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MARKET REPORT**

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COMPLICATIONS**

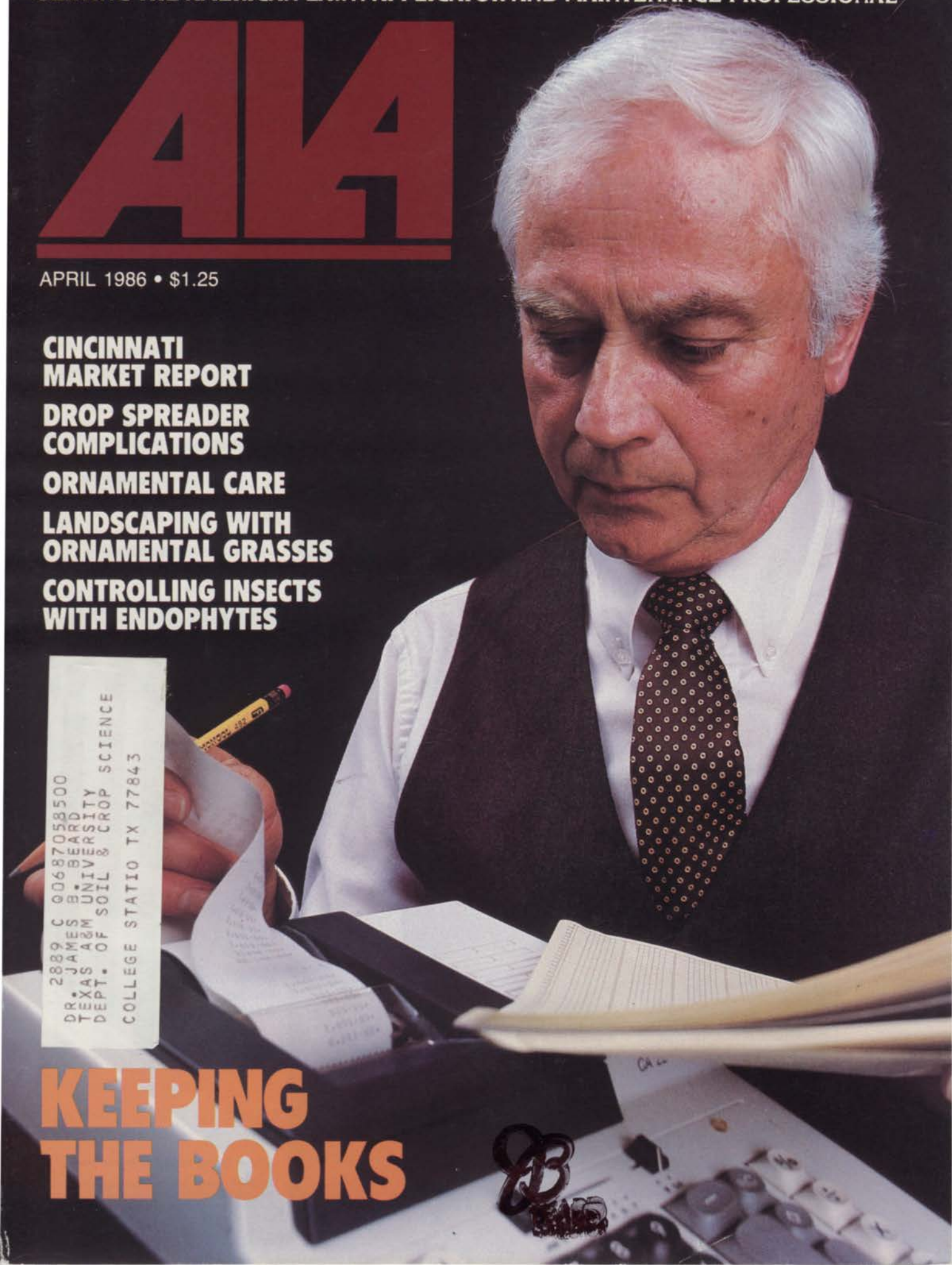
ORNAMENTAL CARE

**LANDSCAPING WITH
ORNAMENTAL GRASSES**

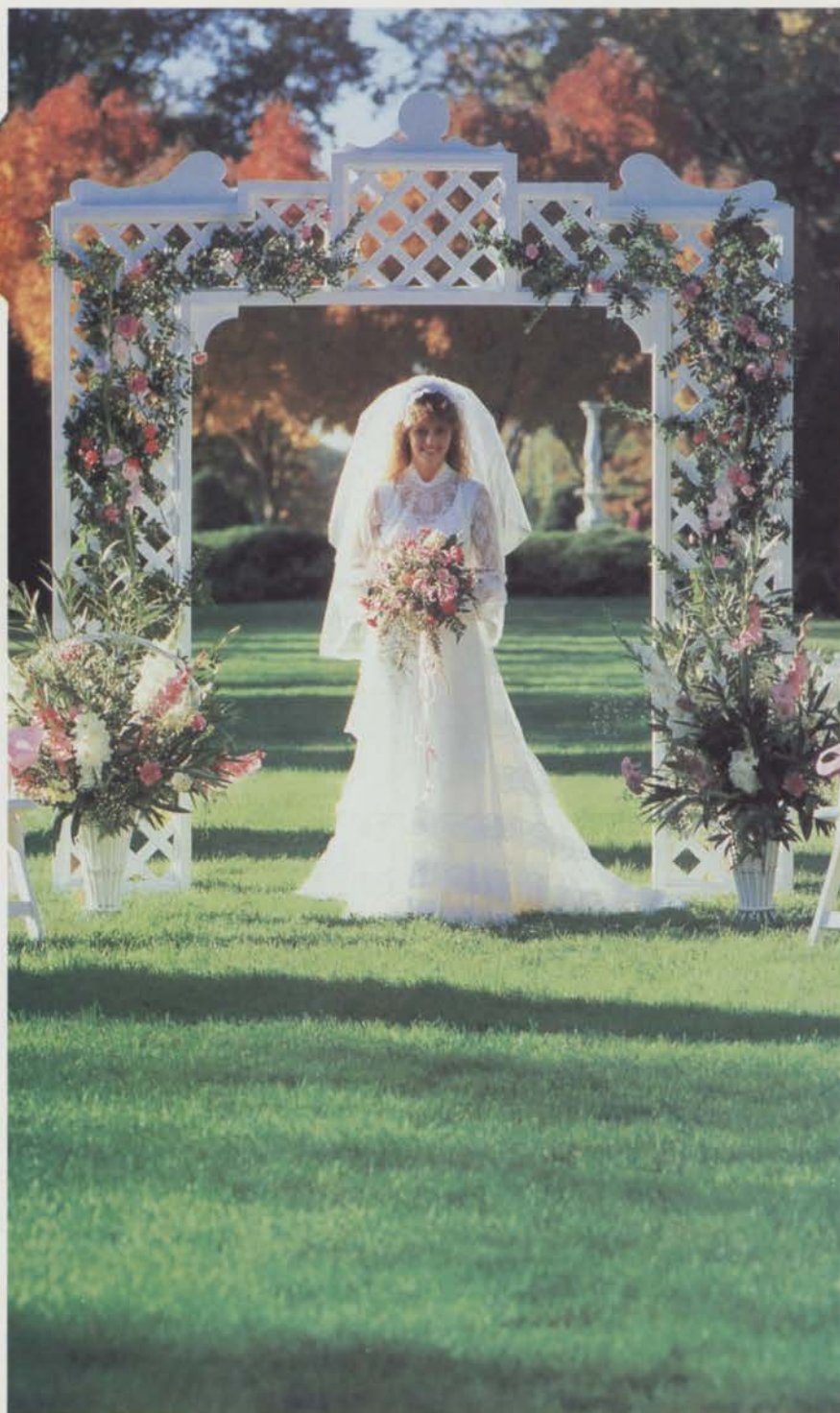
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TABLE OF CONTENTS

BUSINESS FEATURES

Keeping the Books

Efficient accounting is crucial to your company's success, so a great deal of care should be taken in selecting an accountant.....**28**

Ornamental Care

Ornamentals can open up bold new business opportunities for the ambitious lawn care entrepreneur.....**43**

Cincinnati Market Report

Cincinnati is the first site of market expansion for many established lawn care companies, but opportunities for growth still exist there.....**60**

TECHNICAL FEATURES

Landscaping With Ornamental Grasses

The landscaper who is always looking for interesting plants to offer his clients should consider ornamental grasses.....**34**

Fighting Fire With Fire

Lawn care operators with chemically-sensitive clients may want to offer them a program of biological control agents as an alternative to chemicals.....**44**

Drop Spreader Complications

Researchers at Louisiana State University have found that drop spreader rates are affected by the speed of application.....**47**

DEPARTMENTS

Advertiser's Index.....	69
Calendar.....	6
Classifieds.....	68
Inside Story.....	13
Letters.....	14

News in Brief.....	16
People.....	26
PLCAA Update.....	25
Products.....	57
Views Across The Industry.....	6



COVER

Do you have an accountant to handle your bookkeeping? If you don't have one, you might want to consider getting one. (Cover photo by Barney Taxel)

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An Important Message to the Lawn Care Operator Who Needs to Increase His Efficiency:

Now, by combining your professional expertise and the unique features of Super Trimec,[®] you can reduce your cost of weed control and eliminate costly call-backs. Let me explain...

Everett Mealman, *President*
PBI/Gordon Corporation

How does the future look for the lawn care operator?

Most market research people agree that there is virtually unlimited growth potential for the lawn care industry during the next several years. But they always hasten to add that the key to profitable growth for the lawn care operator is going to be his ability to continually increase his efficiency... and since our future at PBI/Gordon is so closely linked to the future of the lawn care operator, we are continually searching for ways to improve the efficiency of the products we supply to the industry... as well as searching the world over for molecules that we can formulate into new products which can further contribute to increased efficiency.

What is the major bugaboo that challenges the lawn care operator?

It is weed control! You know it! Let one ugly weed appear and all of your

efforts to operate efficiently are down the tubes. It can mean a call-back which, according to industry estimates, can cost up to \$60, or it can even lose you a customer which can cost up to \$80 to replace.

The old philosophy from the ag-chemical field that 70% control is *total control* just won't cut it in the lawn care industry. You cannot abide anything short of honest-to-goodness total weed control. But by the same token you've got to achieve it within the framework of a program that still leaves you a profit.

Thus your goal is the lowest possible cost per acre for immaculate, weed-free turf that can be achieved without call-backs.



And this is precisely why our research scientists at PBI/Gordon spent so many years searching for the elusive formula that could combine different esters with the ability to form a complex with dicamba and hold it firmly in place... the formula that is now known as Super Trimec.

There's no doubt about it: dollar for dollar and acre for acre of immaculate weed-free turf, Super Trimec is the most efficient post-emergent broadleaf herbicide on the market... period!



ONLY PBI/GORDON



"One of the nice things about a morning constitutional is encountering a lawn service company out beautifying the neighborhood. Here I am, at the crack of dawn, watching a Suburban Lawn and Garden operator treat a lawn. Suburban has a very successful lawn service company and Don Tannahill, Suburban Liquid Lawn Manager, insists that Trimec is an important factor

in their success. He says that Suburban customers want nothing short of immaculate weed-free turf, and that Suburban management wants nothing short of worthwhile profits. Accordingly, Suburban uses Trimec to be sure both sides are happy."

Everett Mealman

Does this mean that Super Trimec is even more efficient than the old-reliable Classic Trimec?

Yes sir, that's exactly what it means. But let me make one thing clear. Super Trimec is not for amateurs. It's a professional product that needs to be handled in a professional manner. And, to express its maximum efficiency, it needs to be applied evenly at a rate that doesn't exceed label directions per acre.

So what about Classic Trimec? Will PBI/Gordon continue to make it?

Indeed we will. There's still a time and a place for Classic Trimec, just as there is still a place for 2,4-D. And because you're a professional, you'll know the time and the place to use both products.

Furthermore, we will continue our ongoing efforts to further improve the effectiveness of Classic Trimec and further reduce its cost.



Ask for Samples of these New Products from PBI/Gordon

Among the new products that have been developed and thoroughly tested by PBI/Gordon, and are now ready to help the Lawn care operator improve his efficiency are Ferromec™, a sprayable iron that produces turf

green-up within 24 hours, and Bov-A-Mura®, a natural organic activator that turns thatch into humus.

You'll be reading about these new products in the trade papers. But in the meantime, if you would like to have samples of them, simply write to us or call.

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Ask for Customer Service Department.

Inform us of bids to be let.

We will furnish detailed specs and names of distributors serving your area.

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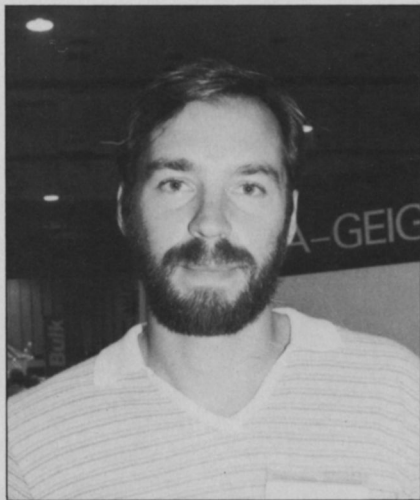
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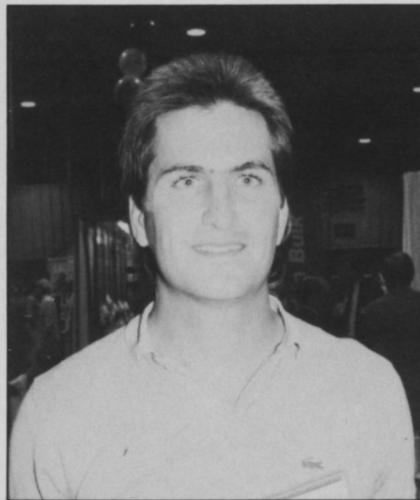
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VIEWS ACROSS THE TURF INDUSTRY

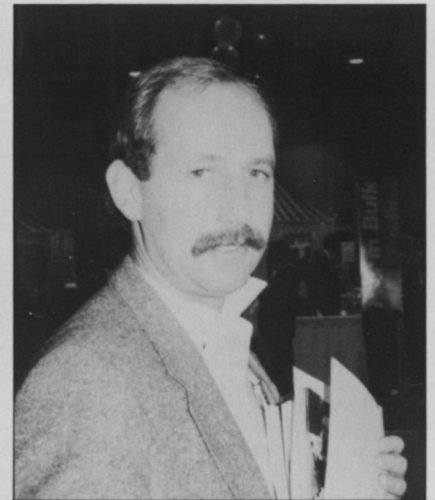
HOW IS BOOKKEEPING HANDLED BY YOUR FIRM?



"We have a CPA who handles our monthly statements and tax forms. Everything else is in-house. Our computer system works very well at handling accounts receivable and customer information. For a long time I did it all myself. That got to be too complicated and took too much time, and eventually I found it was impractical." — **Greg Worrell, Down-To-Earth Lawnspray, Detroit, Michigan.**



"We do all of our own bookkeeping in-house. Our company has an outside CPA who does our quarterly and year-end statements. Our accounting has not always been handled this way. We were on an annual basis, then we went to quarterly and now we're on our own with in-house monthly statements." — **James Zapushek, Getz's Edgemore Nurseries, Morton, Illinois.**



"We are just computerizing our program, so the day-to-day accounting is done with the aid of a computer by in-house personnel. And then we have on staff CAs, which you call CPAs, to do the monthly statements. We use an outside company only for the submission of our income tax." — **John Robinson, President, Green Drop, Ltd., Calgary, Alberta, Canada**

CALENDAR

Apr. 23

CLCA Business Seminars, Long Beach Convention Center, Long Beach, California. Contact: Micheyl Hannon, CLCA, 2226 K Street, Sacramento, California 95816; 916/448-CLCA.

Apr. 23-25

CLCA Landscape Industry Show, Long Beach Convention Center, Long Beach, California. Contact: Micheyl Hannon, CLCA, 2226 K Street, Sacramento, California 95816; 916/448-CLCA.

Apr. 25-26

Seventh Annual Texas Wildflower Day, Texas Woman's University, Denton, Texas. Contact: Texas Woman's University, P.O. Box 22675, Denton, Texas 76204; 817/566-2250.

May 1

Professional Grounds Maintenance Tour, Atlanta, Georgia. Contact: Dr. Gilbert Landry, Jr., Extension Agronomist-Turf, Extension Agronomy Department, University of Georgia, Athens, Georgia 30605; 404/542-5350.

May 21

North Carolina Turf and Landscape Field Day, NCSU Turf Field Center, Raleigh, North

Carolina. Contact: J.M. DiPaola, Box 7620, North Carolina State University, Raleigh, North Carolina 27695; 919/737-2657.

July 28-30

Expo '86, Kentucky Fair and Exposition Center, Louisville, Kentucky. Contact: Cheryl A. Van Vliet, The Outdoor Power Equipment Institute, Inc., 1901 L Street NW, Suite 700, Washington, D.C. 20036; 202/296-3483.

July 29-31

National Fertilizer Solutions Association Mid-Year Dealer Conference "Round-Up," Hyatt Regency O'Hare, Chicago, Illinois. Contact: Bob Wanzel, National Fertilizer Solutions Association, 10777 Sunset Office Drive, Suite 10, St. Louis, Missouri 63127; 314/821-0340.

Aug. 12

Turf and Ornamentals Field Day, Georgia Station, Griffin, Georgia. Contact: Dr. Gilbert Landry, Jr., Extension Agronomist-Turf, Extension Agronomy Department, University of Georgia, Athens, Georgia 30605; 404/542-5350.

Aug. 20

Turf Research Benefit Golf Tournament, Golf

Club of Oklahoma, Broken Arrow, Oklahoma. Contact: Michael P. Kenna, Extension Turf Specialist, Cooperative Extension Service, Oklahoma State University, 335 Agricultural Hall, Stillwater, Oklahoma 74078; 405/624-5404.

Sept. 20

Oklahoma Turf Research Field Day, Lincoln Plaza, Oklahoma City, Oklahoma. Contact: Michael P. Kenna, Extension Turf Specialist, Cooperative Extension Service, Oklahoma State University, 335 Agricultural Hall, Stillwater, Oklahoma 74078; 405/624-5404.

Nov. 2-6

Sixteenth Educational Conference of the National Institute on Park and Grounds Management, Louisville, Kentucky. Contact: National Institute, Box 1936, Appleton, Wisconsin 54913; 414/733-2301.

Nov. 17-20

1986 Professional Lawn Care Association of America Annual Convention, Baltimore Convention Center, Baltimore, Maryland. Contact: Jim Brooks, Executive Vice President, PLCAA, 1225 Johnson Ferry Rd. NE, Suite B-220, Marietta, Georgia 30067; 404/977-5222.



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But no more.

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WARNING

HARMFUL OR FATAL IF SWALLOWED

STATEMENT OF PRACTICAL TREATMENT

If swallowed — Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to unconscious person. Get medical attention.

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NOTICE TO PHYCIANS — Contains a cholinesterase inhibitor. Use with caution in patients with conditions which may be aggravated by cholinesterase inhibitors. For more information, consult the product label.

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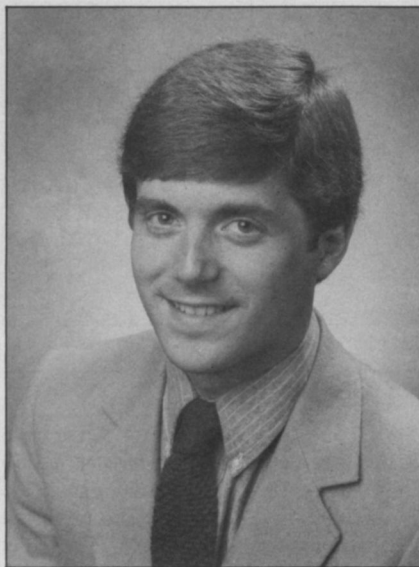
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INSIDE STORY

In this month's cover story, "Keeping The Books," Assistant Editor Vivian Rose tells us how a lawn care businessman should gauge his accounting needs. What type of accountant do you need for your business? What accounting information should you be compiling in-house? What services should you expect from your in-house accountant? These questions and more are answered in this article.

Last month we travelled to Cincinnati to check up on the lawn care operations of some of the Queen City's favorite sons. We managed to touch base with several businessmen operating in different sectors of the city to get a complete picture of the lawn care environment in Cincinnati. The city is known as one of the oldest lawn care markets in the country, second only to Columbus, Ohio.

Despite its status as a "mature" market, Cincinnati lawn care operators agree that their city is far from saturated. Hedges against saturation abound in Cincinnati. One businessman cites increasing identification with lawn care as a status symbol among young, upwardly-mobile homeowners. Another notes that he has recently picked up accounts in areas that were previously considered saturated.



Yes, lawn care is thriving in Cincinnati.

For those of you who would like to get a few more bucks from each account, we have an article on ornamental care. Many operators who offer lawn care have found they can bring in supplemental income by offering their customers tree and ornamental care. If you have an existing customer base that is satisfied with your

lawn care services, chances are they will be receptive to your attempts to sell them tree and ornamental care as well.

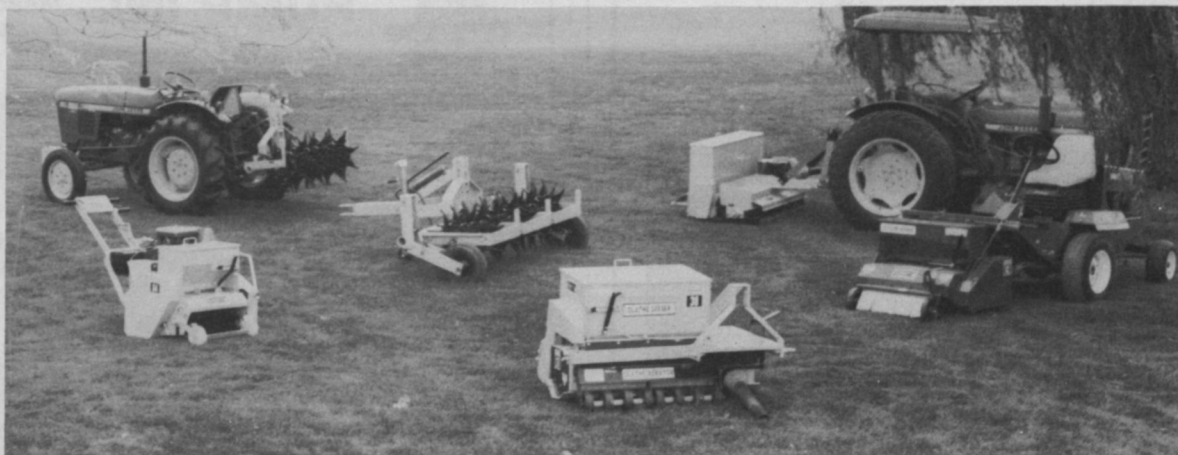
And, as always, we have an informative selection of technical features. In "Landscaping With Ornamental Grasses," author Richard A. Simon, Bluemount Nurseries, Inc., Monkton, Maryland, tells us about several species of ornamental grass that make excellent landscape plantings. "Fighting Fire With Fire" was written by Drs. Richard Hurley and C. Reed Funk, Director of Research at Lofts, Inc. and Professor of Turfgrass Breeding at Rutgers University, respectively. This article concerns the use of biological control agents like endophytes to control insect pests in turfgrass. In "Drop Spreader Complications," author Richard L. Parish of the Agricultural Engineering Department, Louisiana State University, informs us that speed affects drop spreader application rates. Enjoy!

Jim Weidner

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LETTERS

NEW LAWN CARE CONCEPT

Turf Technicians is a chemical lawn and tree care company in Wichita, Kansas. We receive your publication and find it both informative and educational. Our company is six years old and employs eight full-time and three part-time employees. We would like to share with your readers a new concept in professional lawn and tree care.

We feel it necessary in our industry to educate and inform our customers and the public. We at Turf Technicians are now operating a mobile soil test lab. Our mobile lab is used in testing each of our customer's soils. The lab is operated by a graduate student from Kansas State University's Agronomy Department. Our customers' response has been good; they like having the chance to talk to an agronomist about their lawn.

Our soil test consists of each of the micro and macro nutrients, soil pH, and soluble salts test. It is equipped with a Fisher medical microscope used for iden-



Interior of mobile lab.

tifying parasites and fungi. We also have a turf evaluation trial grown in 1,000 milliliter beakers under grow lights. This is helpful in showing customers the cultivars grown in our region. The lab is equipped with a 110-volt generator to power the microscope, centrifuge, and grow lights.

Raymond A. Cody
Turf Technicians
Wichita, Kansas

YEARLY CONTRACT GUIDELINES

I am a landscape maintenance contractor. My customers consist of mostly commercial clients. I was reading an article your magazine had printed in the April, 1985 issue. It was your cover feature on industrial lawn service. My services include mowing, pruning, hedge trimming, and fertilizer application to lawns and flower beds. I'm looking to become more diversified to better meet our customers' needs. My question is, can you supply me with information on getting some yearly contract guidelines to cover complete landscape maintenance, mowing, weed control, etc.?

Joseph F. Bush
Garland, Texas

We can only suggest that you contact the American Landscape Contractors Association (ALCA) at 405 N. Washington St., Falls Church, VA 22046; 703/241-4004. They should be able to point you in the right direction. Ed. ■

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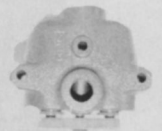
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— Robert Leesley
 Ronning Landscaping
 Scottsdale, Arizona



About The Author ...

Joe Marsh is past president of Environmental Care, Inc., where he managed 300 employees and provided landscape maintenance services in four states. He is a private consultant and featured speaker at industry conferences throughout the United States and Europe.

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NEWS IN BRIEF

HOME MECHANIX MAGAZINE PERPETUATES NEGATIVE IMAGE

If you haven't seen the March issue of *Home Mechanix* magazine, you had better run down to your local newsstand and pick up a copy as soon as you have finished reading our April issue. The cover story in this particular issue is titled, "The Lawn Care Scare." The title alone should give you an indication of where *Home Mechanix* is coming from.

The magazine's stated objective in publishing the article is to help consumers examine the risks involved in hiring the services of a professional lawn service. The writer of the article, Contributing Editor Sherry Romeo, was kind enough to note that she wasn't trying to put any lawn care operators out of work by writing this article. "The reason for this article is not to drive anyone out of business, but to make clear the possible dangers that exist for anyone exposed to poisonous lawn chemicals — especially children — and to point out the viable alternatives to a concerned homeowner," says Romeo.

The article is too lengthy to analyze paragraph by paragraph, but we thought you might like to read some passages that caught our attention:

•"Organophosphates, which can cause severe illness, are so potent that you need not have a cut or abrasion for them to invade your body (but a cut does make it easier). Just walking on recently treated areas can make you sick because these pesticides are so powerful."

•"However, the possibility that there's a disaster in the making before our very eyes isn't necessarily far-fetched. Consider that it took years for the potentially harmful side effects of the defoliant Agent Orange to be discovered — and that the pesticide 2,4-D, a mainstay in the chemical lawn spray industry, contains one of two components that make up Agent Orange."

•"A homeowner buying a green lawn is willing to pay for it. If more pesticide makes it greener...there's no incentive to use less," says William Eichbaum, assistant secretary for environmental programs in Maryland's Department of Health and Mental Hygiene."

•"Contaminating the water supply is one of the most serious problems resulting from the use of lawn treatment," says Dr. (Theodore) Goldfarb (an environmental

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chemist at State University of New York (SUNY) at Stony Brook), "and is the principal contributor to nitrate pollution in many suburban areas."

•"The Council on Hazardous Materials, of Cleveland, advises homeowners to make sure lawn services spray on calm days; avoid exposing yourself, family, pets, etc., to the chemicals; and to remember that it takes seven to 10 days for the chemicals to soak into the ground. In short, keep off the grass."

The article concludes by saying that the alternatives to hiring a lawn spray service include doing it yourself or hiring a

member of a nebulous group the author refers to as "professional gardeners," whom the author implies are more professional than lawn care operators. After reading the article, we began to wonder what effect it might have on the lawn care industry at large. To satisfy our curiosity, we contacted some lawn care businessmen around the country.

To our surprise, everyone we talked to had either not seen the article, and therefore not had it brought to their attention by anxious customers, or had read the article and also had not been contacted by concerned customers. Glenn Scherzinger, President of Scherzinger Lawn

Care, Cincinnati, Ohio, read the article and, like us, had anticipated a strong reaction from his customers. Instead, he didn't receive a single call. "People have really grown to trust a lot of things," reasons Scherzinger. "There is a lot more hype out there. Those people who are really concerned about pesticides won't have lawn care people come out."

David W. Sek of Monroe Tree and Landscape in Rochester, New York, read the article, and also says he has gotten absolutely no feedback from customers. "I have not heard of anyone who has called about that article," says Sek. "From what I could see, that is really not a highly circulated magazine. If that article appeared in *Time* or *Newsweek*, I can imagine what would happen."

Like Scherzinger and Sek, Joe Motz, President of Motz Lawn Care, Inc., Cincinnati, Ohio, read the article, but has not received any phone calls about it. "I have talked to other firms in the area that have gotten none either," says Motz. "Things like that surprise me. We expected to get a considerable amount of calls on that."

The *Home Mechanix* article has also been read by some of the heavy hitters associated with the lawn care industry and the magazine has or soon will be getting

some heated correspondence. Jim Brooks, Executive Vice President of the Professional Lawn Care Association of America (PLCAA) has responded to the magazine about the article. Brooks says Union Carbide has also submitted an official response. "In *Turf Talks* (PLCAA's newsletter), we're urging every individual who hasn't seen it to get a copy and determine on their own whether or not they wish to respond," says Brooks.

We would also suggest that you get a copy of the March issue of *Home Mechanix* and decide if it is worth a letter to the editor. If the issue is no longer on newsstand shelves, you can probably find it on the back issues shelf of the periodicals section of your local library. If you find that all your sources have dried up, write to us for a photocopy of the article itself: ALA Magazine, 4012 Bridge Avenue, Cleveland, Ohio 44113.

GROWING YOUR OWN ARTIFICIAL TURF

The grounds maintenance crew at Brigham Young University's Cougar Football Stadium in Provo, Utah has

come up with a unique method to shield the stadium turf from heavy use during football season, according to a report in *USA Today*. Workers mixed 400 pounds of green nylon yarn into the soil in hopes that it would reduce wear and tear on the turf. The nylon was spread on the top and worked in with an aerator.

PESTICIDE PUBLIC POLICY FOUNDATION REPORT

The Pesticide Public Policy Foundation (3PF) reported some new developments on the regulatory battlefield in its recent newsletter. The Foundation reports that two measures in the Florida state legislature regarding underground storage tanks will be introduced during the 1986 legislative session. Both measures are aimed at secondary containment. However, the house measure addresses petroleum and pesticide products while the senate measure is limited to petroleum products.

In Maine, legislation is pending which would increase the maximum fines for the misapplication of pesticides from \$500 to \$10,000. Maryland's House Bill 1493,

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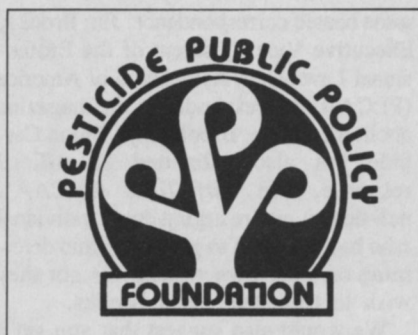
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preempting local governments from regulating pesticides, has been assigned to the Environmental Matters Committee. An initial hearing is expected in the near future. On the other hand, Maryland House Bill 1542, establishing a statewide notification system for pesticide applications, has also been assigned to the Environmental Matters Committee. As drafted, HB 1542 would require posting on an application site 48 hours in advance of the actual application and posting following application. In addition, written contracts with customers regarding the pesticide used, active ingredients, and safety precautions would be required.

In Massachusetts, prior to approval of an applicator's license, the applicator must show proof of pollution liability insurance coverage. As a result of the lack of insurance availability, the Commissioner of Agriculture extended licenses expiring December 31, 1985, through the month of January. Users are now requesting the commissioner to establish a 90-day emergency order eliminating the requirement for the pollution liability coverage.

The Massachusetts State Pesticide Board continues to consider statewide prenotification requirements. The Board



is expected to schedule public hearings on an initial proposal within the near future. The Pesticide Board Subcommittee has scheduled a public hearing on the possible modification or revocation of the registrations for products containing: alachlor, atrazine, bromacil, carbofuran, cyanazine, dacthal, dinoseb, metolachlor, metribuzin, and simazine.

Milford, Michigan, a suburb of Detroit, enacted a local ordinance in January requiring notification to chemically sensitive individuals and posting after lawn treatments. The ordinance also provides for an annual registration fee for commercial applicators, posting requirements in commercial or public buildings after applications, and fines for violations. The

Attorney General has indicated that the ordinance is not valid, while the State Department of Agriculture has indicated that the ordinance is preempted by state provisions.

In New Jersey, the Bureau of Pesticide Control, under the Department of Environmental Protection (DEP) is meeting with interested parties to discuss some type of proposal for statewide prenotification.

LEBANON CHEMICAL HOLDS SECOND ANNUAL CLINIC

Lebanon Chemical Corporation's Total Turf Care Division recently held its second annual lawn care clinic in Hershey, Pennsylvania. The Hershey program was similar to those held in New Jersey and New York by Lebanon in response to a growing demand in the turf industry for technical information on both current and new lawn care products.

The Hershey clinic attracted registrants from a 75-mile radius and drew almost double the attendance of last year, with over 228 lawn care, golf course, and grounds maintenance professionals

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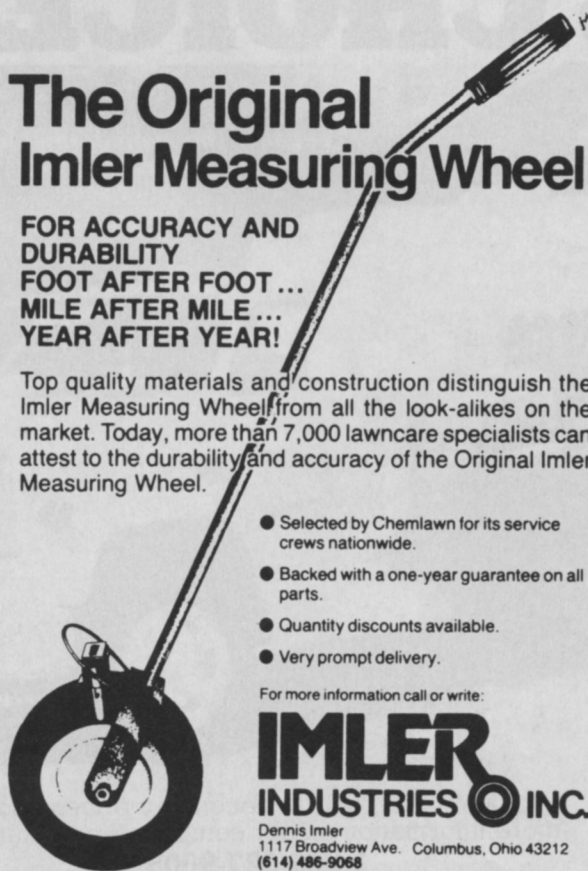
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registering. Lebanon has designed its annual clinic to give turf professionals specific information on the proper use and application of new or key products from a variety of chemical suppliers. The programs also feature guest speakers on critical issues of importance to the turf industry. Guest speakers this year were Dr. John Becker of Pennsylvania State University, who spoke on Pennsylvania's right-to-know laws and David Thompson, Pennsylvania Department of Agriculture, who spoke on pesticide licensing.

UNOCAL PATENTS NEW HERBICIDE

Patents for a new herbicide that harms neither the environment nor people who handle the product were among 69 granted to Unocal in 1985. The patented herbicide preparation, marketed as N-TAC, causes weeds to dissolve themselves in their own water, according to Dr. Donald C. Young, the scientist who developed it at the company's Fred L. Hartley Research Center in Brea, California.

"You can spray a weedy field and in 24 hours, the weeds are not just dead, they're gone," says Young. "You can use it on anything, anywhere, because it

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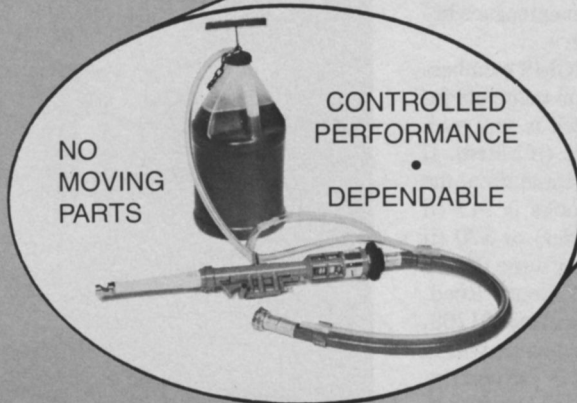
leaves no residue." N-TAC is made by combining sulfuric acid with urea. By itself, sulfuric acid causes severe burns when it touches human skin. When it reacts with urea, however, it becomes harmless to humans while losing none of its strength.

The substance was first made as a fertilizer, then modified to form a herbicide. N-TAC is sold in limited quantity by Brea Agricultural Service, a Unocal subsidiary.

PGMS PUBLISHES TWO MANUALS

The Professional Grounds Management Society (PGMS) is pleased to announce that two manuals are now available. The "Grounds Maintenance Estimating Guidelines, Fourth Edition," 20 pages, is a convenient notebook size. It includes information on cost generation, estimating worksheet, maintenance task chart, new job form, labor cost worksheet, capital cost calculations, machine cost

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worksheet, and appendices. The "Grounds Maintenance Management Guidelines, Second Edition," 28 pages, is the same size. It provides a reasonable guideline of standards of maintenance being met around the country.

Each manual is free to PGMS members and can be purchased by non-members for a price of \$9 each (if check is sent with the order) or \$12 per book (if billed). If both are purchased at the same time, the total price for the two books is \$15 (if check is sent with the order) or \$20 (if billed). To place your order, write PGMS Headquarters, 2701 Old Court Road, Suite 15, Pikesville, Maryland 21208. Another manual will be available within two months, which will cover job descriptions, contract samples, and job forms.



A small front garden from the book, *English Cottage Gardens*, by Ethne Clarke and Clay Perry.

MOBAY SOIL INJECTOR OFFER

Mobay Chemical Corporation announces a special offer of a free soil injector, a \$200 value, with the purchase of Metasystox-R2® Ornamental Insecticide. A new four-color brochure outlines qualifications for the free injector. When you buy 36 gallons or more of Metasystox, you get the soil injector free. When less than 36 gallons is purchased, Mobay offers the soil injector at a special low price, \$25 to \$75, depending on the amount of product purchased.

Approved by EPA for use as a soil injection treatment, Metasystox controls harmful aphids and mites and other sucking and chewing pests that prey on trees. The soil injection application allows arborists, nurserymen, and lawn care pro-

fessionals to treat ornamentals under adverse wind conditions without the problem of pesticide drift. The offer is limited to one soil injector per customer and expires August 1, 1986.

ENGLISH COTTAGE GARDENS BOOK DELIGHTS THE EYE

In *English Cottage Gardens*, Ethne Clarke, author of several books on gardening (*The Flower Garden Planner* and *Scented Garden* among them), and photographer Clay Perry, give a full-color tour of the English countryside. They visited a variety of gardens, from a small, overflowing garden in the Cornwall fill-

ed with a mixture of vegetables, fruits, and flowers, to the carefully manicured hedges of a manor house in Kent.

English Cottage Gardens is divided into three sections reflecting the gardener's chronicle — early summer, mid-summer, and late summer. Each section contains an introduction by Clarke with her observations on everything from gardening techniques and the progress of the garden to weather conditions and festivals.

For information on ordering the book, write Viking, 40 West 23 Street, New York, New York 10010. The price of the book is \$25.

FERMENTA PLANT PROTECTION ACQUIRES SDS BIOTECH

Fermenta Plant Protection Company has been formed and will acquire the Agricultural Chemicals Business of SDS Biotech Corporation. Heading Fermenta is R.L. Dezemmer, President. Fermenta Plant Protection Company headquarters are located in Painesville, Ohio, with manufacturing facilities at Greens Bayou, Texas; a number of subsidiary companies are strategically located in the major agricultural areas of the world, as well as several research sites.

The major product lines consist of Bravo® and Daconil 2787®, fungicides used throughout the world for disease control in agricultural and turf markets; and other chlorothalonil combination products, such as Bravo Plus® and Bravocarb®; as well as Dacthal® herbicide; Arsonate® herbicides, and Frigate® agricultural adjuvant.

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TO QUALIFY: You must show proof of a single purchase of METASYSTOX-R2 in one of the qualifying amounts. Send a copy of your invoice or receipt as proof of purchase along with a check or money order (if applicable) made payable to Mobay Chemical Corporation. Include your name and address and mail to:

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This offer is limited to one soil injector per customer. Offer expires August 1, 1986. Because Mobay Chemical Corporation has a limited supply of soil injectors, offer may be discontinued prior to August 1, 1986 without notice.

METASYSTOX-R2 Ornamental insecticide	Soil injector cost
When you buy	\$
10-15 gal.	\$75
16-25 gal.	\$50
26-35 gal.	\$25
36+ gal.	FREE (no additional cost)

SDS Biotech Corporation was recently acquired from Diamond Shamrock Corporation and Vanderbilt Development Corporation by the Fermenta A.B. interests. Fermenta A.B. is a publicly-traded Swedish company with worldwide interests in antibiotic production.

ILLINOIS LANDSCAPERS PUBLISH HANDBOOK

The Illinois Landscape Contractors Association (ILCA) has announced publication of "Your Landscape Begins With a Dream," a handbook designed to be of assistance to commercial developers and homeowners. It does this by listing possible styles, practical considerations, budgets, and other subjects that should be covered in your overall planning con-



siderations. It also directs attention to maintenance of your landscape investment by noting what a comprehensive maintenance program should include.

Those interested in obtaining copies of the handbook should call or write: ILCA, 2200 South Main Street, Suite 301, Lombard, Illinois 60148; 312/932-8443.

SCOTTS MARKETS TURF DISEASE DETECTION KITS

Agri-Diagnostics Associates, a joint venture of DNA Plant Technology Corporation (NASDAQ-DNAP) and Koppers Company engaged in the development and commercialization of plant disease diagnostics kits, announced an exclusive agreement with the O.M. Scott and Sons Company for the market introduction of a line of diagnostic kits for turfgrass diseases.

The kits, based on monoclonal antibody technology, employ an easy-to-use dipstick format, allow the accurate and early diagnosis of Pythium blight, brown patch, or dollar spot, and make possible



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more effective management of these important fungal diseases.

"This introduction represents a major step forward in the application of biotechnology to the diagnosis of plant diseases," says Steve Banegas, Agri-Diagnostics' General Manager. "Using monoclonal antibody-based reagents, the Agri-Diagnostics' kits will be used by turfgrass managers to rapidly and accurately detect fungal pathogens, allowing for better use of control products against these destructive turfgrass diseases."

TECH COLLEGE GIVEN FREE CUSHMAN EQUIPMENT LEASE

The University of Minnesota Technical College at Waseca has received free use of a Cushman® Turf-Truckster® vehicle and selected attachments for the college's horticultural technology program. The equipment is provided on an annual, no-cost lease basis through the Cushman turf equipment dealer in Minneapolis, Cushman Motor Company, Inc.

According to Jerry Nelson, landscape maintenance supervisor at the college, the vehicle and equipment is used both for



Jerry Nelson poses beside the Cushman vehicle given to the University of Minnesota Technical College.

campus turf maintenance work, and for training in the landscape and greenhouse management programs of the horticultural curriculum.

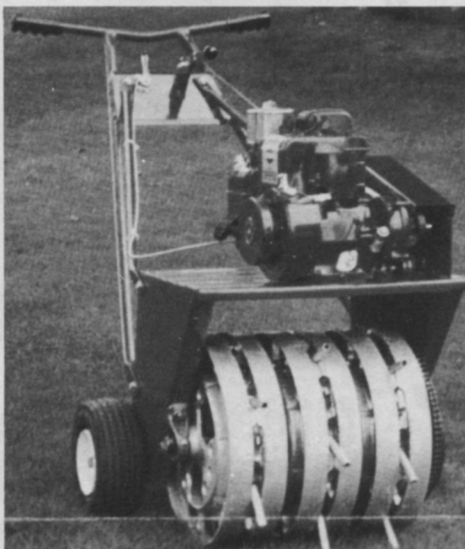
"Many of our students are on a work-study program," says Nelson, "so they get good, practical grounds maintenance experience along with their classroom

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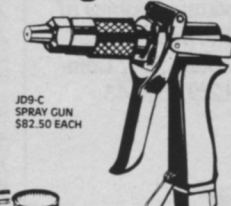
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PLEA ON BEHALF OF THE 3PF DEFENSE FUND

In an open letter to the lawn care industry, Charles McGinty, President of McGinty Brothers, Inc., Long Grove, Illinois, made a plea for continued financial support of the Pesticide Public Policy Foundation (3PF) in its ongoing legal battle with the Village of Wauconda, Illinois. The text of the letter follows:

"In 1984, 3PF took on a bold venture by filing a law suit against the Village of Wauconda, Illinois' local ordinance regulating pesticides. For the first time, business took an offensive posture in the Federal Courts against local government regulation of pesticides. And, as I'm sure you know, we won.

The District Court, which did not even have to reach our federal FIFRA preemption argument, found preemption under Illinois state law and said that regulatory uniformity was desired. The District Court struck down Wauconda's ordinance ab initio — from the beginning.

But, our court room battles aren't over. The Village appealed to the United States 7th Circuit Court of Appeals. And, they asked that the case be turned over to the Illinois State Supreme Court. As you might imagine, 3PF responded with vigor.

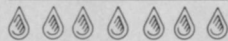
3PF argued the case ought to remain right where it is — in the 7th Circuit. 3PF also said the District Court was right in finding state level preemption. And, importantly, 3PF renewed its argument — strenuously — that federal FIFRA preemption should be found.

3PF, after reviewing its own and Wauconda's briefs, remains confident that the Court of Appeals will continue to hold our way. Oral arguments before the Court of Appeals were heard on February 26. But, just because we are making progress doesn't mean our work is yet done. Frankly put, we need to raise more money. To date, 3PF and 3PF supporters have raised more than \$30,000 for the 3PF Defense Fund. But, we need more, and here's why.

The District Court effort cost more than expected. Wauconda, we think because they realized they were in trouble, tried every legal trick-in-the-book to derail our efforts. That meant additional briefs, meetings, time and money from our side.

Now, we have the appeal. And, even though we owe Sidley and Austin \$16,000 from the District Court work, they've gone full bore on the appellate effort, which will cost \$12,000 to \$15,000. Bottom line: we're about \$30,000 down, with \$5,000 of that amount pledged to us right now.

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We need your help today. We have a court room win in hand and an excellent opportunity to solidify the victory and extend the preemptive, precedent-setting nature of the court's decision. But, we must clear our legal bills to take full advantage of the opportunity. That is why I'm asking you to join the 200-plus initial contributors to the 3PF Defense Fund with a check today. We have made an investment in getting a needed job done. We ask that you help assure gaining the dividends available. In advance, I thank you for your help."

McGinty requests that concerned lawn care operators send their tax-deductible contributions to: 3PF Defense Fund, 1270 Chemeketa Street NE, Salem, Oregon 97301.



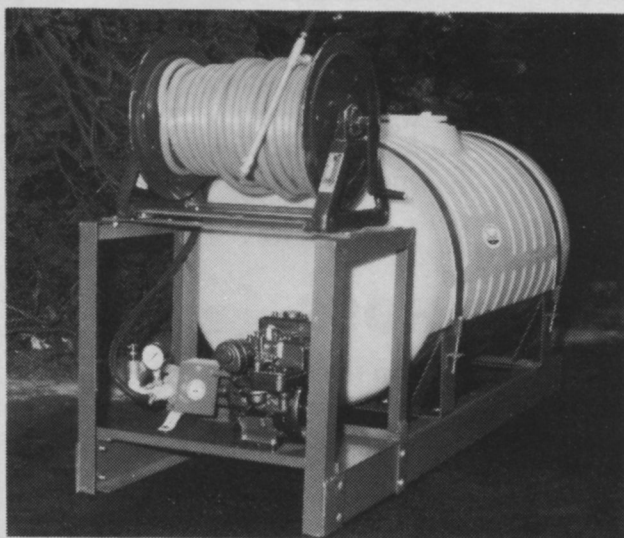
NURSERY WINS CHICAGO FLOWER SHOW MEDAL

Shanti Bithi Nursery, Stamford, Connecticut, a leading importer and grower of bonsai trees, won the Chicago Horticultural Society Flower Show Medal for their exhibition of rare bonsai at the New York Flower Show held in March.

The exhibit, titled "East Meets West," was designed by Jerome Rocherolle, a leading landscape designer and owner of Shanti Bithi Nursery.

Rocherolle displayed specimen bonsai from Japan, mainland China, and South Korea, rarely seen in the United States, including a 75-year-old, five-needle pine from Shikoku Island, among others. Traditional stone curbing defined a moss

garden and a walkway of stepping stones revealed a life-size sculpture of James Joyce sitting outside the garden. Rocherolle will feature award-winning bonsai and other rare specimens in the Bonsai World Expo, April 26 to May 10, 9 a.m. to 5 p.m., at Shanti Bithi Nursery, 3047 High Ridge Road, Stamford, Connecticut. Admission is free. For information, call 203/329-0768. ■



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PLCAA UPDATE

Peak-performing individuals are at the core of an excellent organization's success, according to Dr. Charles Garfield, the keynote speaker for the Seventh Annual Professional Lawn Care Association of America (PLCAA) Conference and Show. The announcement of the keynote speaker for the November 17-20, 1986 Conference and Show, to be held in Baltimore, Maryland, was made recently by the show planning Committee.

While other researchers were examining excellent companies, Charles Garfield was studying the people who made excellent organizations prosper. Over 18 years, in America's longest business study of its kind, Garfield identified the skills and strategies of more than 1,500 high achievers, comparing those in business to their counterparts in science, sports, and the arts; people like Lee Iacocca, Luciano Pavarotti, Carl Sagan, Ted Turner, Martina Navratilova, Peter Ueberroth, and hundreds of less visible achievers who are among the best in their



chosen fields.

Based on this research, Garfield came to two landmark conclusions: First, regardless of age, education or profession, America's most productive people share the same set of basic skills. Second, and most important, these skills are learnable. The bottom line in Garfield's research is that peak performers, whether in management, sales and marketing, or in technical positions, are made, not born.

Garfield is widely regarded as one of the world's leading authorities on achieving peak performance and productivity. Major articles by and about him have appeared in *The Wall Street Journal*, *USA*

Today, *US Association Executive*, *IBM Management*, and many other publications. He has also appeared on news broadcasts on all three major television networks to discuss his work on peak performers in business.

When Garfield was a young computer programmer on the Apollo 11 mission, he witnessed for the first time the phenomenon of peak performance: People, inspired by the challenge of putting our first man on the moon, performed repeatedly at the height of their abilities and produced at amazing levels. For nearly two decades, Garfield researched the country's top achievers through all strata of business, science, and the professions.

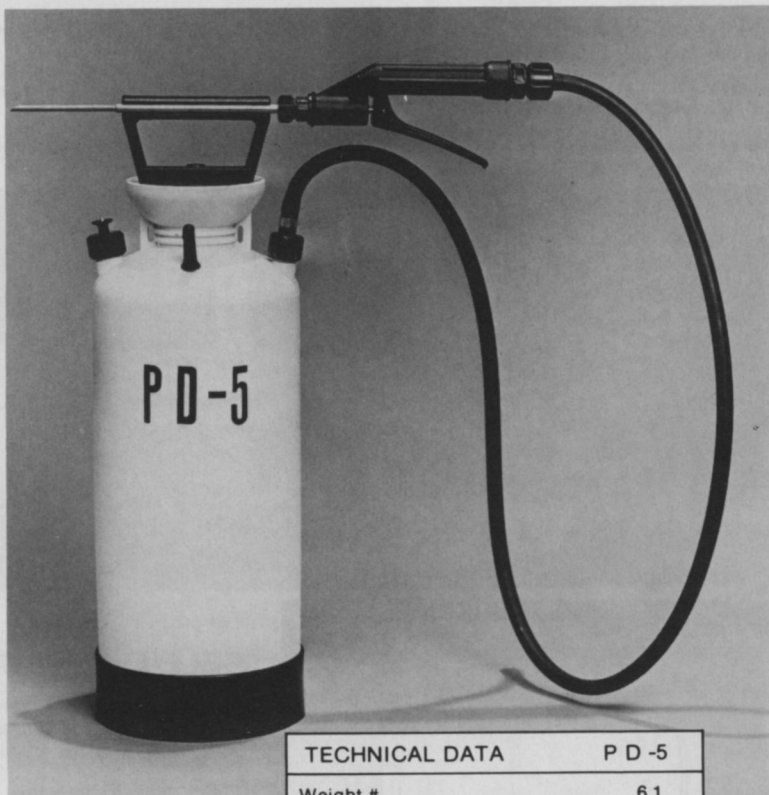
Garfield is author of *Peak Performers: The New Heroes of American Business*. It is his most powerful and comprehensive statement to date on America's most productive business people. The book and Garfield's studies will be the basis for the keynote address to lawn care professionals at the Seventh Annual PLCAA Conference and Show in Baltimore. ■

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PEOPLE

The Turf Division of Rain Bird Sales has appointed **Denyse Arles** as inside sales representative. In her new position, Arles will update Rain Bird turf distributors on product information, including product availability, new product programs, and specials. Her territory covers Arizona, California, Colorado, Hawaii, Nevada, New Mexico, and southern Wyoming. Arles has been with Rain Bird for eight years, most recently serving as Customer Service Manager.

Walter D. Ewing has been named National Sales Manager for Sensation Power Equipment, the commercial lawn care equipment division of Gilson Brothers Company. Ewing will be responsible for Sensation's sales development throughout the United States and Canada. He comes to Sensation after five years with Bunton Company as Regional Sales Manager.

Dr. Al Turgeon, former Vice President of Research and Technical Services for



James A. Fink



Fred C. Stephens

Tru Green Corporation, has been appointed professor and Head of Pennsylvania State University's Agronomy Department. Prior to joining Tru Green, Turgeon was Resident Director of Research at the Texas A M Research and Extension Center in Dallas.

Turgeon graduated from Rutgers University with a bachelor of science, and earned his masters and doctoral degrees from Michigan State University. A prolific writer, Turgeon has over 200 scientific publications in journals, trade

magazines, etc. His textbook "Turfgrass Management" is one of the most widely used textbooks on this subject in American universities and junior colleges.

In addition to performing his new functions at Penn State, Turgeon will also serve under a consulting agreement with Tru Green Corporation. He will maintain a technical advisory relationship with Tru Green through his ongoing efforts in guiding research and educational programs.

The National Arborist Association (NAA) recently installed **Robert A. Bartlett, Jr.** as President. Bartlett is President of the F.A. Bartlett Tree Expert Company of Stamford, Connecticut. A former officer in the U.S. Navy, he graduated with a degree in economics from the University of Georgia. Bartlett has served on the NAA Board of Directors since 1977.

Other new NAA officers include: **William L. Owen**, President-Elect; **George P. Tyler**, Vice President; **Walter E. Money**, Treasurer; Directors **Frank**

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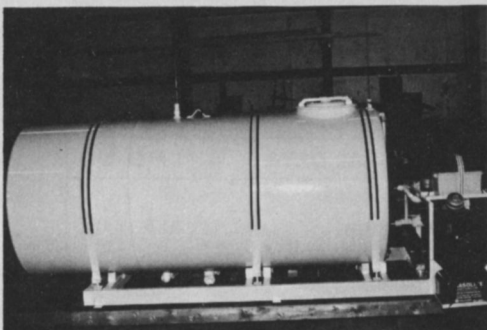
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Harder, John Hendricksen, Frank Buehe, William Heim, and David Dickson; and Neil P. Engledow; Immediate Past President.

Lesco, Inc. has named **James A. Fink** as Vice President of Operations. Most recently Fink served as Vice President of Operations for LTV Steel Tubular Products. He also served as Vice President and General Manager for the Tubular Products Division of Republic Steel from 1982 until 1984, and a district manager in Gadsen, Alabama from 1979 until 1982. He was Controller for Republic's Buffalo district from 1969 until 1974. An accounting graduate of the University of Notre Dame, Fink received an executive management degree from Massachusetts Institute of Technology. He is a member of the American Institute of Steel Engineers, the Chamber of Commerce, and the American Red Cross.

Lesco also named **Fred C. Stephens** as Manager of Human Resources and Safety Officer. For the past 20 years, Stephens also has been associated with Republic Steel and its successor LTV Steel, most recently as Director of Personnel, Bar Division. He received his MBA from Case Western Reserve University,

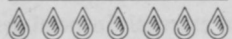


The 1985 Pennsylvania Turfgrass Council Board of Directors (left to right): Richard Morrison, Comly's Turf Farm; Steven Campbell, Aronimink Golf Club; R. William Marberger, Mid-Atlantic Equipment Corporation; Michael Rothenberg, West Shore Country Club; Barry Grote, O.M. Scott and Sons; Joseph Baidy, Acacia Country Club; Kenneth Dietrich, Lancaster Country Club; Dennis Watkins, Lords Valley Country Club; Charles Cadiz, Jr., Eagle Lodge Country Club; Robert Hudzik, Pennsylvania State University Golf Course; and Randal Zidik, Rolling Hills Country Club. Not pictured: James Kelly, ChemLawn Services Corporation; and Henry Meinert, Jr., Meinert Brothers Landscaping.

Cleveland, Ohio, and his bachelor's degree from Baldwin-Wallace College, Berea, Ohio. He is a certified compensation professional and a former business instructor at Baldwin-Wallace. Stephens

is President of the Berea High School Athletic Boosters, a member of the American Society of Personnel Administration, and the Baldwin-Wallace College Letterman's Association.

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KEEPING THE BOOKS

Financial management is one of the most difficult aspects of running a lawn care or grounds maintenance firm. But you don't have to tackle it alone. Bookkeepers, accountants, and financial consultants offer valuable services for successful record-keeping and money management.

In elementary school, arithmetic was easy — adding, subtracting, reciting multiplication and division tables. But somehow those same basic principles, the ones used today in your business' accounting program, are not so simple anymore. They translate into debits, credits, accounts receivables, depreciable assets, accrued earnings, net worth, dividends, and other fancy financial phrases. But alas, like the tutor in school who helped you through math, an accountant, bookkeeper, or financial consultant can assist in managing your financial assets.

Traditionally, most lawn care businesses start up as one-man operations or husband-and-wife teams, where one partner provides the service and the other one manages the books. Company growth eventually dictates the business' need for additional bookkeeping or accounting support. If cash is coming in faster than you can account for it, then you've lost control of the books and it's time to call for help. The question is should you hire a staff accountant or the services of an external accounting firm?

"I've found that it's different strokes for different folks," says Tom Hofer, Vice President, Spring-Green Lawn Care Corporation, Plainfield, Illinois. "You find some people that like to be much closer to their accountant and know situations very closely. You find other people that think (accounting) is just a necessary evil — the less they have to mess with it, the better."

"What we urge," he says, "is to know where your operation is at so there are no surprises. That's why you have monthly statements. If good things are happening, you know they're happening. If not-so-good things are happening, you know that, too. You don't want to wake up at the end of the year and wonder *what* happened. The whole function of accounting is to make yourself aware of what's going on dollar-and-cents wise."

Spring-Green's franchises use external accounting services. "None of them are really large enough to afford full-time accounting people on the staff," Hofer explains. In addition, he does not see the need for full-time accounting personnel when a bookkeeping system can be set up successfully with an outside firm.

The company's franchises have the option to use Spring-Green's recommended accounting firm or select their own. Either way, each franchise establishes a system where checks are coded to various expense accounts and cash receipts and sales are reported to the outside accounting firm, which extrapolates the information into monthly income statements and balance sheets. An in-house

clerical worker is usually responsible for compiling the financial data needed by the accountant.

The biggest advantage of utilizing the services of an external accounting firm, Hofer says, is cost. When compared to the alternative of paying part-time or full-time wages and benefits, it's often more cost effective to contract with a bookkeeper or accountant, he says.

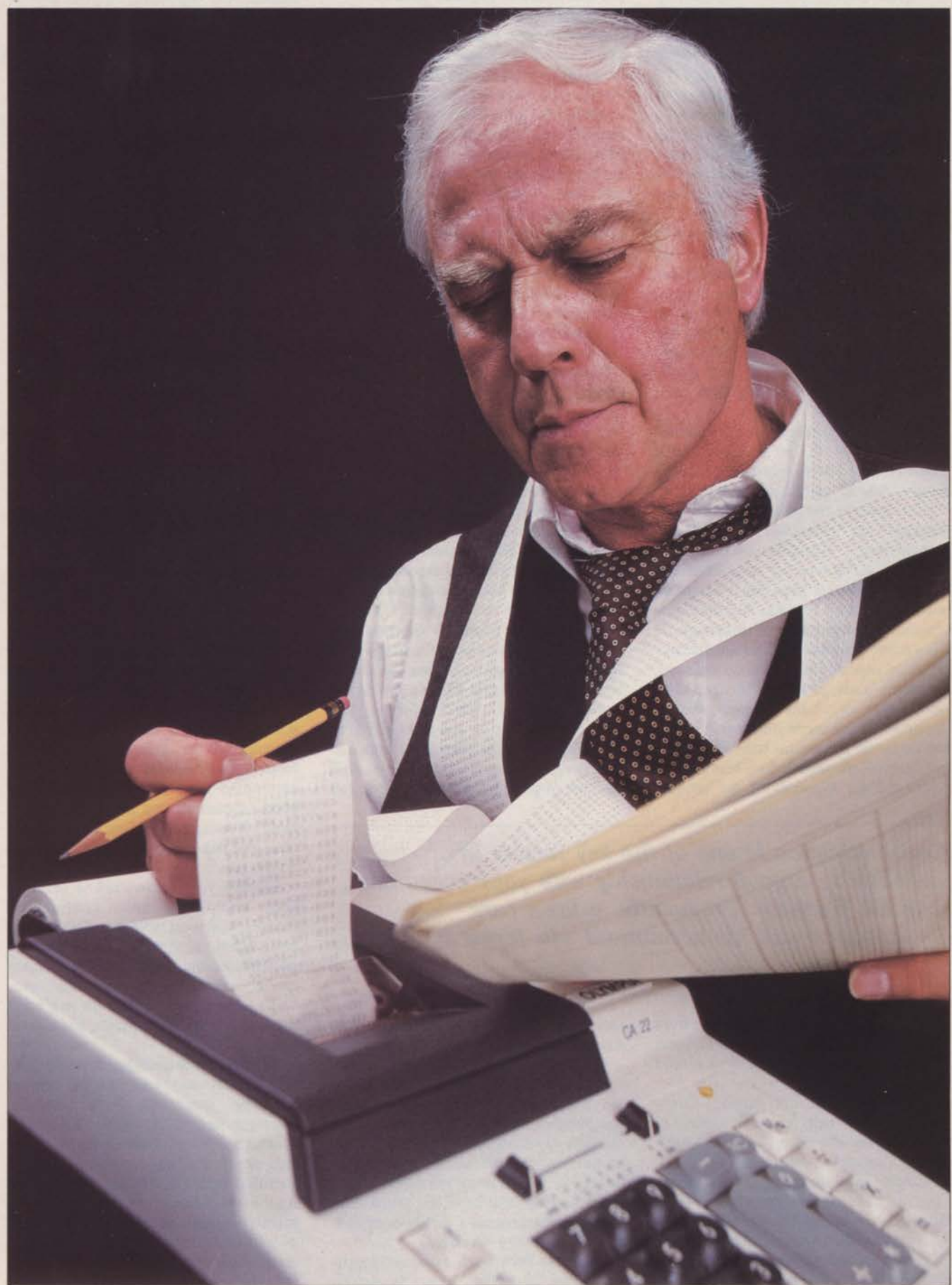
On the other hand, there's more room for error when the accounting function is moved outside the office, he adds. "The franchise (or independent lawn care company) can't just blindly accept what comes back on the financial reports. He should be looking for obvious things that are wrong," Hofer explains. For example, he should look for miscoded checks which might have been debited or credited to the wrong expense account, or depreciable assets which might have been mistakenly recorded as expenses.

Most small businesses use external financial services for some segment of their accounting program, according to one Midwestern financial consultant and accountant. "There are very few companies today, small or large, that do not take advantage of some outside certified public accountant (CPA)," says Lewis B. Frauenthal, President of Frauenthal and Associates, Cleveland, Ohio. "Laws are changing so fast and business conditions are changing so fast that no one individual can be a master of all."

Ed Wandtke, a senior consultant for All-Green Management Associates, Columbus, Ohio, believes lawn care businessmen need to distinguish between those accounting functions that are best performed in-house and those that require outside professionals. "Internally, you should be able to do your own bookkeeping, check-writing, and simple accounting (i.e. income statements and balance sheets). The time you need to go out and find professional help," he says, "is when you need to do your tax return and work on preparing your annual budgets."

"You should always go outside to have your tax return worked on," Wandtke says. "A good bookkeeper does not make a good, qualified tax person. Those are two different professions. It's like going to a dentist and going to a medical doctor — they aren't the same."

Wandtke believes financial management runs in cycles. In the start-up stage, most lawn care operators get their financial reports from a bookkeeping service and use a certified public accountant for doing their tax return, he explains. "In many cases that is a very fine combination of retaining the professionals you need for two different



types of work — tax return preparation and bookkeeping support.”

When a lawn care operator decides to hire a staff bookkeeper, his bookkeeping service often helps acclimate the new person to his or her job responsibilities. “The bookkeeping service knows where you’ve been and how you handle things,” Wandtke explains. “They often give guidance and training to the person who’s coming in to be bookkeeper.” In fact, he says, “They sometimes provide the manpower. You may find the person you recruit coming right out of the bookkeeping service.”

By the time a lawn care businessman has hired his own staff bookkeeper, his company is confronting more complex tax issues and accounting problems. Consequently, a small accounting firm is no longer the best choice for preparing his company’s tax return. At this stage, Wandtke suggests “going to a good, intermediate-size accounting firm or a regional operation.”

Once a lawn care operator is running a multi-million dollar business, he’ll discover that benefits can be obtained from a “Big 8” public accounting firm. “Those people come in and do a lot of personal tax planning and financial management,” Wandtke says.

Regardless of whether an in-house or outside accountant provides a company with its financial reports, Wandtke emphasizes the importance of timeliness. If a lawn care professional does not demand financial reports from his accountant on a monthly basis, he is missing significant information to run his business, Wandtke notes. “The more timely that information is, the greater the help. If you can get financial statements done between the tenth and the fifteenth of the month,

company. Monthly income statements and balance sheets encourage an immediate response to fiscal problems and prevent needless financial losses.

“Establish deadlines (for getting financial reports from your accountant) before you start to work together rather than complaining about (timeliness) afterwards. And make sure you give your accountant the information he needs on a timely basis,” Wandtke says. “All too often I hear people say, ‘My accountant isn’t getting me the material on time.’ And then I call the accountant and find out that his client’s not getting information to him on time either. Two wrongs don’t make a right.”

Communication is one of the key factors in establishing a good relationship with your accountant, he adds. Frequently, a lawn care businessman and his accountant will forget to talk to each other. “They talk *at* each other, but not *to* each other,” Wandtke says. “The person who’s going to be doing the bookkeeping is a confidante and a person that you’ve got to communicate with effectively. Don’t let him tell you how your accounting system has to operate. Explain to him what you want to have done and make sure that he understands it.”

Many small businessmen do not know what to expect from their accountant, and consequently do not pressure them to produce, according to Wandtke. “You’ve got to demand financials because you need them. They help you manage your business,” he explains. “Don’t be scared by the cost. If it looks like it’s getting too expensive and you can’t afford it, just look at it this way — you can’t afford to live without it. The cost of no information is just what it is — worthless. And the cost of good information means you

Young and Delana, Boise, Idaho, agrees. “You can go out and hire a good, full-chargeable bookkeeper for a \$1,000 a month. And depending on your area of the country, you can probably hire a true accountant for \$18,000 to \$30,000 a year,” he says. “No matter how dedicated an external accounting service is, it’s never going to be as good as someone who’s in the office eight hours a day.”

Another rule of thumb for determining if you should hire a staff bookkeeper or accountant depends on your lawn care operation’s volume of business. According to Bensuaski, if a company is operating more than five trucks, it probably has enough volume to hire a staff accountant. “At that point,” he explains, “the company needs to know how well they are doing (financially) on a month-to-month basis, and in some cases on a weekly basis.”

If your business isn’t ready to support its own bookkeeper or accountant and you need to contract with a bookkeeping service or an accounting firm, remember to make sure all fee information is stipulated and defined early in the relationship. “Don’t let them just bill you as the work gets done,” warns Ed Wandtke of All-Green. “Inevitably everyone becomes disgruntled with the results.” If a person knows what he’s getting for the dollars he’s spending, there are fewer conflicts, he adds.

Of course, a thorough check of a prospective accountant’s credentials is vital, be it an outside or in-house employee. “Checking references before you enter into a relationship with an accountant is as valuable as a customer checking references in the lawn care industry,” according to Wandtke. “If you’ve got a good reputation, you’ll get good referrals.” If someone’s hiding a bad reputation, you don’t want to find out about it on the job.

Because your accountant is privy to your company’s most confidential records, you must have complete faith in him. When asked what to look for in a good accountant, Cleveland-based financial consultant Lewis Frauenthal said, “The same thing you look for in a brain surgeon — trust, competence, and reputation.”

Be leery of any candidate that talks over aggressively and acts like he can do anything, forewarns Gary Jantonio, Manager and CPA, Katz, Schachter, Krause and Harns, Cleveland, Ohio. He also notes that an accountant can be qualified by his or her status as a CPA. A certified public accountant usually has at least two years of on-the-job experience as well as a comprehensive education in his field. Of course, there is a price to pay for experience, Jantonio says, noting that

Communication is one of the key factors in establishing a good relationship with your accountant, says Ed Wandtke. Frequently, a lawn care businessman and his accountant will forget to talk to each other.

you’re only (at most) 45 days away from when the transactions occurred and you can take corrective action where need be.”

For example, he says, monthly financial statements help lawn care operators identify problems in cost control, collection of receivables, generation of revenue, and other areas that are critical to running a successful business. If a businessman settles for receiving financial statements on an annual basis, he often allows accounting problems to surmount and have a negative impact on the

just have to go out and get one or two more customers to be able to afford it.”

Lawn care operators who seek accounting service outside the office will find varying fees in the marketplace. “Some people use a small, local accountant who charges anything from \$250 to \$500 a month.” Once a lawn care operator is paying \$1,000 or more per month, it’s a good indicator that he or she should hire a staff accountant on a part-time or full-time basis, notes Wandtke.

Fernando Bensuaski, a managing partner of the consulting group Bensuaski,

a CPA's services cost more than those of a non-certified bookkeeper or accountant.

A person with accounting experience in the lawn care field, or a similar service industry, is another primary candidate to consider. "Obviously it helps if the person has had good experience in some industry where you have the same type of accounting," explains financial consultant Fernando Bensuaski. And for the lawn care industry that means high volume with low invoices.

"Talk to former employers to see how the accountant works under pressure," Bensuaski says, "because with a lawn care company the volume is very large." There are a lot of little transactions.

In addition to technical knowledge and the ability to deal with a high-volume accounting system, he says, an accountant must be able to get along well with others. How a prospective accountant interacts with other staff members is important, Bensuaski notes, especially in smaller organizations. "In a small company, the controller (accountant) is going to be a key member of management. If he doesn't react well with whoever's doing marketing, branch management, or technical operations, then he won't contribute as much to the company."

Jack Mattingly, Chairman of Metroscap Corporation, Charlotte, North Carolina, had his accounting firm assist with the selection of his company's staff accountant. "We had them do interviews and verify on our behalf whether or not the applicants were technically capable," he says. "We didn't feel that we were capable of determining whether or not the applicants knew how to keep books, because we didn't know how to do that ourselves — that's why we had hired outside accountants to do it. They cut the applications down to three," he explains, "and from that point on we interviewed the individuals to see whether or not their personalities and work habits fit into our organization."

Metroscap currently employs a bookkeeper who handles payroll, account receivables, and account payables. The company also has a staff controller who's primarily involved with financial planning and money management. In addition to providing monthly income statements and balance sheets, he projects monthly cash flow and analyzes financial ratios. The only time the company works with an outside accountant is at year-end tax time, according to Mattingly.

Having a staff accountant, along with a computerized accounting program, has enabled Metroscap to plan annual budgets. "We find that most of our management now is done from these budgets. And in order to do them, we must know exactly how much each job is costing relative to expense and income,"

he notes.

The cost of each particular function within a given project must be computed, he explains. For example, is too much time spent on mowing grass? Are technicians slow on cleaning up? How do these problems affect the company in terms of dollars and cents? The staff controller can determine the answer by compiling all the data he is given on each job.

Lawn care operators will still require some service from outside accounting

When selecting an outside accounting firm, a lawn care operator must weight the pros and cons of working with small versus large organizations. There's a tendency for small accounting firms to concentrate on taxes, according to Bensuaski.

firms even after they've hired staff accountants. In addition to having an outside firm prepare their income tax, lawn care businessmen "should always have their financial statements and books reviewed by an external accounting firm once a year. Twice a year if they're growing very fast," he adds.

"The internal accounting staff could be making a mistake and not realizing it," Bensuaski explains. "They may make the mistake so often that it compounds the problem." An audit of the accounting books will help remedy such situations. And it doesn't necessarily have to be a complete audit, which is often too costly for lawn care operators. "At least have an outside CPA firm, which has a more objective view, come in and look at how you do your books," he says. "Don't mislead yourself, thinking you're actually making money when you're not."

When selecting an outside accounting firm, a lawn care operator must weigh the pros and cons of working with small versus large organizations. There's a tendency for small accounting firms to concentrate on taxes, according to Bensuaski. As a financial consultant, your accountant can help determine the financial outcome of different operational decisions you choose to make, he says. "If your accountant is a tax accountant only, all the advice he gives you is bent toward saving taxes. Saving taxes," he adds, "is not always the best thing you can do for your business."

For example, his firm often encounters businesses that pay very little in taxes, because they legally "hide" all of their profits. But when they want to buy new trucks to expand their operation or open a new branch, they're unable to find a loan from a bank, Bensuaski explains. "They might as well have paid some taxes, shown a better profit, and therefore

been able to finance their growth."

Large accounting firms, he says, will have both qualified tax accountants and financial reporting accountants on their staffs. "If you are a non-growth company, then a tax accountant is probably the best one you can get," Bensuaski says, "because you're not concerned with having to borrow a lot of money. But if you are in a growth posture, if your plans call for expansion, then I would select a larger accounting firm that has both some-

one who's good at taxes and someone who's good at financial reporting."

In addition to valuable assistance from a good accountant, a lawn care operator will find that record-keeping is a lot easier with a computer. "Now computers aren't replacements for accountants," Bensuaski explains, "but they are essential for businesses because of the speed with which they provide information. Doing planning and budgeting is almost impossible without a computer," he says. "And computers are so cheap now."

As Jack Mattingly of Metroscap already mentioned, a computerized accounting system has been instrumental in improving financial management of his company. "We find the computer has sure helped us manage better, only because we get information quicker and we get more of it," he explains.

Despite the fact that computers are rapidly becoming more valuable to the accounting function, there are still some homespun basics that lawn care operators should keep in mind when working with their accountants. "Be honest," says financial consultant Lewis Frauenthal. "Speak openly and ask for help."

Gary Jantonio of Katz, Schachter, Krause and Harns, reminds lawn care businessmen to be prepared. "Have the necessary financial material ready for review when it's supposed to be ready," he says. "Don't cause delays and try to reduce errors. Errors leave room for more errors."

And although you won't be rapped on the hand with a ruler when you make a mistake, your accounting errors could jeopardize the financial success of your lawn care or grounds maintenance company. — Vivian Rose ■

The author is Assistant Editor of ALA magazine.

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LANDSCAPING WITH ORNAMENTAL GRASSES

When we think of grasses, we usually think turfgrasses, but those of us involved in landscape installation might want to consider ornamental grasses to liven up landscape plantings.

Ornamental grasses are a group of plants which have only recently become popular, and we are finally seeing more and more of their use in both private and public landscaping. Grasses create a texture effect that is quite unique, complementing and being complemented by other textures we are more familiar with, like evergreens or typical foundation shrubbery. Grasses have a character all their own, yet because of the wide variety, each having its own distinct characteristics, there is no one specific grass texture.

Grasses are most admired during their flower display, which is generally in the late summer or early fall. But many grasses are just as valuable in the landscape for their foliage before they flower. Grasses in the winter are exciting, too, because their dried stems, leaves, and flower skeletons often persist until late winter. The only time grasses have little or no interest is in the spring, between the time the old plant parts are cut back and the new growth starts in late April or early May.

The uses of ornamental grasses in landscape are wide. Some grasses lend themselves as excellent specimen plants, either individually or in groups of three to five with adequate spacing between them so that each plant can reach its full maturity. Two varieties good for this kind of display are plume grass (*Erianthus ravennae*) and maiden grass (*Miscanthus sinensis gracillimus*). Some grasses can be used for screening, such as giant miscanthus (*Miscanthus floridulus*, syn. *M. sinensis* "Giganteus"). Some can be used in mass to create effects: Japanese silver grass (*Miscanthus sinensis*), switch grass (*Panicum virgatum*), fountain grass (*Pennisetum*



Known as maiden grass, *Miscanthus sinensis gracillimus*, grows to approximately 7 feet in height.

alopecuroides), feather reed grass (*Calamagrostis acutiflora stricta*). When used in this manner, these grasses can be considered ground covers.

The flowers of most grasses, particularly the taller ones, are especially spectacular. The flower changes dramatically as it unfolds. The flowers of some grasses go through different color changes, such as from reddish to tan or brown, as the flower dries. Another feature that needs to be mentioned is the rustling sound that the breeze creates as it passes through the foliage of the taller varieties, adding another dimension to the total aesthetic effect. If one stops to listen, the rustling sound can be very pleasing. In strong winds, the grasses will bend and sway dramatically.

The flowers of many varieties make excellent dried flowers for indoor winter bouquets. Since flowers vary



Growing up to 16 feet, *Miscanthus floridulus* is a good screen plant or background for other smaller grasses and plants.

greatly from variety to variety, a large vase of several kinds of dried flowers and leaves can be very beautiful; even a single variety can make an effective display. Dried grasses also mix nicely with other types of dried material, as commercial flower arrangers have discovered.

The grasses I will describe, variety by variety, are primarily clump growers. I believe that the best grasses for garden use are those that form tight clumps rather than those that spread vigorously by rhizomes. There are several valuable garden grasses that do spread by rhizomes, and I will indicate those. Most of the varieties of grasses require full sun. If planted in the shade, the plant just doesn't perform in a satisfactory way. The few stems that do develop are weak and flop over. The sedges, to be discussed later, are satisfactory in partial shade.

Arundo donax is a very distinct grass that grows 14 to

16 feet high. It has corn-like foliage which is very attractive from early June until the first killing frost. The flower plumes develop in September and have a reddish tint when first opened. Eventually they turn a tan shade as the fall progresses. *Arundo donax*, or giant reed, is best used as an accent or specimen plant, and is very effective in front of a stone wall or high fence. The stems will break down during the winter, and therefore, should be cut back some time after Christmas.

Erianthus ravennae, or plume grass, is a very handsome grass not only when it is in full bloom, but also before the flowers develop, and even in the fall and winter months when in the dried state. It is a tall plant, reaching a height of 14 feet when in flower, and it will develop a spread of 4 to 5 feet when mature. In June and the first half of July, the foliage remains at 4 to 6 feet. In late Ju-

ly, the flowering shoots extend until they reach full height, opening in late August and early September. When the plume first appears it is silver, changing to gray as it enters into the dried state.

Erianthus needs a lot of space, and in order to show it to its best advantage, the plants should be planted 6 to 8 feet apart. The dried flower stalks will probably need to be cut off some time during the winter, since the snow, ice, and wind will eventually cause them to break. The rest of the foliage can be left on until March.

Miscanthus sinensis, or Japanese silver grass, is a very important grass, not because it is so spectacular, but because it has produced a number of very fine varieties which are quite valuable. *Miscanthus sinensis* grows 7 to 8 feet, has dense foliage that makes an excellent screen from early June, and even the dried structure has value until the following spring. Plumes appear in September.

A special variety called "Silver Feather" is extremely worthwhile, because it blooms about a month earlier than the species. Its flowers are almost white in the dried state when *M. sinensis* and its other varieties come into bloom, thus adding interest with the contrasting flower types. One of the most amazing of all grasses is the giant miscanthus which was once considered to be a variety of *M. sinensis*, but is now given its own species name, *M. floridulus*. This grass grows up to 16 feet and makes a rather remarkable plant as a screen, or as a background for other smaller grasses or other types of plants. The plume develops in mid to late September. The winter effect is excellent because the stems are very strong, withstanding ice, wet snow, and wind. The stems will persist until early spring, and even longer unless cut back.

One of the best varieties of *Miscanthus sinensis* is the slender miscanthus, or maiden grass, *M. s. gracillimus*. It has a very neat, vase-shaped habit, narrow leaves about 1/2-inch wide, and grows about 7 feet tall. The plumes are red when they first come out. There are several variegated forms of *M. sinensis*, including *M. s. variegatus*, or variegated miscanthus. It has longitudinal stripes along its leaves and presents a bright effect in a garden. It grows only 6 feet high. There are two zebra-striped miscanthus varieties, *M. s. zebrinus* and *M. s. strictus*. The first one is a loose-growing plant that reaches 6 to 7 feet. The variegation is a yellow stripe across the leaf resulting in a speckled effect. *M. s. strictus* has the same kind of variegation, but it has a stiff habit and grows taller, reaching 8 feet or more. It is a very effective accent plant.

M. s. condensatus is another form which has great merit because it blooms earlier than the other varieties, and it has a yellowish-tan plume when it first ap-



Miscanthus sinensis grows in Ohio State University's display garden.



Feather reed grass, known as *Calamagrostis acutiflora stricta*, can be used to add color to ground covers. Its flowers first bloom in pink, then turn a straw color.

pear. This color lasts for a number of weeks into the fall. Its height is 7 to 8 feet and its texture is a little coarser because

are red. It is one of the early blooming forms, starting in August. Like all miscanthus, the skeleton of the flowers

Common names of plants create confusion among plant users, and ornamental grasses have common names that create confusion, too.

of its broader leaves.

Another valuable variety is *M. s. purpurescens*. It grows 5 to 6 feet in height and has reddish leaves developing in mid-summer. By September most of its leaves

make a nice plume effect throughout the winter, so the stems should be left on until early spring.

Common names of plants create confusion among plant users, and ornamen-

tal grasses have common names that create confusion, too. Pampas grass is a name given to several grasses, but the true pampas grass is *Cortaderia selloana*. *Miscanthus sinensis* is often called pampas grass erroneously. *Cortaderia* is a native of South America, especially Argentina, and its lovely plume makes it the showiest of all the grasses, in my opinion. Unfortunately, it is hardy only south of (and including) Richmond and Norfolk, Virginia. The plume is white when it first appears in September and is very fluffy. The foliage is slender and arching, very effective throughout the summer season. If you are working with this plant, it is important to protect your arms and hands against the sharply serrated leaves which can cause deep cuts.

One of the most valuable of all grasses, in my opinion, is the feather reed grass or *Calamagrostis acutiflora stricta*. Its maximum height is 4 feet, which means that it can be used in smaller gardens. The fact that this grass blooms in late June, while most others bloom in August and September, gives it an advantage of a longer period of interest. When the flowers first appear they are pinkish; by July they turn a straw color. The narrow dried flower, massed effectively, give special interest all summer, especially if there is a green background. After frost, the entire plant turns tan and remains interesting until late winter.

Another species of *Calamagrostis* is *C. arundinacea brachytricha*. It grows 3 feet tall and blooms in September. The flowers are like bottle brushes and are definitely pink for the first two or three weeks. The summer foliage is not too unusual, and the winter effect is not as interesting as the *C. acutiflora stricta*.

A native grass that has garden merit is *Panicum virgatum*, or switch grass. There are a number of varieties, some taller than others, and some with reddish foliage in late summer before the flower appears. *Panicum virgatum* grows 4 to 5 feet tall and develops a mound of foliage which makes it a valuable specimen plant. The flowers are loose, open panicles appearing in September. The variety "Haense Hermes" develops red foliage in mid-summer and is very handsome until frost. It only grows 3 to 4 feet tall.

One of the few rhizomatous grasses that have garden merit is *Spartina pectinata aureo-marginata*, or cord grass. It grows 4 to 5 feet tall, has a longitudinal stripe on each leaf, and flowers which are brown and 6 to 8 inches long. It is actually a swamp grass, but will grow well in normal soil.

Uniola latifolia (now properly called *Chasmanthium latifolium*, or northern sea oats) grows 3 to 4 feet tall, has rich, green arching foliage and will grow in light shade. The flowers are not as showy as

the sea oats of the Atlantic coast, but they are nonetheless a very handsome brown — as effective on the plant as in a dried flower arrangement. Actually, they are lovely green when they first appear in September. By October the dangling seed heads are dried, maintaining a nice effect through the winter if they are not subjected to heavy snows and ice.

Pennisetum alopecuroides, or fountain grass, is a very utilitarian grass that has

There are other varieties and species of ornamental grasses besides the ones I have covered. New varieties are being brought into this country from abroad. In particular, the German nurseries have for many years been growing ornamental grasses, and many of the ones we grow originally came from them. There are native grasses in our fields and woods, too, which have ornamental value.

value as a specimen plant or when planted in mass. The summer foliage is a light green, and when the flowers first appear in August they are pinkish. The maximum height when in full bloom is 3 to 4 feet, and a mature plant will have a spread of 3 to 4 feet. The flowers do not last long, perhaps until November. The winter foliage is a mound of straw-colored leaves. There are several named varieties and other species of *Pennisetum*, including *P. orientale* which is 2 to 3 feet tall and blooms earlier, in July.

Helictotricon sempervirens (synonym — *Avena sempervirens*) or ornamental oats, is a beautiful low-growing grass that has distinctive blue foliage. The height of a mature plant is 18 to 24 inches and the spread can be the same. The flowers appear in early summer, but are not of great value and soon disappear. It grows well in dry, sunny locations.

A lower growing and green foliaged grass is *Deschampsia caespitosa*, or hair grass. It blooms in mid-summer with open and airy panicles which create a light texture, nicely enhanced by a dark evergreen background. The plant does retain some green leaves into the winter, but generally the foliage has become brownish swirls by December.

A tidy little rock garden plant is blue fescue or *Fescuta ovina glauca*. It can also be used effectively in mass plantings. The height varies according to the variety, but ranges from 6 to 10 inches. When in flower in June, the flowering stems increase the overall height by 4 to 6 inches. The foliage is a good blue, a nice contrast for green foliage plants of coarser textures. Generally, it is fairly evergreen, though a severe winter can cause it to turn brown.

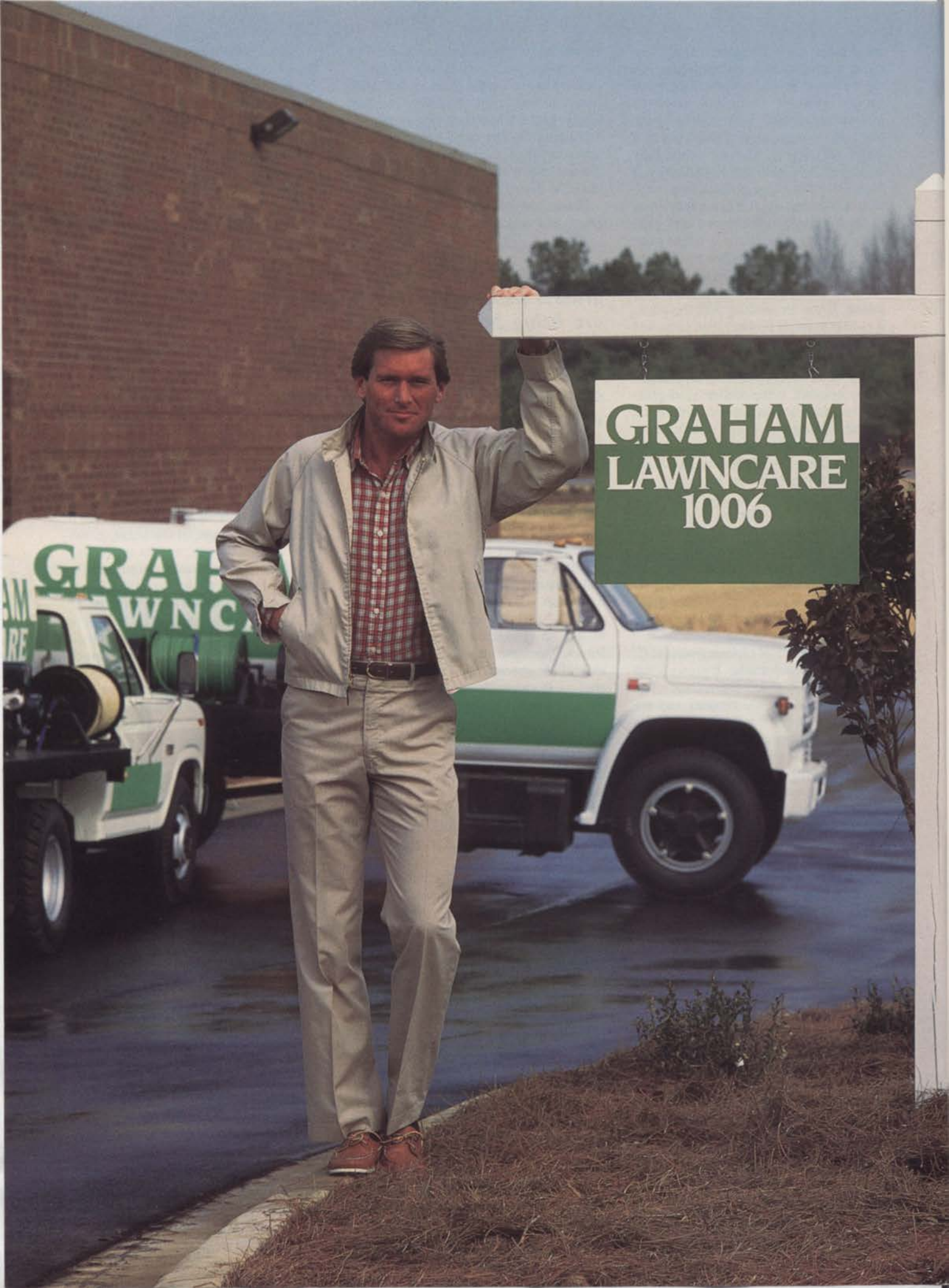
I mentioned earlier that the sedges, though technically not grasses yet similarly used, will grow in shaded conditions. There are a number of sedges, or *Carex*, which have garden merit. *Carex pendula*, or weeping sedge, grows to 18 inches and has a spread of 2 to 3 feet. The leaves are dark green; the flowers are not especially showy. It is most effective when planted in mass.

Carex muskingumensis, or palm sedge,

has a distinct foliage and interesting small, brown dried flowers. It grows 3 feet tall. *Carex grayi*, or star sedge, grows 18 to 24 inches high, and its interesting star-shaped flowers last from summer to early winter. *Carex morrowii variegata*, or variegated Japanese sedge, reaches 12 to 15 inches in height and 24 inches in width. It has a white longitudinal stripe on its leaves which are pretty much evergreen. Another species which has appeal, growing only 6 inches tall, is *Carex conica variegata*, or dwarf variegated sedge. Its leaves have a finer textured effect than the others, and their white stripes give a gray cast at first glance.

In conclusion, I need to say that there are other varieties and species of ornamental grasses besides the ones I have covered. New varieties are being brought into this country from abroad. In particular, the German nurseries have been growing ornamental grasses for many years, and many of the ones we grow originally came from them. There are native grasses in our fields and woods, too, which have ornamental value. It only takes someone with an eye for the unusual and a love of grasses to see their potential and someday enhance our gardens and parks with these species. — Richard A. Simon ■

The author is associated with Bluemount Nurseries, Inc., Monkton, Maryland. This article was reprinted by permission of the author from the proceedings of the 24th Annual Virginia Turfgrass Conference and Trade Show held at the Williamsburg Hilton and National Conference Center, Williamsburg, Virginia in cooperation with the Virginia Cooperative Extension Service.



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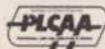
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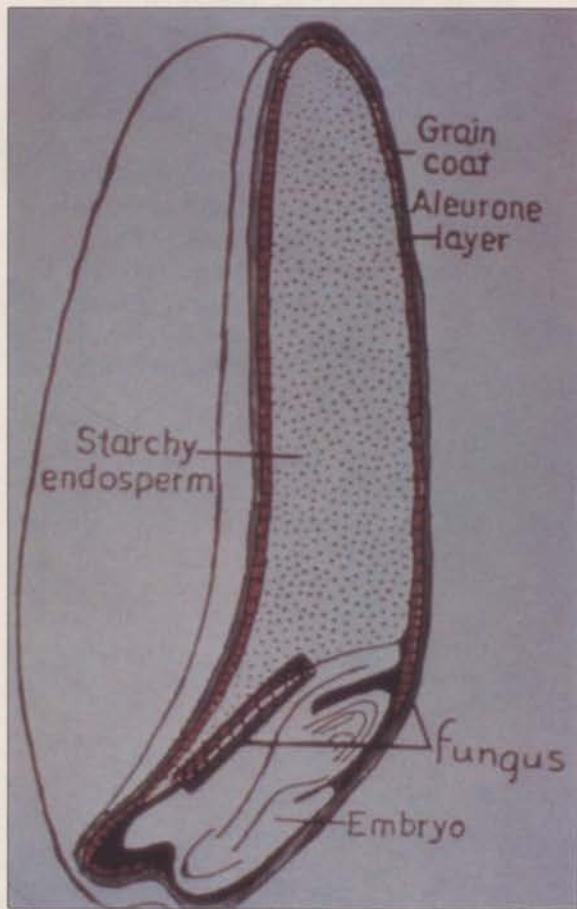


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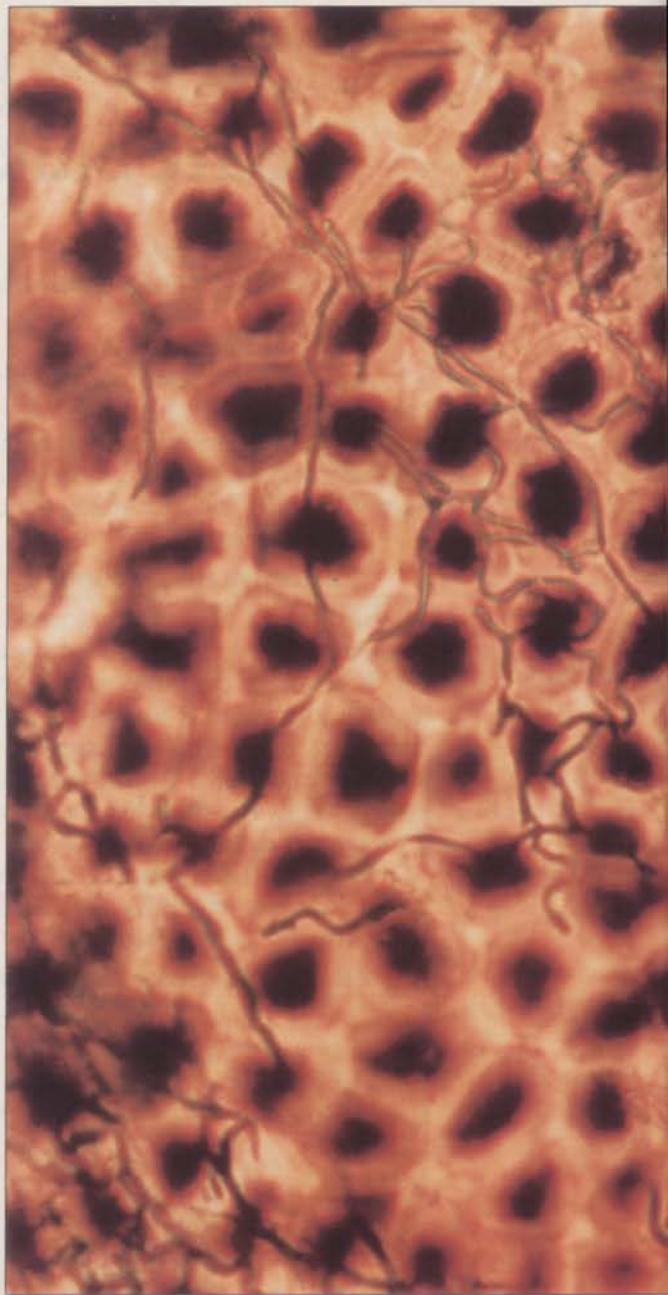
FIGHTING FIRE WITH FIRE

In the continuing battle against lawn pests, lawn care professionals may want to fight fire with fire by using biological controls such as endophytes.

Plant breeders are continually developing new plant varieties in which desirable characteristics and plant performance are optimized. Plant performance is a reflection of the sum total of many factors, including yield or productivity, appearance, vigor, resistance to weed invasion, recovery from injury, per-



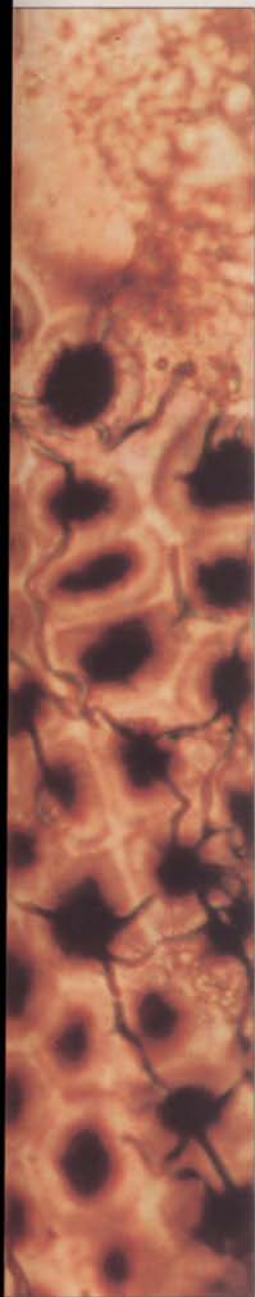
The aleurone layer of the seed which surrounds the endosperm, contains the endophyte. When the seed germinates, the endophyte grows into the seedling and continues to live in the tissues of the mature plant.



sistence, and density, and can be enhanced by improving pest resistance and tolerance of herbicides, defoliation, heat, and drought.

Resistance to insect predation is an important factor in a plant's performance. Consequently, plant breeders have sought to upgrade the insect resistance of important plant varieties. However, after a new variety providing insect resistance is developed, usually after years of painstaking breeding, insects may sooner or later evolve that are able to feed, without adverse effect, on the once insect-resistant plant. Thus, the ultimate grower of the new plant variety is faced with a number of alternatives. He can either await further development of a new variety of pest-resistant plant, or turn to chemical pesticides or biological pest control.

An alternative to the use of chemical pesticides is



The endophyte (dark, stained lines) grows in the intercellular spaces of the plant tissue and is found in highest concentrations in the lower stem and crown of the mature plant.

biological pest control. Perhaps the best known use of biological pest control is the well-publicized case of the screwworm fly. In that case, the discovery that screwworm flies mated only once led to the method whereby large numbers of laboratory-bred male flies were sterilized by X-ray irradiation. By subsequently releasing these sterile males, the females with which they mated could lay only infertile eggs.

Thus, by exploiting the known mating habits of a particular insect pest, its numbers were effectively curtailed. Another example of biological pest control includes the use of insect pathogens, such as certain lethal or debilitating insect viruses. Because these viruses are generally host-specific, the targeted insect pest can be readily controlled without harming beneficial species.

There are several advantages of biological insect pest control. First, biological controls are generally self-limiting; once numbers of the target species are reduced, so too are the biological controls. Second, biological pest controls are usually host-specific and do not attack desirable species. Finally, and perhaps most importantly, biological pest controls are most often environmentally compatible, unlike chemical pesticides which may persist in the environment and kill indiscriminately.

A "new" biological pest control has recently been recognized. Certain plants host symbiotic endo-

phytic fungi which confer, among other things, an enhanced resistance to insect predation on the host plant. For example, in perennial ryegrasses, a positive association has been demonstrated between the presence of an endophytic fungus (literally, a fungus living within its plant host) and resistance of the plant to attack by some of the most prevalent insect infestations encountered in the field, i.e., the sod webworm, the bluegrass billbug, the Argentine stem weevil, the southern armyworm, and the chinch bug.

In particular, perennial ryegrass hosting an endophytic fungus are highly resistant to feeding of the larval stages of sod webworms. Plants lacking the endophytic fungus can sustain substantial injury from feeding of sod webworm larvae. Resistance to ryegrasses hosting this fungus to feeding of the larval stages of the bluegrass billbug has

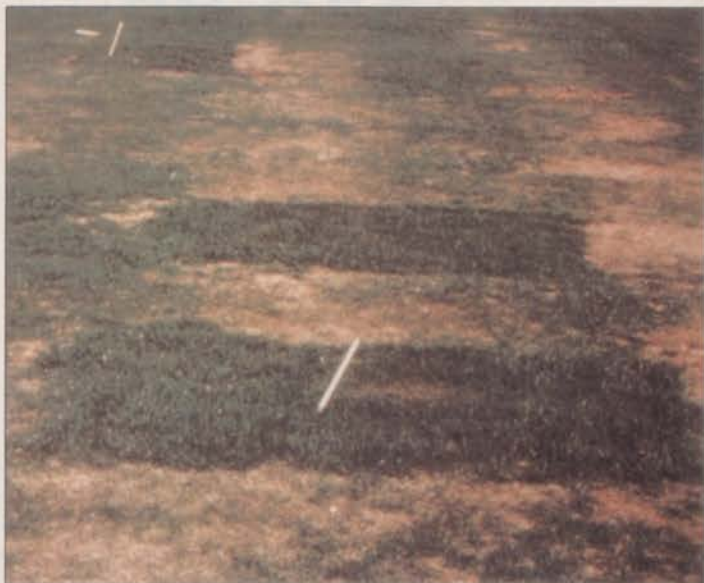
also been observed. We have also observed resistance to feeding by the chinch bug, and others have observed resistance in ryegrasses hosting endophytic fungus to Argentine stem weevil. This endophyte-enhanced insect resistance in ryegrasses to three different orders of very prevalent chewing insects provided us with a broad-based mechanism for developing new plants having enhanced performance, including resistance to these insects.

The exact mechanism of this enhanced resistance to insect predation has not as yet been identified, although it is suspected that such resistance could involve the generation of chemicals toxic to insects feeding on plants containing the endophytic fungi. These chemicals might be produced by the endophytic fungus or by the host plants themselves in response to the invading fungus. The latter mechanism may mediate a generalized resistance to

A "new" biological pest control has recently been recognized. Certain plants host symbiotic endophytic fungi which confer enhanced insect resistance.

insects feeding on plant parts having the highest concentrations of endophytic fungi or their associated toxins.

In addition to the observed resistance to predation by insects, plants hosting the endophytic fungus have displayed a certain enhanced performance which includes improved ecological fitness, a more attractive appearance, increased vigor, reduced weed invasion, more rapid recovery from injury, improved persistence, increased density, and apparently greater stress tolerance. For example, in turf trials of tall fescue and perennial ryegrass varieties and single-plant progenies established during the late summer of 1976 at North Brunswick, New Jersey, those varieties containing a high level of endophytic



*Rutgers University Perennial Ryegrass Trial - Cultivars with improved insect resistance contained the *Lolium* endophyte; cultivars that suffered from insect damage did not.*

fungus showed dramatically improved performance after seven years. Species tested included tall fescue (*Festuca arundinacea*) and perennial ryegrass (*Lolium perenne*).

These plants were more persistent, showed reduced crabgrass invasion, produced a higher yield, had greater vigor, and displayed an improved appearance. Much of this improved performance of these fungal-endophyte-hosting plants appears to be associated with improved stress tolerance, such as tolerance of herbicides, heat, drought, and defoliation. Similar enhanced performance, including resistance to the billbug and the chinch bug, has been observed for hard fescue and for chewings fescue.

The particular endophytic fungus involved in the above described insect resistance and enhanced performance in ryegrass. It has been provisionally designated the *Lolium* endophyte. A similar or identical endophyte fungus present within tall fescue has been identified as *Epichloe typhina* and was recently renamed *Acremonium coenophialum*.

The life cycles of endophytic fungi have been studied in detail. The fungus begins within the seed of the host plant, adjacent to the aleurone layer. When the seed germinates, the fungus spreads into the en-

High	Moderately High	Moderate	Low
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Pennant	Cowboy	Derby	Manhattan
Regal	All* Star	Dasher	Elka
	Premier	Pennfine	Citation
		Delray	Ranger
		Linn	Omega
			Diplomat
			Yorktown II

Endophyte levels in selected seed lots of ryegrass varieties.

dospERM, from which the developing embryo derives nutrient, and subsequently into the embryo or developing seedling. Apparently, as the seedling develops strengthening tissue and air spaces, the fungus is able to grow between the plant's cells. In the mature plant, the fungus grows into the rhizomes, leaf seed tissue, flower stem, and seeds, but avoids penetration into the roots.

As a prelude to the invasion of the fungus into its host's developing seed, the fungus concentrates its mycelia in the flower stem. As the seed develops, the fungus grows into the seed adjacent to the aleurone layer, initially avoiding the embryo. Upon germination, invasion of the embryo begins, and the fungus life cycle

continues as just described. When seeds are stored for later use, care must be taken to store them under cold, dry conditions. Long-term storage (18 months or more) of fungal endophyte-infected seed stored under normal storage practices is known to give rise to plants free of endophyte; this is due to lost viability of the fungal endophyte. — *Dr. Richard H. Hurley and Dr. C. Reed Funk* ■

The authors are Director of Research at Lofts, Inc. and Professor of Turfgrass Breeding at Rutgers University, respectively.

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ORNAMENTAL CARE

Whether you currently offer lawn care and would like to add on ornamental care, or currently offer ornamental care and would like to add on lawn care, this type of diversification can be profitable for your business.

Ornamental and tree care seem like natural avenues of expansion for the lawn care businessman interested in diversifying his operation. After all, if you are servicing a homeowner's lawn, why not sell tree and shrub care to that individual as well? We spoke with some professionals who followed this line of thinking when they expanded their line of services to include lawn, tree and shrub care.

BLANCHARD TREE AND LAWN. Dave Elias, Manager of Blanchard Tree and Lawn, Toledo, Ohio, says his company has been doing ornamental and tree care longer than lawn care. "Most companies

are in the lawn business first and then go into the ornamental care," notes Elias. "The parent company was in the tree

Elias estimates that 40 percent of his company's gross sales comes from tree care.

surgery/tree removal business for about 25 years now. In the early part of 1970, we started into ornamental care: tree spraying, tree fertilizing, and things of that nature. In 1975, we advanced into the

lawn care business."

"We saw ChemLawn doing lawns and we were already spraying trees," reasons Elias. "In the early 1970s, ChemLawn was the only one and we felt it was another way to expand the business. We were on the lawn taking care of trees, so we thought we should take care of the lawn for them. In the last three years we have evolved into a total landscape business. Now we can go on the yard and take care of any problem they have."

Elias estimates that 40 percent of his company's gross sales comes from tree care, while 60 percent of gross sales comes from lawn care. He says the ability to do all the property services a



Theodore Brickman Company operates several large cranes in their tree care division.

homeowner could ask for has done wonders for his company's bottom line. "A lot of people like making one payment a month or calling that one person with complaints," says Elias. "That is probably why ChemLawn has gone into tree and shrub care. They have such a large base of lawn customers, it was a natural diversification for them."

He admits that it took them a while to gear up for lawn care. "We had to get educated and it was a little slower when we first got started than what we wanted, but we stuck with it. We had an agronomist who specialized in lawn care

to educate everybody."

Insurance is a great hardship for the entire green industry, but Elias says that offering lawn, tree, and shrub care has not made their insurance burden any lighter or heavier. "We are trying to protect ourselves as much as possible by making sure everything is done properly. Insurance and public awareness of the dangers of pesticides are the biggest problems this industry faces right now."

MONROE TREE AND LANDSCAPE. Like Blanchard Tree and Lawn, Monroe Tree and Landscape in Rochester, New York,


also did ornamental care before expanding into lawn care. David W. Sek says his company started out as a landscape company, but now is a very large tree care company. "In the past we did a lot of landscape installation, and in the process picked up a few accounts where people wanted us to maintain the lawns after we had installed them. We did a few insecticide applications from a hydraulic sprayer on lawns, but it was not done on a large scale basis," says Sek.

When the lawn care business started growing nationwide, Monroe decided they would enter into it as well. "I came to Monroe in late 1979," recalls Sek, "and that was the first year we were going after the liquid lawn care business. It took a full season to get geared up for this type of business and even longer to refine the operation so we were doing it better than the average company around town."

Sek says the tree care business was a real sales booster for their burgeoning lawn care business. The tree care customers constituted a base which Monroe could work from to establish lawn care accounts. In the beginning, the company went after those tree care clients to make lawn care sales. "We were able to grow quite rapidly in our initial stages because we did have that base already," says Sek. "The bulk of our advertising is directed toward lawn care. Once we get the inquiry, we are able to make recommendations for lawn care; tree and shrub spraying; or any pruning, trimming, or removals that would be necessary. It has worked out nicely, in that we can do other phases of our business from that initial call."

Sek admits that insurance is a problem for his company, especially since they are working with two distinct types of liability. "When you spray trees you are shooting pesticides into the air that are obviously much more susceptible to drift. It is almost impossible to keep it from drifting onto a neighbor's property," notes Sek. "We are also in tree pruning and removal; we do trimming for utility companies around power lines. First of all, we have the pesticide exposure insurance problems and we also have the additional hazard of personal injury on the job with chain saws and chippers." He says their rates went up substantially last year.

ANTIETAM TREE AND TURF. Antietam Tree and Turf Service in Hagerstown, Maryland, does rather intensive tree work involving heavy cranes, bucket trucks, chippers, and chain saws, so they naturally have liability problems. President J. Roger Finn says his company does a lot of large tree removal and high-risk tree climbing. "The state workman's comp rate is \$15 or \$20 an hour now," says



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Naturally organic Milorganite provides all the nutrients, including iron and other micronutrients, needed for healthy strong turf... just the way you want to keep it always, and that's the pay-off in the long run.


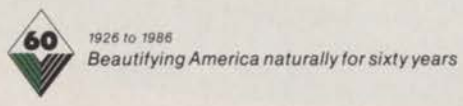
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SUPPLIES HUMUS: In addition to being the ideal fertilizer, Milorganite also adds large quantities of organic matter (humus) to the soil. Naturally organic Milorganite actually improves the plant growing capabilities of all soils and has been perceived to reduce disease incidence and the build-up of harmful thatch.

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Finn. "It is a lot more expensive than the lawn care rate or the landscape rate. On the other hand, the product liability or pollution coverage is definitely a problem in the tree business and the lawn business."

Finn says insurance is now a problem because it has become so expensive. "I have been with the same broker for about

Liability in lawn care and tree care are two separate entities. In general, when you have finished a tree care job, your liability is over, according to Gary Schambach, Evergreen Tree and Turf Care, Inc.

15 years and he has done an outstanding job for us in providing quality coverage. We considered going with some of the group associations, but we tried workman's comp just one time and we were cancelled shortly thereafter. Fortunately the broker would take us back. You don't really know how good your insurance policy is until you have a catastrophe."

Antietam started life as a tree care company 20 years ago. About 10 years ago the company branched into the lawn care business. Although a customer base had already been established, Finn says they soon found out lawn care applications and techniques were much different from the ones they already knew in the tree business.

"From the very outset we had separate departments and separate employees for each department," says Finn. "I think that is the mistake a lot of people make in this business. A lot of my friends in the tree business have tried to get into the lawn care business." He says his friends thought they could do lawn care in their spare time.

"We cover western Maryland and south-central Pennsylvania, and we saw a need for quality lawn care," says Finn. "We had been doing a lot of tree spraying, so we started with a liquid lawn spray operation. I hired a gentleman to manage the department. We bought a separate truck and another sprayer. We put out a lawn care advertising piece and started to market our services in the Hagerstown area."

Although he is sure one division helps sales in the other, Finn cannot point to one service as providing a boost to sales in the other. "Ten years ago the reason we grew was because of the tree business," says Finn. "Now we are well-known in the tri-state area for the tree and lawn business.

Some people use both and some people use one or the other."

EVERGREEN TREE AND TURF. Gary Schambach, President of Evergreen Tree and Turf Care, Inc., Savannah, Georgia, has been doing tree care since 1976. Schambach says the lawn care service evolved from customer demand. "I started in tree care as a forester," recalls Schambach. "I went into ornamental and lawn as an offshoot of a client's request."

He developed his lawn care skills under rather unusual circumstances. "We were on a big plantation account for six months and I developed all my special lawn care knowledge there," says Schambach. He says he also received help from such industry notables as Max Graham of Graham Lawn Care in Douglasville, Georgia.

Schambach says liability in lawn care and tree care are two separate entities. In general, when you have finished a tree care job, your liability is also over, according to Schambach. "With the lawn stuff, you never know if you will have a problem later on," says Schambach. "You can probably wipe out a lot more stuff in lawn care than in tree care. If you spray a whole day, you are doing 20 or 30 lawns, and it will cost you some bucks if you burn them all up." He says he has separate insurance policies for his tree and lawn care work.

BEAVER TREE AND LAWN. Robert S. Beaver, President of Beaver Tree and Lawn Service, Chesterfield, Virginia, has one policy that covers both his tree and lawn care divisions. He says he gets a better break on his premium since his company does all kinds of lawn maintenance work and therefore is classified as a

landscaper.

"I have been in the business probably 12 years, but Beaver Tree and Lawn Service has been around 4-1/2 years," says Beaver. "When I started the business, I started doing landscaping and tree surgery and a limited amount of grounds maintenance."

Like the Marines, Beaver says he is always looking for a few good men. "It is hard to find good people who will come in every day, who have driver's licenses, and some experience under their belt. We generally hire outside people for tree surgery, but we do have a couple of people we are training. They have to do tree work for about 12 months to really get experienced."

Beaver says his business has definitely profited from his ability to do all types of property maintenance work. "Folks really appreciate it when they call us and we can do everything. One of the comments we hear a lot is, 'I'm so glad you don't just spray lawns.' We can do tree trimming and design landscapes. It has helped reinforce each area."

CONCLUSIONS. Diversification can certainly be a dangerous thing if you have stretched your financial resources too thin to capitalize a new venture. But, if properly planned and executed, the addition of services like tree and ornamental care can contribute substantially to your bottom line. You may also find, like the operators we spoke with, that being able to solve all landscape problems will endear you to your customers. — *Tim Weidner* ■

The author is Managing Editor of ALA magazine.



Tools like chain saws increase personal liability risk in tree care.

DROP SPREADER COMPLICATIONS

New evidence shows that drop spreader application rates are affected by the speed negotiated by the technician.

Most turf care professionals are aware that walking speed has a major effect on both the rate and distribution pattern applied by a rotary spreader. The effects of speed on drop-type spreaders are less well known. In fact, misinformation on the topic is common. Many applicators assume that drop spreaders meter volumetrically; i.e. the application rate per unit of area is assumed to remain constant as speed changes. This assumption is apparently based on the belief that the agitator in a drop spreader carries around and meters out a constant amount of product per wheel revolution. If this were the case, the metering ports and rate setting mechanism on a spreader would be useless.

Not only are applicators themselves confused by this problem, but at least one important reference publication offers incorrect information. The USDA/EPA manual, *Applying Pesticides Correctly — A Guide for Private and Commercial Applicators*, states on page 60: "Other equipment of this type (such as granular spreaders for use on turf) needs to be calibrated only to adjust the delivery rate.

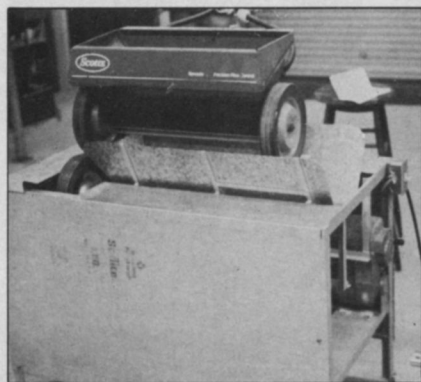


Figure 2. Scotts spreader being run on laboratory test stand.

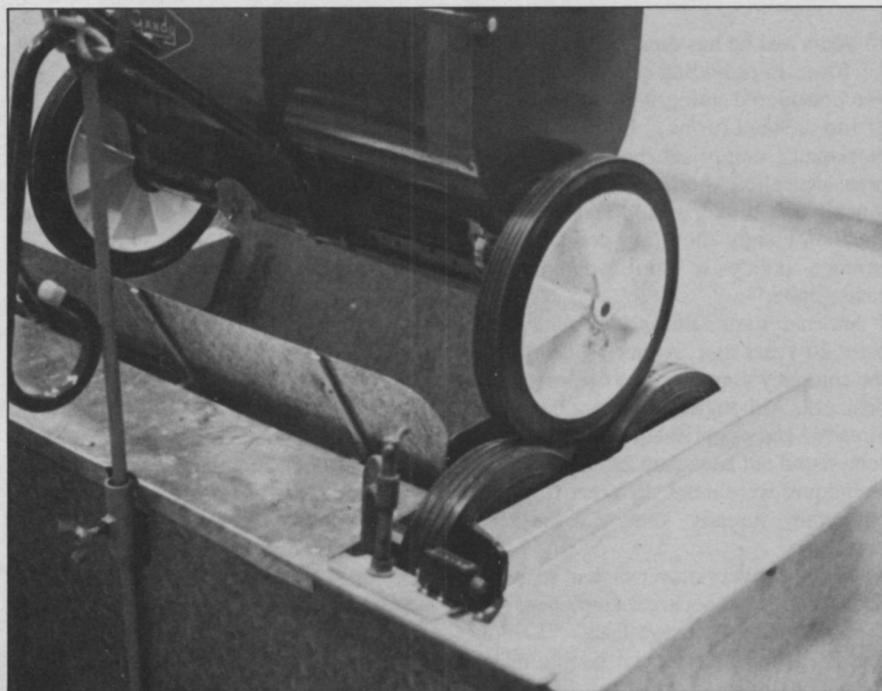


Figure 1. Gandy spreader being run on laboratory test stand.

This equipment delivers pesticide only when the wheels are in motion, and the speed does not affect the amount of pesticide being deposited per unit area."

This USDA/EPA manual is used by many states as the official training manual for certification of both private and commercial applicators. A laboratory study was conducted by the Louisiana Agricultural Experiment Station to verify experimentally the effect of speed on the application rate of drop spreaders.

PROCEDURE. Two spreaders were used for the test. One was the Gandy Turf Tender, model 24, a popular professional model. The other was a small homeowner spreader, a Scotts model PF-1. These spreaders are both conventional drop-type spreaders with full-length agitators over

metering ports in the hopper bottom. Two granular materials were used for the tests. The first was ground corn cobs, a common carrier for granular turf pesticides. The second was a common light-weight turf fertilizer.

A laboratory test stand was constructed for use in this project. The test stand consists of a table to hold the spreader in place and two rubber tires to drive one wheel of the spreader. For the test, the tires were driven by a variable speed electric motor drive. The test stand with the Gandy spreader in place is shown in Figure 1, and Figure 2 shows the Scotts spreader on the test stand.

Each of the spreaders was tested with each of the two materials over a range of operating speeds. One spreader setting was used for all test runs with each

spreader. The settings were selected to give a delivery rate of approximately 1.7 pounds per meter of product at 2.75 miles per hour. Setting 27 was used for the Gandy and 4.5 for the Scotts. Each test run consisted of running the spreader long enough to equal an area of 500 square feet. Two test runs were made at each setting and the results averaged. Speeds used ranged from 1.00 to 5.00 miles per hour in increments of .25 mph.

RESULTS. The results of the test are shown in Figures 3 and 4. In these graphs, the rate is expressed as a percentage of the rate at the "standard" speed of 2.75 mph. On each graph, two theoretical lines have also been plotted. The flat, horizontal line indicates what would happen with true volumetric metering (delivery rate per agitator revolution is constant). The other line shows what would happen with true gravimetric metering. In that case, the flow rate out of the hopper per unit time would remain constant. This relationship can be expressed by the following equation: $\text{Rate} = 2.75/\text{speed} \times 100$; where the rate is expressed as a percentage of the rate at 2.75 mph.

These graphs clearly show that the delivery rate does not remain constant for either spreader as the speed is varied. It is also clear that the metering systems on the spreaders are not truly gravimetric.

The metering system of typical drop spreaders relies on both the orifice openings and the agitator to determine the delivery rate, thus rate is a function of speed and setting.

In other words, the flow from the spreaders is not determined solely by the agitator (volumetric) or by the metering orifices (gravimetric). Both the agitator and the orifices contribute to the metering system.

These data indicate that it is definitely necessary to correct your spreader setting to compensate for application speed. If you are using spreader setting recommendations from the spreader manufacturer or the product label, you must know at what speed the settings were developed and then operate at that speed, or the recommended setting will be incorrect for you.

CONCLUSIONS. Drop spreader delivery

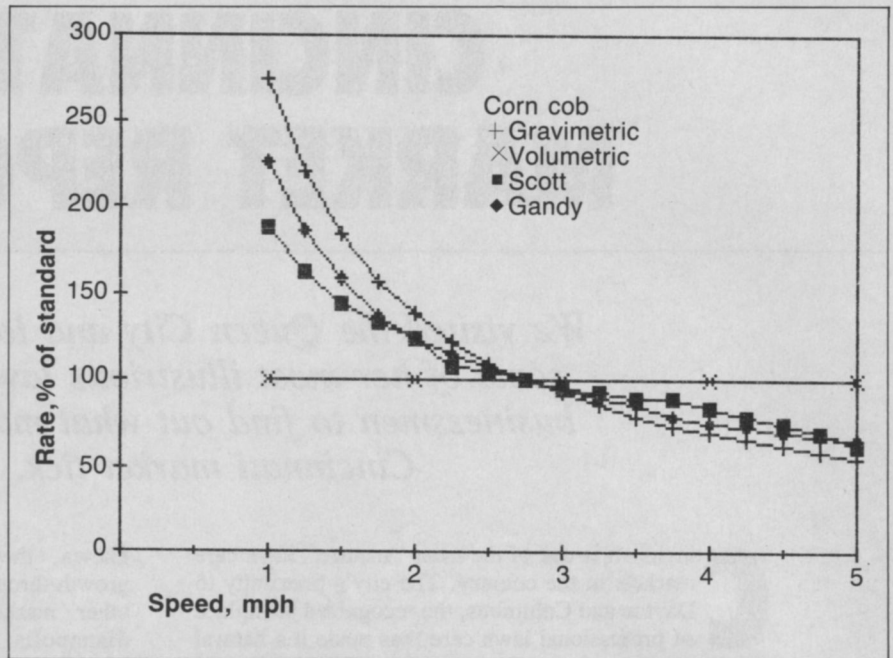


Figure 3. Graph of spreader delivery rate as a function of speed for both spreaders using corn cobs. Delivery rate is expressed as a percentage of the rate at a standard speed of 2.75 mph. Theoretical volumetric and gravimetric lines are shown also.

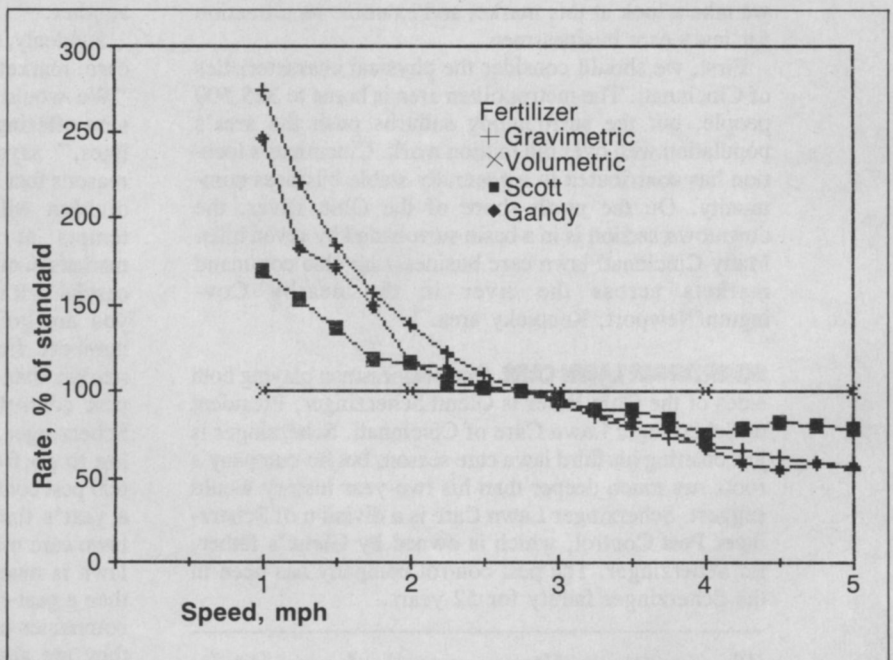


Figure 4. Graph of spreader delivery rate as a function of speed for both spreaders using fertilizer. Delivery rate is expressed as a percentage of rate at a standard speed of 2.75 mph. Theoretical volumetric and gravimetric lines are shown also.

rate does not remain constant as spreader speed changes. The metering system of typical drop spreaders relies on both the orifice openings and the agitator to determine the delivery rate, thus the rate is a function of both spreader rate setting and speed. A spreader setting that is correct at one speed is probably going to be incorrect at a different speed. — Richard L. Parish

The author is employed in the Agricultural Engineering Department of Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, Baton Rouge, Louisiana.

Reference to a proprietary product or company is for specific information only and does not imply approval or recommendation of the product by Louisiana State University to the exclusion of others.

CINCINNATI MARKET REPORT

We visited the Queen City and looked up some of her most illustrious lawn care businessmen to find out what makes the Cincinnati market tick.

Cincinnati is one of the most "mature" lawn care markets in the country. The city's proximity to Dayton and Columbus, the recognized birthplace of professional lawn care, has made it a natural site for corporate lawn care expansion. ChemLawn Corporation, the industry leader, has been established in Cincinnati since 1970. Since several lawn care businesses are firmly entrenched in Cincinnati, it seemed only fitting that we take a look at this market and examine its attraction for lawn care businessmen.

First, we should consider the physical characteristics of Cincinnati. The metropolitan area is home to 385,500 people, but the surrounding suburbs push the area's population well over the million mark. Cincinnati's location has contributed to a generally stable business community. On the north shore of the Ohio River, the downtown section is in a basin surrounded by seven hills. Many Cincinnati lawn care businessmen also command markets across the river in the nearby Covington/Newport, Kentucky area.

SCHERZINGER LAWN CARE. One businessman playing both sides of the Ohio River is Glenn Scherzinger, President of Scherzinger Lawn Care of Cincinnati. Scherzinger is just entering his third lawn care season, but his company's roots run much deeper than his two-year history would suggest. Scherzinger Lawn Care is a division of Scherzinger Pest Control, which is owned by Glenn's father, Ed Scherzinger. The pest control company has been in the Scherzinger family for 52 years.

The metropolitan area is home to 385,000 people, but the suburbs push the area's population well over the million mark. Cincinnati's location has contributed to a stable business community.

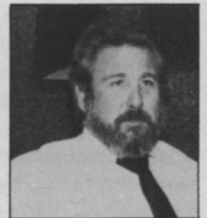
As the dominant pest control company in the Cincinnati market, the Scherzinger triumvirate of Ed, Glenn, and Glenn's brother, Steve, realized they could no longer expand their company at the rate they had enjoyed in the past. Since the Scherzinger Pest Control name is well-

known, they first attempted growth through expansion into other markets, such as Indianapolis and Columbus. However, Glenn Scherzinger says, the deals to buy pest control companies in those markets fell through for one reason or another.

Suddenly, the Cincinnati lawn care market looked inviting. "We would have new expansion offering different product lines," says Scherzinger. He reasons that having a lawn care division will make future attempts at moving to new markets in other cities more successful. "It is a proven fact that you are going to get quicker numbers from the lawn care market than you can from the pest control market," claims Scherzinger. "You are not going to go from zero to 500 or 600 pest control accounts within a year's time. You can in the lawn care market." A beautiful lawn is much easier to market than a pest-free home. Consumers seek out pest control companies only when a pest problem crops up, whereas they are always receptive to the lawn care operator's marketing message.

Having a large, established pest control operation for a parent company has helped in bankrolling the lawn care business, but name recognition has been a problem for Scherzinger. "People know us as Scherzinger Pest Control," complains Scherzinger. When he sent out his first lawn care direct mail brochures two years ago to current pest control clients, the recipients threw away the flyer, thinking it was an advertisement for the pest control service they already had. "They didn't even see the lawn care message," says Scherzinger. "The name hurt us for a long time."

But the company really wasn't hurting for long. By the end of their first season, the 1984 season, Scherzinger had



G. Scherzinger





(Above) Scherzinger Lawn Care's corporate headquarters. (Below) Scherzinger technicians participate in a training session.



picked up 400 accounts. At the end of the 1985 season, he had about 1,900 accounts. "Now we are hoping to pick up another 1,500 in this upcoming year," says Scherzinger.

Scherzinger attributes his company's growth to the solid base of pest control clients he has been able to draw upon. "A lot of our business has come from old-time customers, customers we did termite jobs for 10 to 20 years ago," says Scherzinger.

Scherzinger has set his minimum lawn service price at \$21.40 for 4,000 square feet. Other prices from his fee schedule are 10,000 square feet at \$37.45 and 15,000 square feet at \$49.60. He also gives a 7 percent discount for pre-payment.

In setting up his pricing schedule, Scherzinger says he wanted to make sure he wasn't at the low end of the market, undercutting his competitors. By the same token,

he also did not want to be the highest guy on the block. "A lot of the people above me in price have a program that offers more, such as guaranteed grub control or disease control, as part of the regular program so they should be priced a little higher," says Scherzinger. "I found out I was really outlandish in my upper lot sizes, like the one-acre and above lots. I was still going by a cost-per-1,000 formulation. I wasn't taking into consideration material costs and time advantages."

Scherzinger alternates his application format between dry and liquid treatments. "Our first round is a dry application; as we need it we will run liquid for broadleaf weed control and insecticide treatments. Our second treatment will be liquid, the third will be dry again, the fourth liquid, and the fifth dry." However, Scherzinger says certain customers are all liquid or all dry, depending upon whether they request one over the other, or if the property adapts itself better to only liquid or only dry applications.

In setting up his pricing schedule, Scherzinger says he wanted to make sure he wasn't at the low end of the market, undercutting his competitors. He also didn't want to be the highest guy on the block.

Scherzinger is currently operating three 1-ton tank trucks and one 1,200-gallon tanker. This will be the first year for dry applications, so Scherzinger has incorporated Ford Econoline vans with skid-mounted spray rigs, which were previously utilized by the pest control division. "The

vans will be able to absorb that influx of first-round customers," says Scherzinger.

Scherzinger's standard treatment package includes fertilizer, preemergents, and broadleaf weed control as needed. Chelated iron and other nutrients are also included. Insecticides are spot-applied in certain areas of the city with known insect infestations. Fungicides are not included in the standard treatment package.

Scherzinger's market covers the entire Greater Cincinnati area and he estimates that he competes with 70 other lawn care companies within the market. "There are about 25 (companies) that I consider the lawn care nucleus and the rest are either landscaping and some lawn care or lawn care and some maintenance. They keep us out of certain industrial markets, but I don't really consider them competition. I really haven't been so concerned about how many people are out there, as I have been with getting ourselves established and going." Scherzinger says he wants his lawn care company to be as big in Cincinnati as the parent company already is in pest control.

"There is enough (business) out there for a lot of us, not all of us, but a lot of us. The market can only be segmented so much. Barefoot Grass is now in town and they are going to be good competition. They seem to be strong in a lot of markets. ChemLawn and Greenlon Environmental Services are also strong here."

Cincinnati lawn care competition is generally good competition, but the first year Scherzinger lost 10 percent of his accounts to the operators he considers the cut-throats in the marketplace. "You can only sell so hard to those people. If somebody wants the lowest price lawn care treatment they can get, they are going to try them and come back. The cut-throats do hurt a little bit; they take business from all of us. They have lasted longer than I thought they would."

In his first year, Scherzinger spent most of his advertising dollars on newspaper ads. "That worked well; we got pretty good response for it," says Scherzinger. "The second year I wanted us to be aggressive and I felt telemarketing would make us aggressive in the marketplace." Since Cincinnati is one of the oldest lawn care markets in the country, Scherzinger says it is also one of the oldest staging grounds for lawn care marketing techniques.

Last year he did some outdoor advertising and he is doing it again this year with billboards throughout Cincinnati. The billboards appear on a rotating program. For two months they carry a lawn care message and the rest of the year they carry a pest control message. Each billboard runs about \$70 a month, according to Scherzinger. Added onto the price



Scherzinger Lawn Care operates three 1-ton tank trucks.

is a production charge which varies from \$15 to \$40 a board, depending on the number of colors incorporated.

Scherzinger has heard that radio and television spots are not as expensive in Cincinnati as in other markets. But radio can run as little as \$65 and as high as \$105 dollars a spot. Television ads range from a \$50 spot during an afternoon movie on an off-channel to \$340 for a 10-second spot during the 11 p.m. news. "The 11 o'clock news here is the most expensive, and yet it has less viewing than the 6 o'clock news, but more professionals watch the 11 o'clock news!" says Scherzinger.

There are certain areas where Scherzinger's market penetration has been better than others, in particular, one area of town where he thought his company would be the weakest. "The reason we were the strongest," claims Scherzinger, "is that all the other competitors never bothered it. For some reason, we found a particular area that nobody was either direct mailing or telemarketing into. They were the forgotten chosen ones and we hit on it and got a hard cluster of accounts in there."

He says his customers tend to have somewhat smaller lawns than most area lawn care companies treat. His customers average 6,000 to 7,000 square feet of lawn, whereas other companies' accounts tend to average 8,000 square feet. "We haven't hit that higher square foot market — the half-acres and the 15,000 square-foot lots — because everybody else has hit them so hard that we find it harder to make in-roads there," explains Scherzinger.

"My pricing is also a little low in the marketplace, lower than I would like to be," admits Scherzinger. "I have to do that because I have got to get in there and get customers. I am not going to chisel or cheat, but I am going to keep my pricing

a little under the market."

If any market is experiencing saturation, one would think Cincinnati would be it, but Scherzinger says only certain high-income suburbs are becoming saturated. "There are certain suburbs, the choice of the crop, that everybody is after. But I am not really terrified that there is more competition this year. I think our growth, and their (competition's) growth is still built into the market. The market is not saturated yet. I don't think it is 70 or even 50 percent saturated."

In keeping with the rest of the nation, Scherzinger has noticed an escalation in concern over the pesticide issue. "Last year the front page of the Sunday *Cincinnati Enquirer* had an article about lawn care companies killing the environment," recalls Scherzinger. "The thing I found most amazing is that they quoted a technician working for a lawn care company in town, who talked about how he was misapplying insecticides. And yet the same individual is running a landscape company in town now."

He says his company's brochures, designed to inform people of the materials applied to their lawns, are an attempt to quell customer fears. "This spring we are going to use the Dow Chemical Company and PLCAA doorhanger," notes Scherzinger. "We are trying to assure our customers that what we are doing is safe."

MOTZ LAWN CARE. Joe Motz, President of Motz Lawn Care, Inc., Cincinnati, says there has been increased awareness over the safety of lawn care applications, but he says the public is not "alarmed." However, there is increased need for education. "The customer wants to know," says Motz. "It is a part of the workers' right-to-know issue that became fairly large here in Cincinnati and was

(continued on page 52)

CINCINNATI REPORT

(continued from page 50)

somewhat politically driven. We have had very few calls, even after a piece comes out in the paper that we feel will really cause some problems."

Motz says most residents can sort out fact from fiction in scare stories. "Enough of them are level-headed enough that we really haven't seen the alarm. We have seen awareness and more questions, but they are not pointed questions." Motz has lost only one customer who claimed she was cancelling her service until she could be sure that no health or environmental hazard was present. "I sent her a considerable amount of information," says Motz. "Oftentimes that is where we make a mistake by going overboard in trying to reassure the customer and send them all kinds of facts and statistics. Sometimes that alarms them more than they were to start with."

Motz has been in business since 1979. His operation is evenly divided between commercial grounds care and residential lawn care. "The grounds care division is full-service and primarily all commercial; it entails mowing, bed work, tree work, floral displays, and lawn care is a part of that," says Motz. "The other division is strictly residential lawn care with four or five treatments per season. Five applications is the standard, with any lesser amount being an option." His minimum lawn application fee is based on \$22.50 for a lawn up to 4,500 square feet.

Motz's application format is divided between two dry applications and three liquid applications. "The summer and late fall applications are dry and the other three, which have a herbicide and/or insecticide included, are liquid," notes Motz.

Motz has five employees operating four trucks devoted exclusively to residential lawn care and up to 17 employees operating seven trucks in his commercial grounds care division. "Our main people, consisting of the foremen and crew leaders, total 11 right now," says Motz. "We are going up to 16 or 17 in April."

He attributes his 22.5 percent growth rate from 1984 to 1985 to additional services he began offering his customers last year. Starting in the fall of 1983 and into 1984, Motz began offering such cultural practices as renovation, aeration, and verticutting. The drought of 1983 encouraged customer acceptance of cultural practices.

Although Motz has tried newspaper, telemarketing, and door-to-door sales, direct mail has been his most successful form of advertising, followed by newspaper. "We are in local papers and have found that to be successful," admits Motz. "We tied that together with coupon offering in combination with direct mail."

Motz's biggest gripe with the Cincinnati market is with the cut-throat operators in the area. He says the problem has spread since a particular company initiated the tactic in the area three years ago. "It is a tactic that hurts the whole green industry," says Motz. "We can all compete along side each other if we are all competing in a fair, ethical manner. The strategy of trying to get out of a customer the amount they are currently paying and then continually baiting them with the carrot of lowering that price until they accept it is not good business."

A form of passive or unintentional cut-throating is going on in Cincinnati's commercial lawn care market, according to Motz. He says a number of commercial lawn care firms don't have a handle on their cost of offering the service. "It is not that they are out there cut-throating, it is that they don't have a good handle on what their costs are."

The commercial or residential markets are still far from the saturation point, according to Motz. However, the commercial market could be considered closer to saturation than the residential market. "Commercial grounds care tends to follow suit with the economy and building (industry), and right now we are in an upswing again," says Motz. "But we are coming off a fairly large downturn from 1982-84. We are in a growth mode there, but not to the extent that we are in lawn care."

Motz says saturation will never be a problem for the company with a "new angle" to offer. "We have done that in the sense that we consider ourselves the east side firm," says Motz. "Because of that, we are local and in their community. We find that can be a competitive edge."

Although saturation isn't hurting the business, Motz says some companies are shutting down their lawn care operations due to a lack of confidence in lawn care as a viable business. The companies backing out of lawn care tend to be those who have just gotten started in the field or those making the transition from one-truck operator to multiple-truck operator. "Just yesterday I talked to a gentleman who did a fair amount of lawn care and is pretty much shutting down that division entirely," says Motz. He says the phenomenon is caused by a combination of insurance coverage problems and the perception that the public mistrusts lawn services.

This lack of confidence in lawn care has also affected the climate for acquisitions in Cincinnati, according to Motz. He says there were not as many lawn care company acquisitions in 1984 and 1985 as there were in 1983. Motz is now doing lawn care work that was subcontracted to him from two other firms. "They are

afraid of this segment of the business," states Motz.



A. Sabin

ADVANCED LAWN CARE.

Not all newcomers to the field are afraid to risk their livelihoods on a lawn care business in Cincinnati. Anthony Sabin, owner of Advanced Lawn Care in Cincinnati worked for a national lawn care company for

eight years before he started his own business last year. When he was employed as an applicator he felt as though there was never enough time to deliver his customers the kind of service they deserved.

"They preached service and tried to instill it in you, but there just wasn't enough time to actually perform it," complains Sabin. "We were carrying such a load of customers that we just didn't have time to do the service. When a company is smaller, you have time to talk to the people while you are spraying."

Sabin started his business last year with one truck and a skid-mounted spray rig. To pick up slack between application rounds, he also did some seeding, aerating, and dethatching on the side. He finished his first year with about 375 customers. "It is a personalized service," claims Sabin. "That is what I stressed when I started contacting the people I used to service. I found out they weren't getting the service. I picked up about 50 percent of the people I contacted. I had 200 customers before I ever sprayed my first lawn."

Sabin says market saturation is never a problem for the one-truck operator, because there are more than enough homeowners who want the personalized service a small operator can provide. "For a one- or two-truck operator, there is a lot of business out there. I don't do any phone soliciting and I haven't even gone out the door yet, other than to measure lawns. I have picked up 40 new accounts already, just from referrals."

Since Cincinnati is right on the northern most border of the transition zone, most operators, including Sabin, can manage to offer their customers a five-application schedule. "This is a transition zone," says Sabin. "The five applications have to fall right into place. When the dateline comes for the next application, you have got to be done with the previous one. If you get behind, you start spreading fertilizer up to Christmas, which I think is wrong. I finished the first week of December."

Sabin's service starts at a minimum price of \$18.95 for 3,000 square feet. But Sabin doesn't have to worry about doing too many minimum jobs, since he intends

to concentrate his efforts on the western side of town in neighborhoods where houses start at \$80,000 and go up to \$200,000. In these neighborhoods, he says he can get from \$40 to \$70 per application.

Sabin estimates that he is competing against about 15 other lawn care companies in the 15-square-mile area on the west side that he has identified as his market. Of the 15 competitors, he says only about three are one-truck operators like himself; the rest are large companies. He intends to pick up as many customers as he can service by himself and then maintain that number of customers without further growth.

Like Motz, Sabin has also been affected by an unnamed lawn care company that came into the area from Kentucky about three years ago. This particular company's business tactics were so shady that a local television news program recently did an expose on them to warn consumers. Sabin says the company starts phone solicitations at Christmas time, picks up large numbers of customers, but doesn't seem to keep them.

He recently measured an 11,000-square-foot lawn that this company had priced at \$17 per treatment. By his pricing schedule, that lawn should command \$39 per treatment. The company made a practice of quoting prices over the phone and the servicing technician often found that the lawn was bigger than the "estimated" size. "If they gave a 5,000-square-foot price and the yard was 10,000 square feet, either they adjusted the bill to the 10,000-square-foot price or they only did 5,000 square feet of the yard!" exclaims Sabin.



R. Koch



T. Gilley

says he got most of those customers back after the first application. "They would say things like, 'In Cincinnati, fungus is not a problem.' We know that is a ridiculous statement," says Gilley. "That is not being truly honest with the public and these people really hurt the business.

If you give professional advice, people recognize that and they come back."

Ron Koch, also co-owner of Green Thumb Custom Lawn Service is concerned about a more widespread problem that he has observed. Koch says some companies estimate the square footage for an average-sized lawn in a given community and use that "average lawn" to quote prices over the phone to all the residents of that particular community. "Even some of the major lawn care companies are doing this scatter marketing on the telephone," says Koch. "I think that hurts the business as much as these companies that give all kinds of offers on the telephone. You can have two very distinct problems in lawns that adjoin each other. I hope this is not a trend, because we will get a lot of disgruntled people with that kind of tactic."

Gilley and Koch are competing against about 100 companies in the Cincinnati market, by Gilley's estimation. That 100 estimate includes mowing companies and other related types of firms that also apply lawn chemicals, according to Gilley. He has made a living from repairing lawns damaged by some of these companies which have no pesticide license or insurance. Gilley says a lot of lawns are damaged by improperly timed applications of grub control materials or misdiagnosing and mistreating a pest problem. "We have run into cases where people don't even know the insects are there and they are in the business," says Gilley.

But major lawn care companies make as many agronomic blunders as the mom-and-pop outfits, according to Koch. "We repair a lot of lawns for major companies," says Koch. "They just have a hard time distinguishing patch disease from insect problems. That is hard for an expert to do."

Gilley believes part of the problem is caused by company owners who push their applicators with a quota system. "There is a lot of pressure on these applicators to do so much square footage per day or total monies per day. Sometimes they spray in conditions where you should not be spraying. We have a little better control over our material and what our men are doing. We have to get so much done, but we don't have to be so cramped that we don't do it right."

Gilley started the business in 1975 and was joined by Koch a year later. He says their company now averages 15 percent annual growth. "We started with zero customers and still retain the first customer we ever got," boasts Gilley. Green Thumb now services over 3,000 customers in an area that Koch describes as southwestern Ohio and northernmost Kentucky. Gilley says his customer turnover is very low because his company

can offer homeowners a complete range of lawn maintenance services, including fertilization, re-sodding, seeding, and aeration.

In their second year in business, Gilley and Koch devoted much of their time to lawn renovations. "That got us in the seeding business and we really never stopped," says Gilley. The company now operates two tractors and power seeders to do extensive lawn renovations, including re-grading and adding topsoil. They apply only granular fertilizers from 13 vans routed from their single location. One man is assigned per van and each is expected to average about 200,000 square feet a day. "That gives us a good criterion on what a man can produce," says Koch. "We have handled that many customers ourselves, we know they can do it."

Since the applicator must go over the lawn twice, once to spread fertilizer and a second time to spray weed killer, Gilley says his fees are little higher than the norm. The smallest lawn area Green Thumb will treat is 4,000 square feet at \$21.45; 10,000 square feet runs \$36.95.

Green Thumb can call itself the lawn service to the stars, servicing the lawns of such notables as Johnny Bench and football great Paul Brown. They also have a number of accounts in Indian Hill, one of the wealthiest areas in Cincinnati. "Those individuals don't have time to mess with their lawns," says Gilley.

Hiring a lawn service is becoming more of a status symbol in Cincinnati than ever, according to Gilley. "If you are not having your lawn treated, something is wrong with you. We are servicing more and more younger people all the time."

Gilley says saturation is not eminent in Cincinnati. In fact, he estimates that 85 percent of the population is not currently having their lawns serviced. The fact that major lawn care companies are still moving into the market is an indicator to Koch that a great deal of growth is still possible.

Gilley and Koch have expanded their business mainly through referrals. They have placed yellow pages ads and have tried coupon offers, but have found them ineffective. When he was getting the business established, Gilley found door-to-door sales an effective marketing tool. "We learned through the first few years that the best time to sell in door-to-door canvassing was from 4 p.m. to about 10 p.m. (when the husbands were home). We found that the women really did not make the buying decisions in the home."

As a variation on the referral theme, Gilley says he has offered discount coupons to customers who have generated new customers. "It gives them a reduction in their price," says Gilley. "We have had excellent results with that."

Gilley says he has had considerable success in the commercial field, servicing

apartment complexes, schools, industrial complexes, and parks, even though he has not actively pursued this segment of the market. Commercial accounts generally call for a low-maintenance type of program. "We cut down on the fertilization because they don't want to cut a lot of grass," says Gilley. "We get the weeds out, put the insecticides on, and it is more of a selective program. We have some commercial accounts where they want their front entrances really super-looking and the rest of it just clean."

The key insect pests in Cincinnati, as far as Gilley is concerned, are Japanese beetle grubs and billbugs. "The main problem we have is that no material on the market has long enough residual to give the lawn company the opportunity to treat all of their customers and give all of them control," says Gilley. The two major fungi problems in Cincinnati on bluegrass lawns are *Helminthosporium* leaf spot and summer patch.

"We use a lot of fungicides here, mainly Chipco® 26019 and Bayleton®," says Gilley. "That improves our yards tremendously if we control the leafspot in the spring. We have an elite program where we put the fungicide down on a monthly basis. We are getting more and more on that program all the time. We get a lot of special calls just to apply fungicides."

GREENLON. Since Cincinnati lies on the northern edge of the transition zone, its wide-ranging weather conditions, from floods to drought, encourage fungal growth, according to Richard Steinau, President of



R. Steinau

Greenlon Environmental Services in Cincinnati. But Steinau thinks it will be some time before companies begin to offer disease control as a part of their standard lawn care package. He says sod webworms are not a problem in Cincinnati because so many lawn care companies have used insecticides that will control them for so long that there are no longer significant populations in the area.

Steinau started his company in 1974 after leaving a pest control company he had worked for. He saw ChemLawn begin its occupation of the market and became inspired. At a time when the market was still unaccustomed to the idea of commercial lawn care, Steinau created a customer base by conducting a contest with free lawn care for a year as the grand prize. "I had 700 people send in my little coupon that I ran in the paper for three days," says Steinau.

The contest produced a bonus: the owner of a lawn care company who had seen Steinau's coupon came to him with



Corporate headquarters for Greenlon Environmental Services.

an offer to sell his company. The man owned a home heating oil delivery company which did lawn care during the summer months to keep its employees working. "He soon realized after getting close to 2,000 customers," says Steinau, "that the lawn care business could not be operated from late April to early October. It obviously started earlier than that and the cross-over was putting him in a crunch to cross-utilize his oil delivery men. One year he made a wrong decision on an insecticide and lost 1,200 customers in a six-week period." The company Steinau bought came with about 1,000 customers.

He initially offered a four-application program, but soon realized the Cincinnati climate could support a five-application program. In fact, Steinau says he discovered this business boon before ChemLawn. "I have been able to keep up with or ahead of ChemLawn in this market simply by keeping a pulse on my customers and doing good market studies," says Steinau. "I knew, a year before ChemLawn knew it, that a fifth application would work, so I beat them to the punch. I also beat them to the punch on offering aeration."

His fifth application is dry fertilizer. In the first four applications, his technicians put down liquid applications of microencapsulated FLUF. While aeration is not a part of his standard service, he claims 65 percent of his customers take it. His add-on services include soil sampling, gypsum and lime applications, and mole control using phostoxin. He used to offer dethatching, but says aeration has taken his company out of that labor-intensive market. For the same reason he has also gotten out of landscaping. "We haven't gotten into tree spraying, but it is certainly a consideration," says Steinau.

"We really concentrate on the commercial work and we have done very well in this market." He says commercial work accounts for about 10 percent of total sales. His annual gross revenues currently amount to between \$1.5 and \$2 million. "We have created an internal marketing team specifically for commercial ac-

counts," says Steinau. "Our managers all have sales quotas. We determine in a management meeting at the beginning of that sales period what everyone should bring in. We have been able to compete very well for commercial accounts."

Steinau intends to turn that 10 percent figure of gross sales into a much larger number by actually developing a marketing plan specifically for industrial lawn care. "Our printed material will become more sophisticated," claims Steinau. "People will know that we have an interest in their commercial business. We have been able to tailor the services we offer to the commercial management group." He says commercial customers can be easier to work with in that they expect results in a more general way.

"If they are sitting on 10 acres of land, they are not looking for one or two pieces of crabgrass, whereas you get that from a homeowner. Yet, when someone has given you a 10-acre contract, and they call, you have to respond yesterday. With the homeowner, we try to respond within a 48-hour period, which is still fast. When a \$20,000 commercial account says, 'I wonder if you could stop out?' That means now."

Steinau's service fees are calculated by square footage plus a stop charge. He says his company is in the upper third of Cincinnati's lawn care fee scale. "We are at a little over \$23 for a 4,000-square-foot lawn," says Steinau.

Steinau tries not to get too caught up in what ChemLawn is doing, but he admits that he has followed their example when it comes to pricing. "They market themselves as the top, the most expensive, and they are the biggest," notes Steinau. "It must mean that price isn't always the thing and customers realize it is not always best to go with the cut-rate companies. There must be something you are giving up."

His market certainly covers a lot of territory. "We range all the way from Springfield, Ohio to the Indiana border and all the way down into deep northern Kentucky," claims Steinau. He currently has two branches and says he will

spring a third branch on the market next year.

At one time, Steinau says phenomenal growth was possible in Cincinnati, but the situation has changed in the past few years. "Cincinnati is a market that has really been beaten up," says Steinau. "Our growth rate in the past two years has been very small. Anyone who has been established here over a period of time is going to tell you this is a mature market." The influx of major lawn care corporations has put the squeeze on small operators, according to Steinau. ChemLawn, Perf-A-Lawn, and Leisure Lawn have long been established in the marketplace. Barefoot Grass entered the market this year and Steinau says Tru Green Corporation just threw its hat in the ring.

"The small guy is either disappearing or he is really diversifying his services," says Steinau. "He is getting to be more like a maintenance company. He might throw mowing in. Even for a company our size, we feel a lot of heat from some of these other companies coming in. If we are feeling it at our level, imagine what the small guy is feeling."

Even so, Steinau does not believe the market is approaching saturation. The fact that he is still reaching the middle-class

homeowner makes him believe many more customers are still available. "We do a lot of business in the fixed income range where people have been living in a house worth \$60,000 or \$70,000," says Steinau. "Those are the minis, and the minis make up the crux of this business."

A large part of Steinau's success in a mature market can be attributed to the sophisticated market studies he has done. The marketing studies he commissioned for this season cost his company \$27,000. "We really took a hard look at how to keep our customers," says Steinau.

Steinau's marketing company also helped him determine which advertising media he should be using. He was advised to get out of television advertising because it frequently lapped over in markets that he didn't want to be in. The company told him Cincinnati was a market where existing customers had to be retained and that he shouldn't pour a lot of dollars into advertising. He was told to put his advertising dollars into new markets. "Dayton is now a three-year-old market for us, but it is still basically a new market for us," says Steinau. "We are on radio, doing newspaper ads, and direct mail to a certain group of homeowners."

In Cincinnati Steinau concentrates on newspaper ads and direct mail brochures.

In northern Kentucky, he also advertises on the backs of buses. Since radio is the most expensive advertising medium in the area, he only puts ads on the air for four to six weeks.

When he was getting established, Steinau conducted a heavy telemarketing campaign and got relatively sophisticated at it. "We had 24 people making the initial contact," recalls Steinau. "We had maybe 16 salespeople doing follow-up after the survey had been done. If we had a survey done, we went to real estate plots. We could call up someone's real estate plot and give them their price right then and there. Initially, the sales figures looked so great, but the sale itself is very weak."

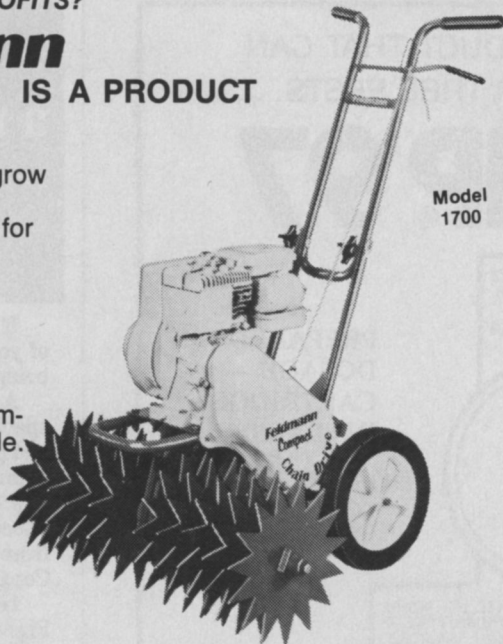
For the telemarketing service, Steinau relied on what he calls "roving bands of gypsy phone sales people." They were a service that did telemarketing for a wide variety of fields, from cable television to aluminum siding. Unfortunately, it was difficult to control that type of salesperson. But boy, could they produce sales.

"You want sales? We can do 100 to 150 sales a night. We could rack up 700 to 900 sales in a week. Those sales were very weak and you had a really huge loss period. When we actually figured out the cost per sale it was astronomical."

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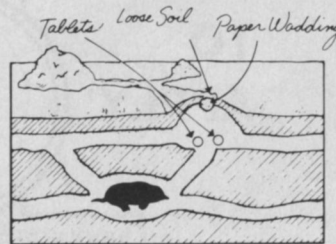
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After relying upon telemarketing sales for three years, Steinau realized the technique was creating ill will toward his company. "It starts you off with a lot of customers, but the community in which you are working has a certain attitude about you," says Steinau. "It cost us a lot of dollars to overcome that attitude." The problem was that the telemarketers were making promises over the phone that Steinau's technicians could not possibly fulfill.

He attempted to monitor them with a phone "bug" which would allow him to sample their conversations with prospects at random, but there were just too many conversations to control the situation. "We would hear the most amazing promises," says Steinau. "What do you do, jerk the phone out of their hand? You let them go through it and then pull them off to the side. Then you have a customer out there who is expecting a putting green. That customer is going to be dissatisfied from day one."

Steinau found out his company's name was getting tarnished after he did some focus groups in which he contacted customers and probed their feelings toward his company. So he decided to wean himself of the whole telemarketing approach and found out he had become

a telemarketing junkie. "Once you get into telemarketing, you are hooked," says Steinau. "It is such a rush to pick up 5,000 customers in March. Then they leave you before your third application. The next year, you think, 'It's March, I remember what we did last year, I'm sure of what I could do if I could only put 40 people on the telephone.'"

With stable marketing techniques now behind him, Steinau is growing his company within the Cincinnati market by offering additional services, like aeration. He is also growing outside the Cincinnati market by expanding into other markets. "When you are our size and you have developed people up through the ranks, you need to do something with those people," reasons Steinau. "That is one of the main reasons why we are branching as we develop proven people who can go out there to a Dayton market, for instance, and immediately create \$200,000 to \$300,000 gross sales. We definitely understand that when you get to a certain size, today, the way to continue customer growth is to open new markets."

CONCLUSIONS. In many respects, the Cincinnati marketplace is certainly much like other markets in the Midwest. It does, however, have the distinction of being one

of the key markets which comprise the cradle of professional lawn care, an honor shared by Dayton and Columbus. Cincinnati is a classic example of a "mature" lawn care market, a state many more markets will undoubtedly arrive at in the near future.

Cincinnati has experienced all the side-effects of being a mature market. A case in point is the sophisticated cut-throat operation from northern Kentucky that moved into the area and attempted to steal accounts from all the established companies. Everyone we talked to said this company was successful for a couple years, but then Cincinnati residents wised up to the raw deal they were getting and went back to their original lawn services.

The companies operating in Cincinnati describe their market as mature, but it is important to note that they also describe it as being far from saturated. Everyone we spoke with said there are more unclaimed customers out there with a potential need for a lawn service. If that is true in Cincinnati, then it is good news indeed for other "mature" markets. —
Tim Weidner

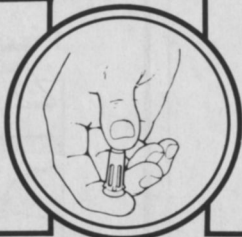
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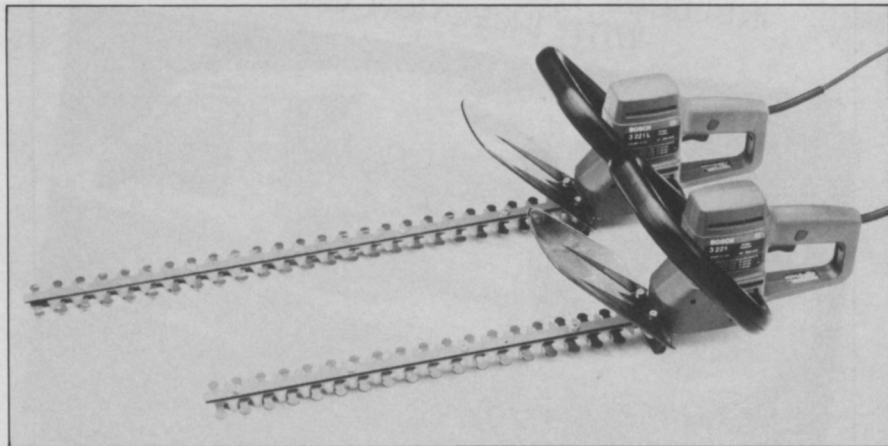
Two new electric hedge trimmers have been introduced by **Bosch Power Tool Corporation**. The 18-inch Model 3221 and 26-inch Model 3221L feature dual cutting action blades. They cut material up to a half inch in diameter, in both directions with minimal vibration.

Both models' blades grip material while cutting. The blade support rail extends beyond the blades to keep blade tips from inadvertently striking objects. A two-position auxiliary handle gives comfortable, two-handed control even in hard-to-reach places.

Model 3221 weighs 6.5 pounds and Model 3221L weighs 7.2 pounds. Both feature excellent balance to reduce operator fatigue and double insulation for safety.

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Wilbur-Ellis Company's Kioritz hand soil injector. Soil injections are made within the drip line, where the metasytox-R2 is absorbed by the root system, then translocated throughout the tree. The Kioritz injector is easily calibrated for precise chemical applica-

tion. It is lightweight and sturdy, and features special anti-corrosive components.

Write 111 on reader card

Salsco, Inc. is introducing a new slicer/seeder with the ability to operate in a tight radius around trees and shrubs. The new slicer/seeder, SS34-24, which is 34 inches wide and has a 24-inch seeding swath, also has a new blade design which lessens the amount of debris brought to the surface. The SS34-24 will be introduced at the Outdoor Power Equipment Expo in Louisville and can be seen at Salsco distributors in May. According to the company, the maneuverability and new blade design makes this machine much faster and more efficient than those already on the market, and it will be competitively priced.

Write 112 on reader card.

A high performance, mid-mounted hydraulic reel mower for use on compact tractors has been launched onto the professional and turf maintenance market by British manufacturer and distributor, **Huxley's Grass Machinery**. The TR84M mower offers a mid/rear-mounted grass-cutting combination that can be quickly and easily attached to or removed from a compact tractor. Once the brackets have been bolted to the tractor, quick-release catches enable the mower to be coupled up or detached by one man in less than 10 minutes. That leaves the tractor free for fitting other attachments, such as a backhoe, trailer, or rear-mounted rotary mower.

The Huxley TR84M reel mower provides consistent cutting performance because of its self-contained hydraulic drive system, powered by a gear pump



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mounted on the tractor's PTO shaft. The new mower is comprised of three pivot-mounted cutting units, with two reels mounted on either side of the tractor between its front and rear wheels, and the third attached to a frame mounted on the tractor's rear three-point linkage. The rear frame also carries the 5-gallon oil reservoir supplying the machine's independent hydraulic drive and control system.

Each of the three mowing reels on the



TR84M measure 30 inches in width, giving a maximum cut width of 84 inches. Sufficient overlap is provided between the reels to insure that no grass is left uncut, even on the tightest turns.

All cutting units can be raised out of work independently from the driving seat, allowing one-, two-, or three-unit mowing to be selected as required. The two forward units lift to a vertical position to give an overall transport width of 57 inches when folded. For maximum safety, reel drive is cut off automatically when any one of the three units is raised for transport or narrow work in confined areas.

The remote control assembly provided also controls reel rotation, enabling forward, neutral, or reverse directions to be selected at the touch of a lever. Full protection for the hydraulic circuits and working components on the TR84M mower is provided by filters on the inlet, suction, and return lines, and a safety relief valve.

All adjustments to the mower — cutting height and reel to bottom blade setting — can be made quickly and easily on eye-bolts. Cutting height range is from 3/8-inch to 2 inches. At a forward speed of 6 miles per hour, the unit is capable of mowing up to 3.8 acres per hour.

Write 105 on reader card

Jacobsen has expanded its line of large commercial walk-behind rotary mowers designed with the production mower in mind. All models are self-propelled and feature simple, rugged design for low maintenance and fingertip control for easy operation. The Commercial Series includes 32-inch, 36-inch, and 50-inch

The Chemical Spreader for Professional Lawn Care.

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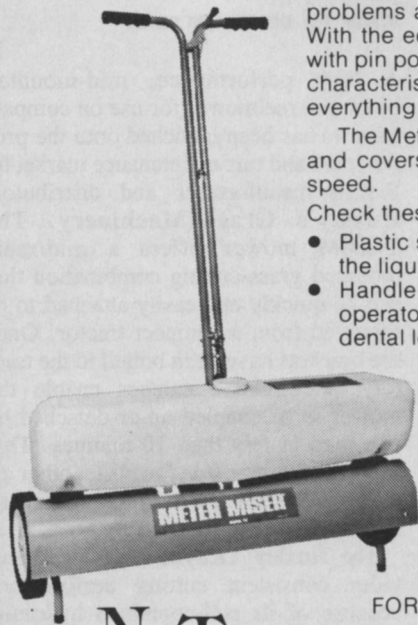
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width units propelled by a 5-speed gear transmission with reverse. This drive provides easy-to-manuever, full differential action with drum brakes at each wheel to assist steering.

The Commercial Series units are built with just two power drive belts and two blade spindle assemblies for reliability and ease of service. The heavy-duty, 1-3/16-inch (diameter) spindle shafts have top access and controlled lubrication for longer life. The cutting height is adjustable from 1 inch to 4 inches in 1/2-inch increments.

The Crew Chief line of mowers, available in 36-inch and 48-inch cutting widths, features a live axle drive with individual wheel control for slope operation and trimming applications. The cutting height is adjustable from 1-5/8 inches to 5 inches in 1/4-inch increments.

All of these Jacobsen walk-behind mowers feature large pneumatic drive wheels, heavy-duty cutter blades, zero-turning radius, and large fuel tanks for extended operation. Optional accessories include trailing sulkies, grass catchers, and pneumatic front caster wheels. A variety of engine options is available, including



Honda, Kawasaki, and Briggs & Stratton I/C in sizes from 8 to 16 horsepower.

Jacobsen also offers a choice of side or rear discharge heavy-duty rotaries for trimming around obstacles and for mowing in tight areas. The new 20-inch side discharge and 21-inch rear discharge commercial trimming mowers have high strength alloy cast decks and large semi-pneumatic wheels designed to take the punishment of daily mowing. The adjustable wheels are bolted directly to the

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cast decks, eliminating troublesome wheel adjusters. Power is provided by either a two-cycle or four-cycle, four-horsepower industrial/commercial engine. Grass catchers are available for each model.

Write 106 on reader card

The Toro Company has announced a new lawn mower warranty, called "Guaranteed to Start (GTS)," for 10 of the company's new walk power mowers. The mowers, using GTS engines, are guaranteed to start on the first or second pull for two years, or Toro will fix them free of charge.

According to the company, the guarantee was made possible by its recent advancements in small engine technology. Four newly-introduced Overhead Valve (OHV) engine mowers and six two-cycle engine mowers, all featuring Toro-developed GTS engines, are covered by the warranty.

The Toro GTS warranty specifies that purchasers must keep their purchase receipt and record the required regular maintenance in the owner's manual (oil changes, air filter cleanings, spark plug changes, etc.). While the purchaser is responsible for the required maintenance work, Toro will cover all labor and parts



costs for any GTS warranty work. The GTS warranty operates as additional coverage to the standard 24-month warranty on all Toro products.

Write 102 on reader card

The new "Lo-Rego" Regulating Unloader, manufactured by Cat Pumps Corporation, can handle flows as low as .5 gallons per minute (GPM) and up to

(continued on page 63)

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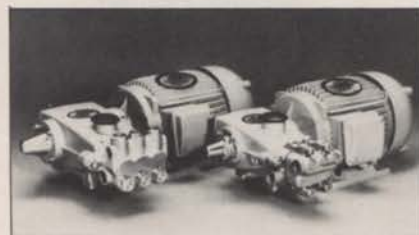
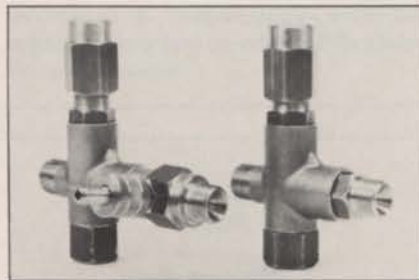
PRODUCTS

(continued from page 60)

6.5 GPM while maintaining set system pressure up to 1850 PSI. The company offers two models of this regulating unloader: Model 7580 (.5-6.5 GPM and 400-1000 PSI) and Model 7581 (.5-6.5 GPM and 700-1850 PSI).

The Lo-Rego is a pressure-sensitive regulating unloader which provides immediate pressure when your gun is opened, yet full by-pass when the gun is closed. It weighs only 14 ounces and is just 4 inches in length. Pressure adjustment is made by simply turning the top hex adjusting nut or the optional grip-notch handle to set the internally-housed spring. The gold spring handles up to 1000 PSI; the silver spring handles up to 2000 PSI.

A wide selection of Direct Drive Motorized Pump Units is also available from Cat Pumps. Several variations of the standard Models 270 and 310 plunger pumps have been combined with a new electric motor to provide just the right flow and pressure for your application.



Each CD motorized unit comes complete with one of the company's standard quality plunger pumps and a lightweight, compact, self-flanged, TEFC electric motor. These new electric motors are hollow shafted and already have the mounting flange built into the motor housing, providing easy, quick, and compact assembly.

Write 104 on reader card

Lawn Restore[®], recently introduced by **The Ringer Corporation** of Eden Prairie, Minnesota, is a bio-organic fertilizer based on advanced microbiological and protein technology. Containing special soil microorganisms, enzymes, and protein concentrates, Lawn Restore utilizes nature's biological recycling pro-

cesses to release its nutrients and help build fertility into soil rather than cause depletion.

Lawn Restore produces lush, vigorous turf with deep roots. As a result, the company says, lawns stay greener longer and require less watering. All of Lawn Restore's ingredients are natural, non-toxic, and safe for use around children and pets. The fertilizer is non-polluting to ground water, lakes, or streams.

According to the company, years of research and testing have confirmed that Lawn Restore eliminates conditions that promote fusarium and patch diseases. The

product also reduces thatch build-up.

Write 109 on reader card

Literature published by **Hannay Reels** describes the company's Series 1500 spray hose reels used to handle hose for spraying water, herbicides, pesticides, or fertilizers. Series 1500 reels make grounds maintenance faster, easier, and more efficient, according to the company.

The literature includes convenient ordering information, along with details on capacity, dimensions, and weight. Customers can choose either direct crank rewind, with the crank permanently at-

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tached to the reel axle, or a chain and sprocket drive powered by electric or compressed air motor. An adjustable spring drag device is used to brake the reel. Series 1500 hose reels can be mounted permanently overhead, on walls, in cabinets, or on trucks or other mobile equipment.

Write 107 on reader card

Hawkeye Chemical Company is now producing Formolene® LU. The new 30-0-1 is a low viscosity clear liquid and low in free-urea. The new formulation is manufactured by a process that results in a longer-lasting, low-burn nitrogen source. Formolene LU is used for spray application to turfgrass, for foliar and root feeding of nursery stock, and foliar feeding of vegetables. Seventy five percent of the nitrogen is slow-release derived from water-soluble UF polymers. Less than 5 percent of the nitrogen is from methylol urea. The product is available from authorized Formolene dealers.

Write 112 on reader card

White Outdoor Products' Yard Boss Model LT-120 features Briggs & Stratton's powerful 12.5 horsepower, twin-



cylinder I/C® engine, which combines high performance with smooth operation. Heavy-weight, all-steel construction and oversize tires add to the big tractor per-

formance of Yard Boss LT-120. White's exclusive "Cruise-Matic" drive provides seven shift-on-the-go cruise speed ranges

(continued on page 68)

CONTRIBUTING TECHNICAL AUTHORS

T. Abernethy, Ohio State University
James Beard, Texas A&M University
Prasanta C. Bhowmik, University of Mass.
Don Blasingame, Mississippi State University
Jacqueline Boucher, Ohio State University
Bruce Branham, Michigan State University
Cynthia L. Brown, Tru-Green Corporation
Edward A. Brown, University of Georgia
Stephen Brown, Village Green, Inc.
Nick E. Christians, Iowa State University
Patricia P. Cobb, Auburn University
H.L. Cromroy, University of Florida
Karl Danneberger, Michigan State University
Pefer H. Dernosden, University of Maryland
Glenn Dudderar, Michigan State University
Gary A. Dunn, Michigan State University
Thomas W. Fermanlan, University of Illinois
Melissa Craven Fowler, Cornell University
Ray Freeborg, Purdue University
T.E. Freeman, University of Florida
Stephen G. Fushley, Agriculture Canada
Robert Green, Oklahoma State University
Jean E. Haley, University of Illinois
John R. Hall, Virginia Polytechnic Inst.
Marc C. Hirrel, University of Illinois
Clinton F. Hodges, Iowa State University
Richard J. Hull, University of Rhode Island
Norman W. Hummel, Jr., Cornell University
Noel Jackson, University of Rhode Island
John A. Jagschitz, University of Rhode Island
B.J. Johnson, University of Georgia
Keith Karnok, University of Georgia
John E. Kaufmann, Monsanto Ag Company
Keith Kennedy, ChemLawn Corporation
James E. King, Purdue University
E.L. Knake, University of Illinois
K.N. Komblas, Louisiana State University
Lauren S. Lanphear, Forest City Tree Protection

Phillip Larsen, Ohio State University
Leon T. Lucas, North Carolina State University
Eugene W. Mayer, O.M. Scott and Sons
M.T. McElroy, Michigan State University
M.D. McGlamery, University of Illinois
Michael C. McKee, New England Green, Inc.
Landon C. Miller, Clemson University
William Mitchell, University of Delaware
James Nau, Ball Seed Company
Harry D. Niemczyk, Ohio State University
A.D. Oliver, Louisiana State University
Robert E. Partyka, Chemscape
Sandra Perry, Tru Green Corporation
A. Martin Petrovic, Cornell University
Daniel Potter, University of Kentucky
C.C. Powell, Ohio State University
Richard C. Rathjens, Davey Tree Expert Co.
Elliot C. Roberts, The Lawn Institute
W.H. Robinson, Virginia Polytech Inst.
Patricia L. Sanders, Penn State University
Wayne Scheppele, Deere and Company
E. (Dick) Schmidt, Virginia Polytech Inst.
Mark Sears, University of Guelph
D.E. Short, University of Florida
John F. Shoulders, Virginia Polytech Inst.
Malcolm Shurtleff, University of Illinois
Richard Smiley, Cornell University
Elton M. Smith, Ohio State University
Jana S. Stewart, University of Wisconsin
John R. Street, Ohio State University
Herbert T. Strou, Rutgers University
J.H. Strong, Strong Enterprises
Mike Tolley, Ohio State University
J.R. Vaccaro, Dow Chemical Company
Joseph M. Vargas, Michigan State University
T.L. Watschke, Penn State University
Gayle L. Wolf, University of Wisconsin

Richard J.W. Foster
 Publisher

Maureen Mertz
 Associate Publisher

Tim Weidner
 Managing Editor

Vivian Rose
Julie November
 Assistant Editors

Charlotte Goerss
 Art Director

Fran Franzak
 Reader Service

Amy Sheldon
 Circulation Manager

ALA
4012 Bridge Avenue
Cleveland, Ohio 44113
216/961-4130
 Editorial Office

Maureen Mertz—Sales Manager
42480 Park Ridge Road
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FIRE ANTS: PLAGUE OF THE SOUTH

There are many species of ants encountered by southern lawn care professionals. Many of these ants bite and/or sting, including Argentine ants, thief ants, and harvester ants. However, the stings of fire ants are perhaps the most notorious, since they not only cause a severe burning sensation at the time of attack, but the sting site often becomes sore or blisters, sometimes resulting in permanent scarring. People are rarely killed by fire ants, but animals are frequently killed, particularly newborn animals, including livestock and birds.

Unlike bees, fire ants can sting repeatedly, injecting their painful venom. Symptoms include burning and itching, often followed by white pustules, or sores. People who are allergic to fire ant venom may experience chest pains, nausea, paralysis, anaphylactic shock, and in rare cases, death. More than 2-1/2 million Americans are bitten every month by the red imported fire ant.

BIOLOGY AND HABITS. Fire ants seldom enter homes, although occasionally they nest in masonry voids, especially near chimneys. Typically, they nest in the ground outside.

The southern fire ant, *Solenopsis xyloni*, which occurs from Florida across to California, builds nests without any distinct mound, but with several small craters in an area of 2 to 4 square feet.

The red imported fire ant, *Solenopsis invicta*, which is now widespread in the South and throughout Texas, builds nest mounds which may be 2 feet in diameter and 1-1/2 feet high. These mounds surmount a complex systems of galleries which can extend many feet deep. One mound can house more than 250,000 ants.

The fire ant is aggressive. Once a native of Brazil, the fire ant was first introduced and identified in the United States at Mobile, Alabama in the 1930s. Today, the fire ant infests the entire southeastern region, reaching as far west as Texas. And, it is expected that fire ants will continue to migrate further west, along the coastal areas.

Generally, fire ants build their mounds in undisturbed areas, such as by gas or water meters, fences, and tree trunks, or under playground equipment and in flower beds. In between mowings, fire

ants may establish small mounds in lawns.

Fire ants vary the depth at which they live, depending on temperature and water levels. From their nests, fire ants forage for food, which mostly consists of insects or carrion, but also includes honey dew, seeds, and grease.

Fire ants migrate, seeking food, and may come from adjacent untreated areas and establish new mounds. Mating females may fly-in from untreated areas too and begin a new colony. So look for fire ant mounds in neighboring lawns or nearby vacant lots. Fire ants also link their mound with underground tunnels that lead to one or more sources of food. Routes have been traced from distances of over 100 feet from a mound.

CONTROL. Since fire ants have such broad diets, it is hard to remove all sources of food. Nonetheless, plants which harbor aphids, which serve as a source of honeydew for ants, should be removed or the aphids killed by insecticides. Likewise, plants which produce a lot of nectar and which are being foraged upon by fire ants should be removed. As with many other ants, good food and waste handling will reduce the chances of fire ants foraging in buildings.

In general, non-chemical methods are ineffective against fire ants, and in the absence of chemical treatments people quickly learn to avoid nest areas. Applications of residual insecticides as perimeter treatments to soil and foundations help stop foraging ants from entering buildings.

Best results are achieved by treating the

nests. Spot applications should be made indoors where there have been any ant sightings. Nest treatment can be done by spraying, dusting, or drenching. Because of the deep gallery systems, drenching usually achieves the fastest and most reliable results.

Personnel involved in the drenching should wear rubber boots and clothing which fits tightly around the wrists and ankles. Drenching is best done when it is not too hot, or else the ants may be very deep in their galleries and less vulnerable.

TIMING APPLICATIONS. Several insecticides are available for fire ant control. These chemicals are most effective when the ants are active and concentrated in the upper portion of the mounds. These times are in the early morning and evening when it's cooler, and when wet conditions exist following rain.

An easy effective method is to drench the mound with a liquid insecticide diluted in water. Use a sprinkling can to thoroughly wet the mound and small surrounding area. To prevent ants from establishing new mounds outside the treated areas, follow the drench treatment with an area application.

If your area has been dry and hot for a long period, most of the ants will be below ground level. To draw them out, soak the soil around the mound with water before treatment. Whatever control method you use, it is important not to disturb the mound before or during treatment since this will cause the ants to move away from the chemical. — *Tim Weidner*



Between mowings, fire ants may establish small mounds in lawns.

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PRODUCTS

(continued from page 64)

and foot-pedal speed control for easy maneuverability. The unit is equipped with a 38-inch, side-discharge mower deck and can be equipped with numerous optional attachments.

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Minolta Corporation has introduced the Chlorophyll Meter SPAD-501, a handheld meter for measuring the chlorophyll content in plant leaves. Featuring one-button operation, the compact and lightweight SPAD-501 can be used in the laboratory or outdoors. In one second, the

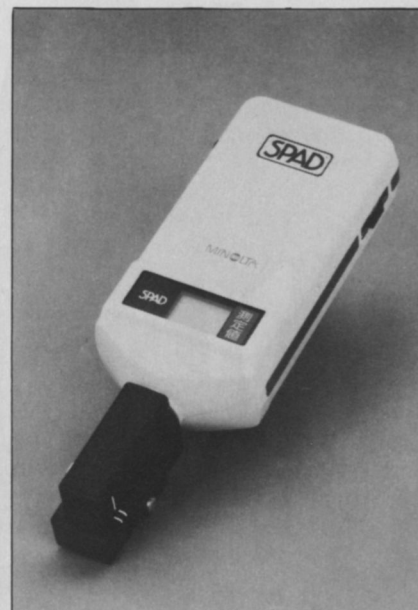
meter can measure the effects of different nutrients and fertilizers on plant growth. No other method of chlorophyll measurement is as fast.

Totally electronic, the meter provides accurate and repeatable measurements of even small changes in chlorophyll content. The large LCD digital display is easy to read, greatly reducing the chance of measurement error.

The SPAD-501 measures without damaging the plant leaves. The user simply places the leaf in the measurement area of the meter and presses the operating button. Light from the meter's Xenon flash tube passes through the leaf and the intensity of the light striking the sensors is

measured. By calculating the difference in light intensity between the two sensors, the amount of light absorbed by the chlorophyll is determined. This information is displayed as the weight of chlorophyll per unit area.

The SPAD-501 features two light sensors: one measures red light, the other



measures near-infrared light. The use of two sensors greatly decreases the possibility of measurement errors caused by light diffusing through the veins in the leaf. The meter is powered by a rechargeable Ni-Cd battery pack and is supplied with a spare battery pack. Other accessories included are a battery charger and carrying case.

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Snapper Power Equipment has delivered another innovative first with its Pac-N-Sac catcher. This unit fits all Snapper 21-inch walk behind mowers and holds up to one-third more clippings than the standard catcher. Its rigid polyethylene container is sized for a standard 30-gallon plastic trash bag designed to bag clippings while mowing. Its light weight allows for easy handling, and the container slides back and out like a drawer for quick access.

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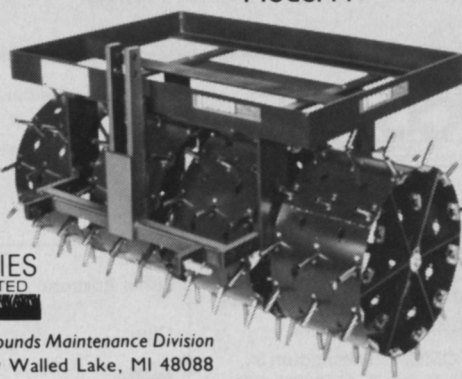
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AD INDEX

Agro-Chem.....19	Milwaukee Sewerage.....44
Andersons.....66,67	Meadows.....18
Bush and Cook.....27	Mobay Chemical.....2
Ciba-Geigy.....32,33	Nor-Am Chemical.....10
Classen.....22	Nu-Trends.....57
Creative Sales.....56	Olathe.....13
Dedoes Industries.....68	PBI Gordon.....4,5
Dow Chemical.....8,9	Perma-Green Supreme.....57
E.J. Crane.....22	Practical Solutions.....60
Encap.....21	Prentiss Drug.....63
Excell.....69	ProTurf.....26,42
Feldmann Engineering.....58	Rhone Poulenc.....70,71
Fumigation Services.....58	Salsco.....23
GNP Pump.....14	Spring Valley.....51
Gravelly.....7	Strong Manufacturing.....14
Green Pro Coop Services.....24	Terra Care.....42
Idea Bank.....15	Trebor.....25
Imler.....18	Tuflex.....17
LESCO.....72	Union Carbide.....38,39
Liqui-Land.....27,59	Walker.....60
Malinckrodt.....65	

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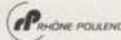
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