemicals are being used according to manufacturer's recommendations.

12. _____ Trees, ornamentals, sod and seed are being used in locations specified by growers, and are installed according to their recommendations.

13. _____ Company's place of business is kept neat, clean and well-maintained.



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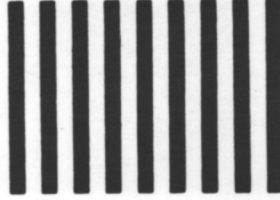
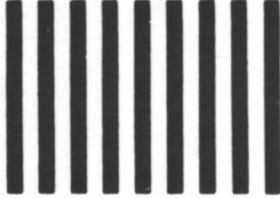
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- 2 10 18 26 34 42 50 58 66 74 82 90 98 106 114 122 130 138 146 154 162 170 178 186 194
- 3 11 19 27 35 43 51 59 67 75 83 91 99 107 115 123 131 139 147 155 163 171 179 187 195
- 4 13 20 28 36 44 52 60 68 76 84 92 100 108 116 124 132 140 148 156 164 172 180 188 196
- 5 12 21 29 37 45 53 61 69 77 85 93 101 109 117 125 133 141 149 157 165 173 181 189 197
- 6 14 22 30 38 46 54 62 70 78 86 94 102 110 118 126 134 142 150 158 166 174 182 190 198
- 7 15 23 31 39 47 55 63 71 79 87 95 103 111 119 127 135 143 151 159 167 175 183 191 199
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Signature _____ Date _____

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 Landscape Contractors
 (Installation & Maintenance)
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 Ornamental Shrub & Tree Services
 Other Contractor/Services (please describe) _____

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 Agronomists, Schools, Trade Shows, Specialists
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What Best Describes your Title? (please check only one)

- Owner, Pres., Vice Pres., Corp. Officer
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 Manager, Director, Supt., Foreman
 Serviceman, Technician
 Agronomist, Consultant, Specialist
 Buyer, Purchasing Agent
 Entomologist, Scientist.

Researcher _____
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NOVEMBER 1988

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- 4 12 20 28 36 44 52 60 68 76 84 92 100 108 116 124 132 140 148 156 164 172 180 188 196
- 5 13 21 29 37 45 53 61 69 77 85 93 101 109 117 125 133 141 149 157 165 173 181 189 197
- 6 14 22 30 38 46 54 62 70 78 86 94 102 110 118 126 134 142 150 158 166 174 182 190 198
- 7 15 23 31 39 47 55 63 71 79 87 95 103 111 119 127 135 143 151 159 167 175 183 191 199
- 8 16 24 32 40 48 56 64 72 80 88 96 104 112 120 128 136 144 152 160 168 176 184 192 200

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What Best Describes your Title? (please check only one)

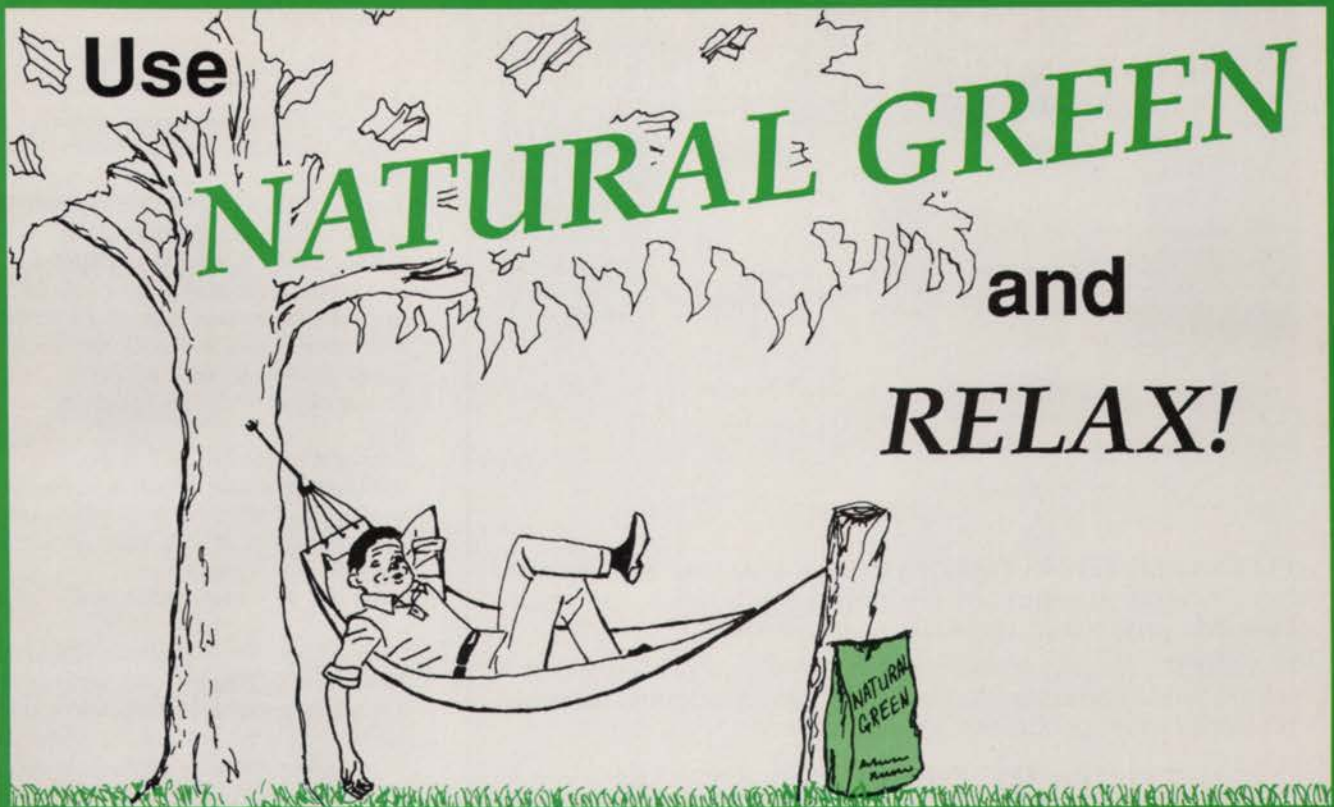
- Owner, Pres., Vice Pres., Corp. Officer
 Manager, Director, Supt., Foreman
 Serviceman, Technician
 Agronomist, Consultant, Specialist
 Buyer, Purchasing Agent
 Entomologist, Scientist.

Researcher _____
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NOVEMBER 1988

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Phil Katron, NATURALAWN, Inc., Damascus, MD

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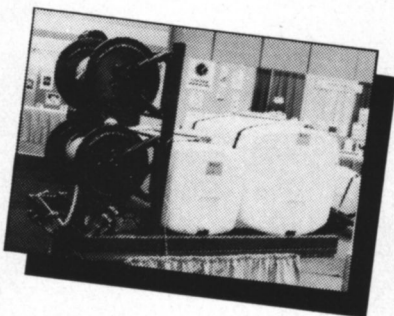
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Circle 80 on reader service card

Finally—A Spray System That Won't Give You A Workout.

The ProTank Electric Spray System is the only true commercial electric sprayer on the market today. Instead of giving you the workout gas engines and other spray units do, it gives your customer's turf a workout and saves you valuable time. The ProTank Electric Spray System is equipped with a ½ horsepower motor capable of spraying 6 to 7 gallons a minute at up to 150 p.s.i. And all you lose are bulky pull-start engines, and the inconvenience of gas, oil, spark plugs, noise problems, and noxious fumes. The ProTank Electric Spray System will also take the crunch out of those expensive

downtime repair bills. It's built by C&S Turf Care—leaders in rugged, reliable turf care equipment.

We can show you how you can spend more time building your client list, and less time building muscles. Call today for complete information on the ProTank Electric Spray System.



We offer a complete line of electric and gas spray equipment and can custom design a spray system to fit your specific needs.

"Watch the mail for special 'show discount' savings"

C (216) 453-0770
C&S Turf Care Equipment, Inc.
3425 Middlebranch Road, N.E.
Canton, Ohio 44705

Circle 11 on reader service card

"Dealer Inquiries Welcome"

Be sure to visit us at:
The PLCAA in New Orleans
The OTF in Cincinnati

Products

(continued from page 106)

Tractor Corp. for use with its line of agricultural and construction products.

Both tire sealing products were specially designed to help reduce or even eliminate the amount of downtime experienced on the job due to a flat tire.

Kubota's Flat Shield, for air-filled tires, is a sealing compound pumped into the tire and held in suspension until a puncture occurs. Once punctured, the fibrous compound adheres itself around the foreign object forming a leak-proof plug.

Kubota's Aqua Plus, for liquid-filled tires, offers the same puncture sealing qualities as Flat Shield. Aqua Plus mixes easily in tires filled with water, calcium chloride and antifreeze.

Circle 109 on reader service card

Take A Card Inc. recently introduced its indoor/outdoor business card dispenser. The weatherproof dispenser allows companies to hand out business cards after hours, during vacations or any time the office is closed.

Made of plastic, it comes complete with a strong adhesive backing which can be applied to almost any surface like real estate signs, storefronts, marked business vehicles, construction site signs, etc.,

A turn of the knob feeds one card at a time from the dispenser.

Circle 110 on reader service card

T-Berry Electronics Corporation introduces the Communicator, a hand-held, crystal-controlled, two-way radio.

The communicator produces up to five watts on its six available channels, giving it a range of at least several miles. In VHF or UHF, communicator is housed in a rigid, heavy-duty die-cast metal chassis. The radio's easy access controls are designed for tough working environments and contains a high/low power switch for conserving energy, and a tone on/off switch for optional tone-coded channel privacy. Quick-glance indicator lights are provided for channel busy verification and transmit/low battery warning.

The radio, designed for ease of operation, weighs only 20 ounces and fits comfortably in the palm of one's hand.

Circle 111 on reader service card

A new brochure from **Foresight Products Inc.** describes various methods of supporting trees using the Duckbill Earth Anchor System. The earth anchor is a drive anchor that is driven into the ground using a heavy hammer and a drive rod, a job which can be done by one worker.

Total System Guy Kits are available for

contractors and others who prefer the fast and easiest method of anchoring trees. The entire system is pre-assembled in these kits: anchors, cable, turnbuckles, tree collars and wire rope clips. No time is spent assembling the various components of the system.

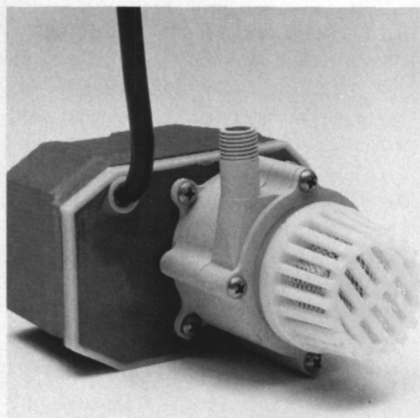
Another anchoring method is supplied in the form of Root Ball Fixing Kits, which are used when an above-ground guy system is not possible or desirable, such as in playgrounds or parks or where sidewalk plantings are required. Root balls are held firmly in place with nothing but the tree protruding above the ground.

Circle 112 on reader service card

Beckett Corp. introduces GM 400A, a sealless, submersible, magnetic drive pump. Featuring a thermally protected motor and epoxy encapsulated design, the GM 400A was developed for special applications including salt water and chemicals.

The GM 400A is 115 volt, 60 Hz rated and delivers 380 GPH at 1 foot with a shut-off rating of 14 feet.

Compact design allows for easy installation. Pump comes complete with a



6-foot power cord with ground plug. Pump discharge is 1/4-inch NPT. UL listed.

Circle 113 on reader service card

Low voltage lighting fixtures made of wood to brighten decks, yards, gazebos and hot tubs are being offered by **Century Rain Aid**.

The five models and 15 styles of the lightscaping line are crafted of pressure-treated pine, cedar or redwoods. They are 12-volt fixtures that use only a half-cent of electricity per hour, based on average national utility rates. Competitive 120-volt products typically draw far more amperage, increasing the cost of operation.

The fixtures can be used for decks, railings, gazebos, boat docks and in gardens, or anywhere outdoor lighting is needed. With a short post as a mounting surface, they can be used in

FLAGS



Designed especially for the lawn care industry

- 9 flag colors
- 8 ink colors
- 90° bend in staff
Shipped straight. You bend when used.
- 18" or 24" PVC staff
(1/8" diam.)
- Custom print available



Less than 5¢ ea.

(Min. 1000)

Actual Size:
4"x5" flag

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402/887-4161
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Circle 40 on reader service card

**The Feldmann
2340 Core
Plug Aerator
— The Pull-
Behind That
Keeps You
Ahead.**

Easy, cost effective method for core plug aeration. An efficient use of labor and equipment. Comfortable operating position.

The 12 inch by 32 inch tray can be

weighted for plug penetration. Side handles allow easy up adjustment for transport or down for core plugging.

Single hitch pin connection to tractor.

U.P.S. shippable.
Unit weight
85 pounds.



Feldmann
THE BEST
Next To Mother
Earth

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P.O. Box 153, Sheboygan Falls, Wisconsin 53085 • 414-467-6167

Circle 81 on reader service card

gardens, along walkways and driveways.

The fixtures, in 5 designs ranging from traditional to modern, feature an all-glass, wedge base light bulb, with no metal base to corrode; a UL-approved lampholder; 11 solid brass fasteners; impact-resistant lens with choice of bronze tone or milk white; and an optional wood baseboard to lend a framed look to the fixtures.

Circle 114 on reader service card

Duratec™ from Thor Enterprises Inc. is a new reinforced underground utility marking tape with more than 1,000

pounds of break strength per 6-inch width.

It has been developed to prevent stretch and breakage during installation (with increased visibility to the machine operator), while saving the printed message from distortion and disfiguration when dug into.

Engineered with greater strength in the lengthwise (machine) direction, DuraTec will break across its width when its tensile property of 1,000 pounds is exceeded without affecting the legibility of the safety imprinted message. Available in widths up to 30 inches, DuraTec is the only reinforced tape on the market offering no

charge for custom-printing, a color change near the core to alert the operator to change rolls during installation, waterproof plastic cores to withstand extreme handling and moisture and roll lengths up to 2 miles each for plow-in convenience.

Circle 115 on reader service card

A newly designed Multimot model 101 engine, featuring a number of technical changes from the previous model 100, has been released by Solo Inc.



The changes, part of Solo's continuing model improvement program, include a relocated and enlarged fuel tank filler neck that eliminates the need for a special funnel; a new single-piece steel plate muffler designed to eliminate potential leakage; and an improved one-piece light alloy magneto flywheel with enlarged cooling fins that eliminates the need for a plastic fanwheel.

A variety of power tool attachments are available for use with the Multimot engine such as a water pump, grass/weed trimmer, tiller, hedge trimmer and other tools. The 21cc Multimot engine can be used to power a total of 21 attachments.

Circle 116 on reader service card

A full-color product reference guide describes features, benefits and applications of the complete line of material handling containers from LEWISystems Menasha Corporation Plastics.

The 16-page guide describes, illustrates and provides specifications on the company's modular container systems, small parts bins, divider boxes, automated systems totes, heavy-duty Plexton® and lighter-duty Polylewton® Stack-N-Nest® containers, transport trays, electrostatic discharge (ESD) protective containers, food handling containers and distribution totes, including hinged-lid Flipak® containers.

Also described are accessories such as covers, dividers, document holders and partitions, and container system hardware such as floor stands, mobile trucks, louvered panels, bench assemblies, storage cabinets, racks, wall mounts and shelf units.

Circle 117 on reader service card

Equipment for the
turf care professional.

Olathe



Olathe Equipment Helps Keep Your Turf and Business Healthy

Olathe has been proving itself a valuable part of your business for years.

Setting industry standards, like the MODEL 84 SLIT SEEDER with patented clean-cut shatter blades, 18hp electric start, 3" centers, easy grip handle controls, ground speed that accommodates up to 15,000 sq. ft. per hour. No competitor has matched the short distance between blades and seed drop for accuracy.

Innovative new additions, like the MODEL 85 "SEED-N-THATCH" for spot seeding and/or thatching. A low-cost efficient unit for smaller areas.

New dimensions in plugging with the MODEL 88 AERATOR with rugged 3 hp industrial engine, 2-40lb. removable weights if needed, 30 coring tines enter the soil every 3 1/4" across a 19 1/2" path.

Rugged reliability, learned from over 25 years in the sweeper business, has gone into the MODEL 42 5 HP TOW-BEHIND SWEEPER. Tired of breaking apart so called commercial brooms? Try this rugged, rubber finger sweeper with easy pull remote dump from tractor.

Proof is seeing. Call your local Olathe/Toro commercial dealer for a free demo. Or write or call:

OLATHE MANUFACTURING, INC.
100 INDUSTRIAL PKWY., INDUSTRIAL AIRPORT, KS 66031
1-800-255-6438 • 913-782-4396



Circle 39 on reader service card

Equipment Guide

(continued from page 84)

The **Toro Company** introduces the Toro HMR—a highly maneuverable ride. Designed for commercial cutters graduating to riders from walkpower mowers, the HMR features an interconnected steering system for agile handling while cutting or trimming.

Allowing the front wheels to be turned 80



degrees in either direction, the steering system provides the HMR with a turning radius of a mere four inches.

A new concept in aerification of turfgrass areas is now available from **Turf-Tec International**.

The Verti-Groove will remove soil from one to six inches deep. Light tractor pulled, it has no moving parts. The Verti-Groove's soil engaging elements rapidly bring to the surface thin slices of soil without materially disturbing the turf.

The verti-groove can be used to renovate and to maintain any turfgrass area. In addition to relieving soil compaction, it will remove thatch, layers in the soil and improve drainage.

The verti-groove also has an attachment called the verti-slicer that can be used to deeply cut through the turf without bringing up any soil. This attachment can be used to aerify turf on rocky ground. Easily installed, it can be used during periods of heavy play and will not remove any soil.

Wanner Engineering introduces Hydra-Cell industrial valve, a pressure regulating valve. The valve is designed to handle heavy pressure demands from 200 psi to 1,500 psi and flow ranges from 3 to 10 gpm, 10 to 20 gpm and 20 to 40 gpm.

Wanner's valves can be coupled with a Hydra-Cell pump or any positive displacement pump to give the system overpressure protection.

Wheel Spray Corp. introduces the WS-820 Estate Wheelie Sprayer, a tractor pulled



sprayer with a 20-gallon capacity, designed for a variety of applications including parks, cemeteries, golf courses, large estates, institutions, schools and industrial grounds.

It's equipped with 2 wheel pumps, 3 nozzles, a fold-up boom and a convenient shut-off system. It will deliver about 30 gallons per acre in a 90-inch swath from 3 nozzles.

Yamaha Motor Co. introduces the Terrapro™, an all terrain vehicle with PTO—power take off.

The Terrapro 4-wheeler features a 4-cycle engine, a dual-range transmission (with 5 gears in high and 5 gears in super-low range),

plus reverse from any gear and large, high-traction balloon tires.

The addition of PTO allows the Terrapro to supply direct engine power to run Yamaha sprayers, rough-cut mowers and finish mowers. The PTO is rear-mounted for versatility and ease of attachment to the widest range of powered equipment. ■

Although we have spotlighted many companies and their new offerings for 1989, we should note that space restrictions prevent us from attempting to include every new product available in the lawn maintenance industry.

Fall is the best time of all...

To renew tired lawns and prepare them for spring growth.

Milorganite is Naturally Unique for Dormant Fertilization . . .

Milorganite in late fall to assure earlier greening than a spring chemical application! And you'll cut labor costs . . . a heavy dormant application "can do" for a long time!

In one series of tests, conventional applications of other nitrogen fertilizers failed to catch up with early winter applied Milorganite throughout the entire growing season!



America's Number One Naturally Organic Fertilizer For Over 50 Years

Milwaukee Metropolitan Sewerage District
735 N. Water Street, Milwaukee, WI 53202

CLASSIFIEDS

ACQUISITIONS

Wanted to Acquire

Lawn care companies of all sizes in U.S. and Canada being sought by national corporation. Complete buy out or stay and grow with us. If interested please call me directly: John Hayes, President, Tru Green Corporation, 404/442-8700. Strict confidentiality maintained.

Wanted to Buy

Lawn care companies of all sizes anywhere in U.S. wanted to purchase by national corporation. If interested please respond to: ALA magazine, Box 329, 4012 Bridge Ave., Cleveland, OH 44113. Strict confidentiality maintained.

Wanted to Buy

Ever-green Lawns, a Division of ADT Limited, an international service company doing in excess of a billion dollars in sales annually, wants to acquire lawn care companies of all sizes. All inquiries strictly confidential. Please contact: Steve Hirshmugl, Director of Finance and Acquisitions, Ever-green Lawns Corporation, 1390 Charlestown Industrial Drive, St. Charles, Mo. 63303; 314/946-9700.

FOR SALE

Lawn Care Equipment

Hannay reels new in-the-box, E1526s, E1530s, \$339; lawn spray hose, 275 psi and 600 psi, all sizes; original Imler measuring wheels, \$48; glycerin-filled gauges, 0-6-psi to 0-1,000 psi, \$19.95; polypropylene ball valves, 1/2-inch to 2-inch; ChemLawn guns, \$75.95; lawn spray boots, \$16.95; lawn spray gloves, \$1.25-pair.

Call Hersch's Chemical, Inc.
800/843-LAWN — outside of Michigan
313/543-2200

Equipment

AG-TECH PRESEEDER. Prepares fine-textured seed beds. Sweeps stones and debris in a neat window for easy pick up and removal. PTO drive. Cost over \$4,000. Will sell for \$1,500. Like new. 805/735-7076.

Turf Tips for Lawn Care

Video tapes by the Cooperative Extension Service at Michigan State University and the Michigan Turfgrass Foundation. Excellent for training and educational programs. Can be used by lawn care companies, golf course superintendents and all grounds supervisors. LAWN ESTABLISHMENT, GENERAL LAWN CARE, LAWN GRASSES, FERTILIZATION, WEED CONTROL, LAWN MAINTENANCE and, soon, CALIBRATION. VHS or Beta. \$60.00 each or 7 for \$375.00. For information call 517/355-0270 or write Michigan Turfgrass Foundation, Box 80071, Lansing, Michigan 48908.

Free Catalog

Free 1989 catalog for sprayers and parts from Perma Green Supreme. Includes custom-made fiberglass tanks, poly tanks, twin hose injection gun systems, hose reels, pumps, fittings and more. Hundreds of items for lawn and tree. Call toll free 1-800/346-2001 or 219/769-1630.

HELP WANTED

Manager Position

Top Firm Needs Top Person: Quality

conscious, Texas-based landscape management firm has immediate opening for detail-oriented Operations Manager and/or Business Manager. If you have outstanding professional, managerial and horticultural skills and are not afraid of hard and healthy teamwork, then you could qualify for a top position with the finest landscape firm in the Southwest. Outstanding compensation and opportunity. Reply today to: ALA, Box 325, 4012 Bridge Ave., Cleveland, OH 44113.

Advance your career and improve your lifestyle

Seeking turf technicians and foremen for positions in one of the largest leading landscape companies in the Hamptons. We are 45 years established, dynamic, professional, progressive and quality oriented.

Offering you: Subsidized housing, excellent competitive salary and benefits, rewarding teamwork atmosphere and an exceptional way of life in the beautiful Hamptons.

Offer us: Your experience and education, enthusiasm, responsibility, leadership and organizational abilities.

Send resumes confidentially to: Whitmore-Worsley Inc., Attn: Jack, P.O. Box 10, Amagansett, N.Y. 11930; 516/267-3756.

Rates: All classified advertising is 55 cents per word. For box numbers, add \$1 plus six words. All classified ads must be received by the publisher before the 10th of the month preceding publication and be accompanied by cash or money order covering full payment. Submit ads to: ALA Lawn and Landscape Maintenance magazine, 4012 Bridge Avenue, Cleveland, Ohio 44113.


It pays to advertise in the

ALA/MAINTENANCE CLASSIFIEDS

*To place an order,
write to*

**ALA/MAINTENANCE,
4012 Bridge Ave., Cleveland, Ohio 44113**

Beautify Your Bottom Line with . . .

 **green garde®**
High Performance Spray Team

THE PROFESSIONAL'S FAVORITE!



JD9-C SPRAY GUN
For Low and High Pressure

- **RELIABLE** -- increases productivity and reduces downtime.
- **FULLY ADJUSTABLE** -- adjusts quickly from fine mist to long distance pencil stream.
- **IN THE HAND** -- feels good, looks great.
- **BUILT LIKE A FINE PRECISION WATCH.**



BUILT-TO-LAST!
... Keeps working after Most OTHERS Fail!

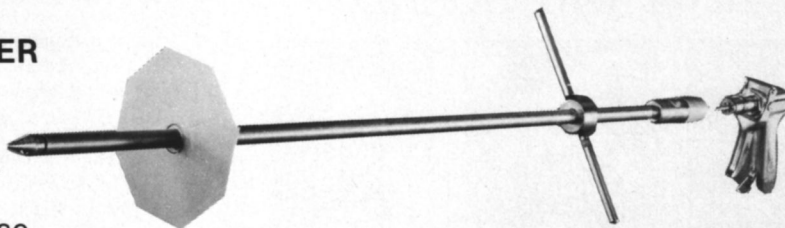
MODEL JD9-CT also available

Tapped at the top for use with gauge to calibrate pressure settings, more accurate than figuring line loss from pump gauge.

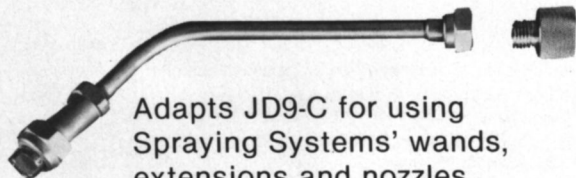
JD9-C SPRAY GUN ACCESSORIES -- for More Uses & More Profits!

HEAVY DUTY ROOTFEEDER

Designed for pressure root feeding from 2" to 10" deep. Extensions available for probing. Rugged for heavy use.



TIP ADAPTER



Adapts JD9-C for using Spraying Systems' wands, extensions and nozzles.

LONG LASTING FLOODING NOZZLES



A choice of 6 sizes for applying fertilizer and pesticides, fits ChemLawn Gun.

See these and many other fine Green Garde products at your distributor or CONTACT US at (312) 593-6464, FAX: 312-593-6467.

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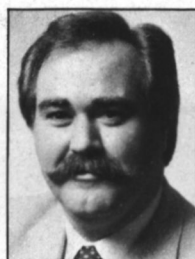
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STATEMENT OF OWNERSHIP

Statement required by the Act of October 23, 1962, Section 4369, Title 39, United States Code, showing the ownership of *American Lawn Applicator* published monthly at 4012 Bridge Avenue, Cleveland, Ohio 44113-3320 Cuyahoga County.

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The known bondholders, mortgagees and other security holders owning or holding one (1) percent or more of total amount of bonds, mortgages or other securities are: Arthur Brown, 31505 Grand River Avenue, Suite 1, Farmington, Michigan 48024.

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I certify that the statements made by me above are correct and complete.

Richard J.W. Foster, President

Ryan brings quality aeration from golf greens to green lawns.



Introducing the new Ryan Lawnaire® 28.

The revolutionary Lawnaire 28 combines the technology and precision of golf course aeration with the demands of lawn maintenance. Its reciprocating, crank mounted tine arms feature a vertical coring action similar to larger Ryan aerators. Tines penetrate straight in to a depth of 2½ inches, and come straight out. The results are a more professional-looking job, better root development, greener lawns, and more satisfied customers.

Make more money by the yard.

Because time is money, the Lawnaire 28 is designed to cover big jobs quickly — up to 24,000 sq. ft. per hour. But because not every job is big, it's also compact and maneuverable. Just 34 inches wide, the Lawnaire 28 easily fits through yard gates. The unique tricycle front wheel gives the unit a zero turning radius while aerating!

Even the tightest spots are no problem. And because it's a Ryan, you can rest assured that the Lawnaire 28 will keep you on the job and out of the repair shop for years to come.

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Circle 56 on reader service card

We dug into the tall fescue control problem.



So now you don't have to.

Until now, getting rid of ugly clumps of tall fescue was no easy task. The weed had to either be physically removed by digging or chemically removed by spot treating with a non-selective herbicide that left unsightly brown patches for weeks.

LESCO TFC™ Herbicide changes all that. It's the first product to provide selective spot control of tall fescue in established Kentucky bluegrass, fine fescue, bentgrass, bahiagrass and bermudagrass turf. Active at a rate of just a few ounces per acre, the convenient water dispersible granule formulation exhibits both contact and residual soil activity. It slowly eliminates tall fescue, while allowing the desirable grass to fill in.

For tall fescue control without the digging, make LESCO TFC Herbicide part of your application program.

Order today. Contact your LESCO sales representative, visit the nearest LESCO Service Center or call us toll free.

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NATIONWIDE

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Always read and follow label instructions before using any chemical product.

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