

SERVING THE AMERICAN LAWN APPLICATOR AND MAINTENANCE PROFESSIONAL

ALA

APRIL 1988 • \$2.00

GREENLON

*Receives Our
Award for Professionalism*

A 52446 ZDQ1288018808A188
PAUL REIKE PROF
MICHIGAN STATE UNIVERSITY
CROP & SOIL SCIENCE
E LANSING MI 48824

WEEDS
INFO CTR

UNITED
Van Lines

North Star
Van & Storage
Milwaukee, WI

MATLOCK

MATLOCK

MATLOCK

MELCHER



Some cancellations even TURFLON can't prevent.

When your customers move away from you, the best herbicide in the world can't make them stay. But when more than 24% of LCO customer losses are due to poor weed control—as cited in one recent study—then it's time to take a look at your herbicide.

TURFLON*: Superior control. For outstanding control of a wide spectrum of broadleaf weeds, there's nothing like TURFLON herbicide. It even gets the stubborn Hard to Control weeds—oxalis, ground ivy, wild violet, spurge and the like—that other herbicides often miss. So your customers stay happy... and stay with you. And you have fewer complaints, fewer costly callbacks, fewer cancellations.

New herbicide chemistry. The active ingredient in TURFLON, triclopyr, is the first new herbicide chemistry to come along in years. It stays where it's sprayed, won't migrate through soil to harm ornamentals and other off-target species.

It's safe to established cool-season turf, and has a proven safety record for humans and animals.

Proven in use. TURFLON herbicide performance has been thoroughly proven... in years of testing and in day-to-day use on LCO route trucks across the country. Operators who have used it find that often one treatment with TURFLON does what other products fail to achieve in two or more treatments.

Choice of formulations. Whatever you need, there's a TURFLON formulation for you. Choose an amine for broadcast use, or an ester for spot application. Whichever you select, TURFLON herbicide gives you outstanding performance, every time.

You can't keep your customers from moving away. But you can keep them from moving to your competition because of poor weed control. Keep them, and keep them happy, with TURFLON herbicide.

TURFLON*

Fewer weeds, fewer cancellations.



*Trademark of The Dow Chemical Company

Circle 39 on reader service card

7002

Ryan brings quality aeration from golf greens to green lawns.



Introducing the new Ryan Lawnaire® 28.

The revolutionary Lawnaire 28 combines the technology and precision of golf course aeration with the demands of lawn maintenance. Its reciprocating, crank mounted tine arms feature a vertical coring action similar to larger Ryan aerators. Tines penetrate straight in to a depth of 2½ inches, and come straight out. The results are a more professional-looking job, better root development, greener lawns, and more satisfied customers.

Make more money by the yard.

Because time is money, the Lawnaire 28 is designed to cover big jobs quickly — up to 24,000 sq. ft. per hour. But because not every job is big, it's also compact and maneuverable. Just 34 inches wide, the Lawnaire 28 easily fits through yard gates. The unique tricycle front wheel gives the unit a zero turning radius while aerating!

Even the tightest spots are no problem. And because it's a Ryan, you can rest assured that the Lawnaire 28 will keep you on the job and out of the repair shop for years to come.

Check out Ryan's reliability in your own backyard. Contact your Ryan dealer and ask for a free demonstration today. Or call toll free: **1-800-228-4444**.

RYAN®

BUILT TO LAST

A CUSHMAN Product Group

6230 Ryan, P.O. Box 82409, Lincoln, NE 68501

© Outboard Marine Corporation, 1988. All rights reserved.

ALA

APRIL 1988
VOLUME 9, NUMBER 4

TABLE OF CONTENTS

BUSINESS FEATURES

Labor Costs

A report on the wages and benefits lawn maintenance professionals are currently being offered by their employers **18**

Call To Excellence

Lawn Doctor Inc. franchisees recently gathered in Atlantic City, N.J., to answer a company call to "strengthen its roots" **21**

ChemLawn vs. State of New York

When ChemLawn Services Corp. began litigation against New York's Attorney General over harassment charges, New York followed suit **24**

Professionalism Award

Our second annual professionalism award was recently presented to Greenlon Lawn Care Services of Cincinnati, Ohio, and its President Rick Steinau **26**

Handling Pesticide Spills

Emergency response procedures that every company should be aware of in the event of a pesticide spill are detailed here **30**

TECHNICAL FEATURES

Characterizing Thatch Composition

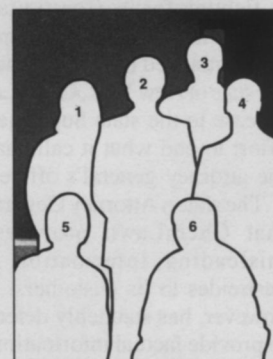
Contrary to common belief, thatch is not a dead zone. In fact, thatch comprises an abundant population of microbes and soil microorganisms **36**

Controlled Release Nitrogen Fertilizers

Research on ureaform fertilizers has yielded products that are greatly improved in terms of reduced phytotoxicity and performance consistency **40**

DEPARTMENTS

Advertiser's Index	62	Letters	44
Calendar	10	News in Brief	13
Classifieds	58	People	49
Clippings	45	PLCAA Update	17
Financial Corner	46	Products	52
Inside Story	6	Views Across the Industry	10



COVER

Greenlon Lawn Care Services of Cincinnati, Ohio, winner of ALA magazine's second annual Award for Professionalism. 1. Cherry Gray, V.P. Finance 2. Rick Steinau, President 3. Mike Stegmoyer, Cincinnati Branch Manager 4. Steve Leisring, V.P. Operations 5. Dave Pinson, Cincinnati Assistant Branch Manager 6. Dave Kohler, Dayton Branch Manager (Cover photo by Mickey Jones)

ALA (USPS 657-470 ISSN 0744-0545) is published 12 times per year. Copyright 1988 G.I.E., Inc. Publishers, 4012 Bridge Avenue, Cleveland, Ohio 44113. All rights reserved. No part of this publication may be reproduced or transmitted by any means without permission from the publisher. One year subscription rates: \$23.00 in the United States, \$26.00 in Canada, and \$72.00 in other foreign countries. One year foreign airmail rate: \$172.00. Two year subscription rate: \$31.00. Subscriptions and classified advertising should be addressed to the Cleveland office. Second class postage paid at Cleveland, Ohio and additional mailing offices. Postmaster: Return Form 3579 to ALA, 4012 Bridge Avenue, Cleveland, Ohio 44113.

INSIDE STORY

One year ago, ChemLawn Services Corp., Columbus, Ohio, was frantically fighting for its business life as Waste Management staged a leveraged buy out bid for control of the company.

ChemLawn survived the attack only to undergo a friendly buy out by Ecolab Inc. a short time later.

Now, a year since the unfriendly take-over bid, ChemLawn is fighting another battle. This time, however, the company is fighting for its Constitutional rights.

Claiming its First Amendment rights are being attacked by the Attorney General of the state of New York, ChemLawn has taken its case to the state Supreme Court in an effort to end what it calls harassment by the attorney general's office.

The state's Attorney General is claiming that ChemLawn provides false and misleading information concerning pesticides to its customers. ChemLawn, however, has staunchly defended its right to provide factual information concerning its services, and claims the Attorney General is politicizing the case.

Steve Hardymon, ChemLawn's director of public and environmental affairs, said



the company fully cooperated with requests from the attorney general's office, but were discouraged that New York officials failed to realize the debate was a toxicology issue.

When after a year, an agreement couldn't be reached between ChemLawn and New York officials, ChemLawn finally decided to ask the Supreme Court of New York to make a ruling in the case. Three weeks later, the Attorney General filed a countersuit.

The case goes before the New York Supreme Court in early May. For more information on the ChemLawn story, turn to page 24.

In other news, our second annual Award for Professionalism was awarded to Greenlon Lawn Care Services and its President Rick Steinau. Like last year, we were pleased to receive so many quality nominees — a sure sign that the industry is full of companies exemplifying professionalism. Congratulations Greenlon.

You'll also be interested to read the results of our labor costs survey. Although many companies are now paying their employees more than required by the federal minimum wage, a proposed increase in that wage could affect industry financial scales.

Since we often spot trends coming from the West, you'll also find results from California compared with those of the rest of the country.

Cindy Code

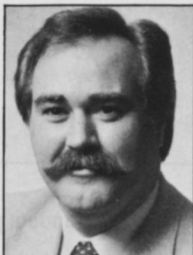
ADVISORY BOARD



Street



Meyer



Rice



Turgeon



Vargas



Vittum

Dr. John Street is an associate professor in the agronomy department at The Ohio State University. **Dr. William Meyer** is president of Pure-Seed Testing Inc., Hubbard, Oregon. **Des Rice** is president of The Weed Man Ltd., Mississauga, Ontario, Canada. **Dr. Al Turgeon** is professor and head of the department of agronomy, Pennsylvania State University. **Dr. Joseph Vargas** is professor of botany and plant pathology, Michigan State University, East Lansing, Michigan. **Dr. Patricia Vittum** is associate professor of entomology, University of Massachusetts, Waltham, Massachusetts.

Maureen Mertz
Publisher

Cindy Code
Editor

Julie November
Assistant Editor

Charlotte Goerss
Art Director

Helen Duerr
Assistant Art Director

Jami Childs
Production Manager

Ken Raymond
Typographer

Fran Franzak
Reader Service

Rosalie Slusher
Circulation Manager

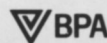
ALA
4012 Bridge Avenue
Cleveland, Ohio 44113
216/961-4130
Editorial Office

Richard J.W. Foster
President

Dan Moreland
Editorial Director

Diane Pawlicki
Comptroller

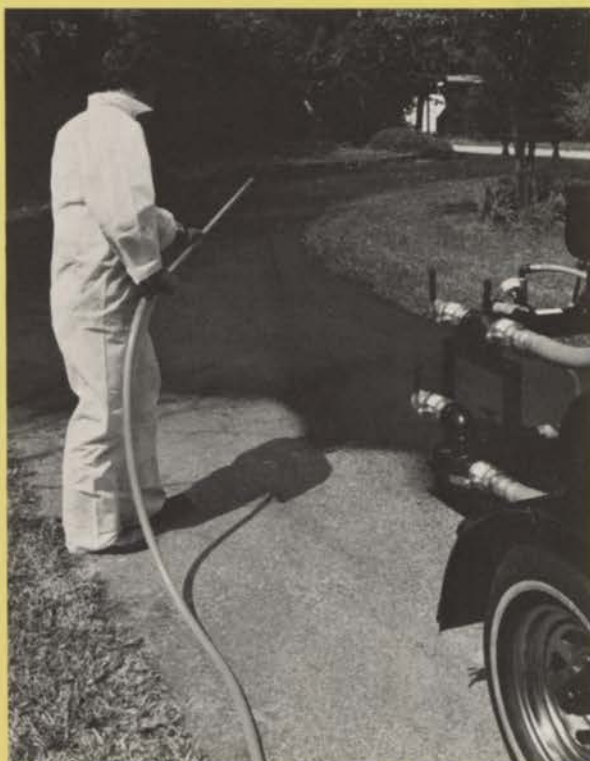
Maureen Mertz
Sales Manager
42480 Park Ridge Road
Novi, Michigan 48050
313/348-9636
Advertising Office



THE PROFIT MACHINES!



Pavement Maintenance — a new dimension for the lawn care industry.



The average home driveway takes less than one half-hour to sealcoat with PAVEMAN's profit machine!

PAVEMAN

12253 62nd Street N. • Largo, FL 34643

1-800-345-6121

(outside Florida)

(813) 539-1296 (813) 539-8302

Circle 37 on reader service card

Asphalt Sealcoating is a billion dollar industry and growing! If you're lawn spraying, landscaping, lawn mowing or managing residential or commercial properties, you should be sealcoating.

80% Gross Profit! Cost of materials averages less than 20%. Plus, the machine can be paid for in 4 loads or less.

Easy to Learn — Easy to Do — Easy to Sell! Use your existing customer base and our complete factory training program. No special skills or experience are needed. We'll also provide you with promotional, marketing and sales aids.

No Mess! Our sealcoating machines are self-contained: material is water-based, non-sticky, non-heated. At the end of the day, turn the machine off and go home. Material can stay in the machine indefinitely.

Low Overhead — Immediate Cash Flow! Business can be operated from your home or as an addition to an existing business. Most sealcoating transactions are handled by cash payment upon completion, covering your costs immediately.

Extend Your Season — Add pavement maintenance to your lawn care business, and watch your profits soar! Call or write today!

Yes, please send me your Profit Pack of information on sealcoating.

Name _____

Address _____

City, State, Zip _____

Telephone # _____

Type of existing business _____

These we waste.



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

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

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

Plus you get the peace of

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

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

These we don't.



area frequently used by people and animals.

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

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

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

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

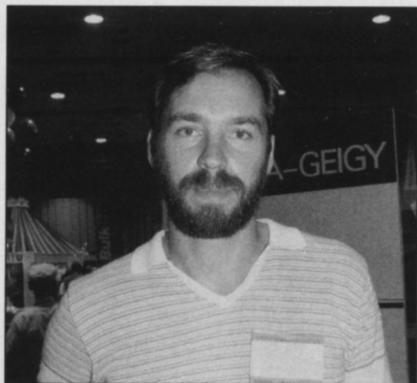
line that includes **CHIPCO®** brand 26019 fungicide and **CHIPCO® RONSTAR®** brand 2G pre-emergent herbicide.



 RHÔNE-POULENC AG COMPANY

VIEWS ACROSS THE INDUSTRY

COULD YOUR COMPANY HANDLE A PESTICIDE SPILL?



"We are implementing training for those procedures and we're currently looking into adding to the equipment that we have to deal with those spills — for which I have to admit has been inadequate in the past. But after attending the regional PLCAA seminar, they demonstrated a number of products there which could be very useful. People don't want to do the wrong thing and want to be sure they're adequately prepared, and that's how we're acting." — *Greg Worrel, Down-to-Earth Lawnspray, Detroit, Michigan*



"Right now we don't carry shovels or any kind of kitty litter with us — and we've often said that we should. Our trucks are small to start with. We don't tank over 200 gallons mix which isn't that much of a problem. We've had more problems here with improper applications. We have procedure manuals in the trucks at all times with specific steps spelled out. They've certainly been well-versed on who to contact immediately for problems." — *Rhonda Rathbun, FAF Enterprises, Hillsburgh, Ontario, Canada*



"We're somewhat prepared. Last year we used almost all granular materials and all of our trucks were equipped with push brooms and a garbage can. Our guys also have a list of numbers to call if something major should occur. This year we're changing over to some liquid fungicides, so we're looking into what we need to have on the trucks. We're looking at improving safety in general; we've had several training programs. You have to keep production up, but safety always comes first." — *Don Henneberg, Natural Lawns, Arlington, Virginia*

CALENDAR

April 20-22

The Landscape Industry Show, Long Beach Convention Center, Long Beach, Calif. Contact: Yvonne Fenner, show manager, California Landscape Contractors' Association Inc., 2226 K Street, Sacramento, Calif. 95816; 916/448-2522.

April 23

9th Annual Texas Wildflower Day at Texas Woman's University, Denton, Texas, Carroll Abbott Memorial Symposium. For more information, call 817/898-3326.

May 15

Interior Pricing for Profit (Level 400), Sheraton Airport Inn, Columbus, Ohio. Contact: Associated Landscape Contractors of America, 405 N. Washington St., Falls Church, Va. 22046; 703/241-4004.

May 18

North Carolina Turf and Landscape Field Day, NCSU Turf Field Center, Raleigh, N.C. Contact: J.M. DiPaola, Box 7620, North Carolina State University, Raleigh, N.C. 27695-7620; 919/737-2657.

June 6

Enhance Your Visual Presentations with Graphics (Level 200), (Geared toward those installing

projects, who'd like to enhance their client presentations.) Radisson Mart Plaza — Airport. Contact: Associated Landscape Contractors

July 10-12

Mid-Atlantic Nurserymen's Summer Trade Show, Virginia Beach, Va. Contact: Mid-Atlantic Nurserymen's Trade Show Inc., P.O. Box 314, Perry Hall, Md. 21128; 301/256-6474.

July 11

Exterior Pricing for Profit (Level 400), Harvey Hotel — DFW Airport, Irving, Texas. Contact: Associated Landscape Contractors of America, 405 N. Washington St., Falls Church, Va. 22046; 703/241-4004.

July 25-27

EXPO 88, Louisville, Ky. Contact: Mary Jane Reynolds, sales director, International Lawn Garden & Power Equipment Expo. P.O. Box 70465, Louisville, Ky. 40270; 800/558-8767.

July 26-28

1988 Midyear Dealer Conference (Roundup), Indianapolis, Ind. Contact: Lisa Scott, National Fertilizer Solutions Association, 10777 Sunset Office Dr., Suite 10, St. Louis, Mo. 63127; 314/821-0340.

August 12-15

1988 TAN-MISSLARK Regional Nursery and Garden Supply Show, Astrohall, Houston, Texas. Contact: TAN-MISSLARK, 7730 South IH-35, Austin, Texas 78745-6621; 512/280-5182.

October 22-24

Third Annual Landscape Exposition, Nashville Convention Center, Nashville, Tenn. Contact: Becky Lerew, show manager or Mary Sue Christoffers, sales manager at 203/853-0400; or write to Landscape Exposition, 50 Washington St., Norwalk, Conn. 06854.

Nov. 7-10

9th Annual Professional Lawn Care Association of America Conference and Trade Show, Superdome, New Orleans, La. Contact: Doug Moody, PLCAA, 1225 Johnson Ferry Rd., N.E., Suite B-220, Marietta, Ga. 30068; 404/977-5222.

Nov. 17-21

1988 PGMS/ALCA Green Team Conference, Buena Vista Palace at Epcot Center, Lake Buena Vista, Fla.

Dec. 1-3

1988 NFSA Annual Convention & Show, Cincinnati, OH. Contact Lisa Scott, 314/821-0340.

NEWS IN BRIEF

DAVEY TO REDUCE PESTICIDE USE BY 75%

The Davey Tree Expert Company, Kent, Ohio, has initiated programs which will reduce the use of traditional pesticides by 75 to 80 percent in tree, shrub and lawn care services by 1990.

After more than 10 years of research and development, Davey initiated its Plant Health Care® concept last year in select geographic territories to verify its effectiveness under actual customer service conditions.

According to the company, Plant Health Care is a systematic approach to developing strong, vigorous plants through the use of diagnostic checkups, prescription pest management, proper nutrition and cultural practices.

This comprehensive care of lawns, trees and shrubs is designed to strengthen a plant's natural ability to resist certain insect and disease pests. It also allows minimal use of pesticides while maintaining an optimum level of pest control.

Roger Funk, vice president of technical and human resources, said a key development in reduction resulted when Davey researchers mixed soaps with reduced amounts of pesticides. Researchers found that soaps not only control pests, but also act as a sticky adhesive which provides a residual effect by adhering the pesticides to leaves for a longer period of time. This causes no negative affects to the plants themselves.

In addition, insecticide and herbicide use in selected territories were effectively reduced 40 percent and 50 percent, respectively, through the use of the patented Davey Customizer® which is designed for spot application of pesticides. Through use of this unit, pesticides are not tank-mixed, but secured in a separate reinforced tank and injected in the fertilizer line only as needed.

In five representative territories where Davey's tree and shrub spray services were monitored, traditional pesticide use was reduced by approximately 50 percent through alternative materials, more effective identification of insects, diseases and plant disorders and prescription spraying.

In another five territories where lawn spray services were measured, the use of insecticides and herbicides was reduced by approximately 40 percent and 50 percent, respectively, through the use of specially designed application equipment.

To achieve further pesticide reductions, researchers are continuing to test alternative products such as mineral, Neem and citrus

oils and natural pesticides derived from plants such as Rotenone and Pyrethrum.

Davey researchers project another 25 percent reduction in traditional pesticide use in tree care for 1988. The reduction will come from spraying techniques to reduce drift and increase accuracy, use of application equipment to control pressure and more effective plant monitoring by a trained field staff.

Researchers are working with Nematodes, Milky Spores and natural pesticides as alternatives which they project will account for an additional 25 percent reduction in traditional pesticide use by 1990.

COPARR SEEKS SUPPORT IN BATTLE AGAINST BOULDER

Members of COPARR Ltd., a Colorado-based pesticides group, have reached a critical point in their legal struggle with the city of Boulder.

Although committed to overturning two local ordinances which attempt to illegally regulate pesticide use in the city of Boulder, the group's attorney fees have far exceeded its bank account, according to Steve Day, COPARR president.

COPARR — Colorado Pesticide Applicators for Responsible Regulation — is

PESTICIDES SESSION DRAWS BIG CROWD AT MICHIGAN TURF SHOW

The 58th Annual Michigan Turfgrass Conference was a huge success not only for its organizers, but its attendees.

While the show's organizers saw attendance creep over the 1,000 mark, the attendees were filled with information on "Concerns with Pesticides in Turfgrass Management."

Unlike any of the other 30 to 50-minute educational sessions, an afternoon was set aside to discuss the growing importance of pesticides in the industry.

Leading the pesticide assault was Lawrence Fischer, director of the En-

vironmental Toxicology Center at Michigan State University. His talk on 2,4-D was followed by the discussion of fact and fiction of pesticide risks by Richard Cooper of the University of Massachusetts at Amherst and pesticide regulations by James Wilkinson, executive director of the Pesticide Public Policy Foundation.

Fischer pointed to epidemiology studies which showed there was no higher incidence of cancer in manufacturing personnel using 2,4-D. He said the results were similar for applicators. Chemical applicators and manufacturing personnel are the groups with the highest exposure.

More than 10 studies have shown the same results, he said, including recent studies in New Zealand and Washington state. Particularly relevant is that all the studies show that 2,4-D doesn't cause cancer when tested in sensitive strains of mice and rats.

Cooper stressed the importance of education on pesticides and the need to differentiate between fact and fiction. "As far as turfgrass goes, the (pesticides) scare is based more on emotion rather than scientific fact."

Other facts Cooper attempted to set straight included the fact that 99 percent of a person's exposure to carcinogens can be attributed to natural plant toxins, mold carcinogens, byproducts of cooking foods, smoke from tobacco, alcohol and radon gas.

As far as environmental pollution is concerned, he said, studies to date haven't shown turf pesticides to have an effect on ground water. Low application rates, few applications, microbial decay and photodecomposition all limit pesticide movement in soils.

No matter how many scientific facts are presented, there will always be those who will doubt the safety of pesticides, he said.

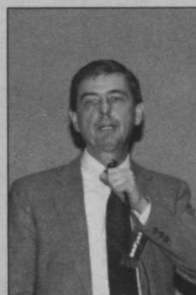
To combat this, Wilkinson said, the industry has a huge public relations job to accomplish — a job which should begin with each individual company.

"As far as I'm concerned, we have nothing to hide in this industry," he said. "Your role is to train yourself and employees, and to work toward a reasonable pesticide public policy."

Although only a limited number of states including Rhode Island and Massachusetts have passed posting and prenotification regulations regarding pesticides, the list won't stop there.



Cooper



Fischer

vironmental Toxicology Center at Michigan State University. His talk on 2,4-D was followed by the discussion of fact and fiction of pesticide risks by Richard Cooper of the University of Massachusetts at Amherst and pesticide regulations by James Wilkinson, executive director of the Pesticide Public Policy Foundation.

Fischer pointed to epidemiology studies which showed there was no higher incidence of cancer in manufacturing personnel using 2,4-D. He said the results were similar for applicators. Chemical applicators and manufacturing personnel are the groups with the highest exposure.

a non-profit organization dedicated to environmentally safe pesticide use.

The lawsuit was filed in federal court by COPARR as a "last resort" to protect rights of structural and outdoor pesticide users.

Although the group has received a fair amount of financial support, Day said, he is looking to the Professional Lawn Care Association of America, the National Pest Control Association and the Pesticide Public Policy Foundation for more support.

COPARR has a current financial need of \$15,000, with only \$7,000 in its fund, Day said.

The controversy stems over the issue of pre- and post-notification of indoor and outdoor pesticide applications. Two ordin-

ances passed by Boulder City Council require that pesticide applicators provide notice both before and after a pesticide application has been made.

In its suit, COPARR states that city officials disregarded both congressional intent and legal precedent by passing the ordinances.

"We spent an entire year meeting with city staffers and political leaders to educate them about the FIFRA (the Federal Insecticide, Rodenticide, Fungicide Act) provisions regarding local regulation," Day said. "We had hoped that once they knew about the legal precedents on pesticide regulation, Boulder would drop the idea. But they ignored our information and passed the or-

dinances anyway."

Under FIFRA, only state and federal governments can regulate pesticides. However, city officials are claiming they're exempt from such regulations because Boulder is considered a "home rule" city. Within home rule boundaries, the state takes a hands-off attitude, according to Day.

With COPARR's suit pending in federal court, the city of Boulder has filed suit against the Environmental Protection Agency and the state of Colorado to protect its home rule status.

Day said the FIFRA law was recently tested in a Maryland court, in which case a federal judge upheld the fact that local governments cannot regulate pesticide use, period. Home rule status was not an issue in this case.

Boulder's ordinance regulating structural application of pesticides is currently in effect, but the issue of regulation over outdoor application of pesticides is on hold pending the outcome of the lawsuit.

COPARR is not opposed to the idea of pre- and post-notification, however, the organization wants to see such a regulation passed on a state level to maintain uniformity, according to Kevin Cooney, COPARR public relations chairman.

The case is not expected to be heard until next year because of a court backlog. Any ruling will affect six states in the Colorado region, Day said.

TRU GREEN ACQUIRES KEYSTONE LAWN SPRAY

Keystone Lawn Spray, formerly a division of Keystone Conservation Service, was recently acquired by Tru Green Corp. of Alpharetta, Ga.

Keystone, located near Philadelphia, was consistently ranked among the 50 largest lawn care companies in the country. Although it started primarily as a Pennsylvania firm, it expanded into New Jersey and parts of Delaware in the last few years.

Tru Green had been negotiating the buy out for several months and completed the acquisition for an undisclosed sum. The acquisition was the second in as many months for Tru Green, who just completed the buy out of Old Fox Lawn Care Inc. of Rhode Island.

PBI/GORDON REBATE COUPONS TO BENEFIT GREEN INDUSTRY

PBI/Gordon coupon users now have the opportunity to have their rebate checks made payable to any green industry group or project they designate.

(continued on page 16)

FORBES



NATURAL ORGANIC
Milorganite
FERTILIZER

**The finest golf courses in
America are fertilized
with Milorganite.**



America's Number One Naturally Organic Fertilizer For Over 60 Years

Milwaukee Metropolitan Sewerage District

735 North Water Street • Milwaukee, WI 53202

Circle 18 on reader service card

You never know what's hit you when you see patch disease. It could be Fusarium blight. Or necrotic ring spot. Or summer patch. Or take-all patch. Or spring dead spot. Or any combination.

They all look very similar on turf. Only with a microscope can you tell them apart. So guessing which one's causing your patch disease still leaves your turf open to the other four.

That's why complete coverage pays. And only Rubigan is labeled to prevent and treat all five of these pathogens that cause patch disease.

Not to mention dollar spot, snow mold, copper spot, red thread and stripe smut. And this spring is an excellent time to begin your preventive program.

Why take chances controlling only part of the patch disease problem? Span the spectrum with Rubigan. See your Elanco distributor. Or call toll-free: **1-800-352-6776**.

Circle 33 on reader service card

Elanco Products Company
A Division of Eli Lilly and Company
Lilly Corporate Center
Dept. E-455, Indianapolis, IN 46285, U.S.A.
Rubigan®—(fenarimol, Elanco)



Only Rubigan® spans the patch disease spectrum.

FUSARIUM BLIGHT

NECROTIC RING SPOT

SUMMER PATCH

TAKE-ALL PATCH

SPRING DEAD SPOT

4" MADE IN U.S.A.

NEWS

(continued from page 14)

And, the Heart of America Golf Course Superintendents Association is taking full advantage of the offer to raise funds for the Kansas State/HAGCSA research green.

PBI/Gordon uses rebate coupon offers to promote their professional vegetation management products. Each 1988 coupon informs the user that the coupons can be used as a contribution to the local turfgrass council, Golf Course Superintendent Association of America research or scholarship fund and other non-profit turfgrass or horticultural groups of their choice.

"We want to help promote the development of professionalism in the management of fine turf," said Everett Mealman, president of PBI/Gordon. "It's our way of saying 'thank you' for the continued support of the professional turf management industry."

Members of the HAGCSA see this unusual offer as a way to help defray costs for the \$25,000 bentgrass putting green being installed at Kansas State University in Manhattan. Group members have donated all materials and labor for the new research green.

Ten dollar rebate coupons are available

on three products: Embark® Plant Growth Regulator, Atrimmec® Plant Growth Regulator and Transfilm® Anti-Transpirant. Five dollar rebate coupons are also available on a variety of products.

All coupons are redeemable for end-user purchases made between Jan. 1, 1988 and Dec. 31, 1988. Coupons must be accompanied by proof-of-purchase and submitted to PBI/Gordon for redemption by Jan. 30, 1989.

Further information on the rebate program can be obtained by contacting your authorized PBI/Gordon distributor or by contacting PBI/Gordon Corporation, P.O. Box 4090, Kansas City, Mo. 64101. 1-800-821-7925 or in Missouri call 1-800-892-7281.

SPRAY-A-LAWN GAINS NEW CUSTOMER BASE WITH GREENWORLD

Spray-A-Lawn, an Akron, Ohio-based company recently purchased the chemical lawn service business of Greenworld Inc.

The acquisition gives Spray-A-Lawn the opportunity to extend its customer base into Dover, New Philadelphia and the surrounding areas of central Ohio, according to J. Martin Erbaugh, president of Spray-

A-Lawn. Greenworld is a full service landscape maintenance firm owned by Fredric R. Haskett Inc.

Spray-A-Lawn will now provide a program of lawn care applications and services for Greenworld's former residential and commercial lawn care customers.

Spray-A-Lawn is a wholly owned subsidiary of Lawnmark OH, Inc., also based in Akron. Spray-A-Lawn, Lawnmark and affiliates comprise one of the largest regional lawn care firms in the United States, with more than 40,000 customers in Ohio, New York, Pennsylvania and Virginia.

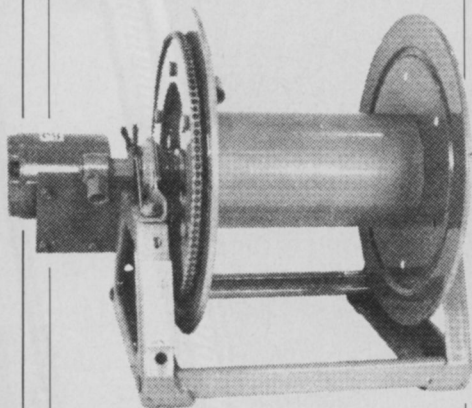
Sales are expected to exceed \$8 million in 1988.

BRIGGS & STRATTON TO BUILD \$27 MILLION PLANT IN MISSOURI

Briggs & Stratton Corp. recently announced it will begin construction of a \$27 million plant in Poplar Bluff, Mo., that will create up to 500 jobs, said Kenneth H. Dellermann, vice president of manufacturing.

The 220,000-square-foot plant will facilitate the production of the Quantum engine which is produced solely in Milwaukee. ■

ELECTRIC HANNAY HOSE REELS NEW IN THE BOX



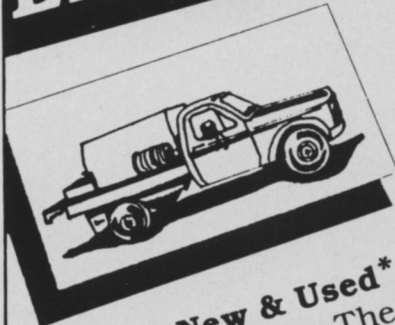
\$339.00

WE PAY THE FREIGHT
HERSCH'S INC.
1-800-843-LAWN
(313) 543-2200 MI

WE SHIP ANYWHERE
IN THE U.S. AND CANADA —
IMMEDIATE DELIVERY.

Circle 15 on reader service card

LEASE



Quality New & Used*
Equipment From The
Experts!

*Complete Sprayer Units
Available with Payments
as low as \$250.00 per mo.
FOR DETAILS CONTACT:

Mike Bush
Bush and Cook
Leasing, Inc.
1600 W. Main St.
Wilmington, OH 45177
Toll Free 800-342-4784
In Ohio 513-382-5502

Circle 92 on reader service card

The Lawn Solution

State-of-the-Art
Lawn & Tree Care
Management Software

Don't buy any other system
until you have seen "The
Lawn Solution". The
advantages will be obvious.

FOR MORE INFORMATION CALL

313-353-0351

PC
SUPPLY
COMPANY

24175
Telegraph Rd.
Southfield,
Michigan 48034

Circle 60 on reader service card

PLCAA UPDATE

A new Hazard Communications program is now available to members of the Professional Lawn Care Association of America. Produced by the PLCAA, the package includes a training manual, slide program and audio tape describing Occupational Safety and Health Administration (OSHA) requirements that become effective May 23. Materials outline compliance guidelines for pesticide user groups and address the regulation which requires them to act in accordance with the Super Fund Amendment Act of 1986.

Doug Moody, PLCAA's assistant executive director, said the program details exactly what the Act requires of employers in providing "right-to-know" information at the workplace. The package covers where work stations should be established and the need for Material Safety Data Sheets where hazardous materials are present.

Moody said the program can be used as both a trainer's guide and a reference source to directly serve employees. "You can sit them down in front of the slides and explain what all the hazard communications requirements are — the fact that they should be aware of the materials used in the

workplace and what to do in an emergency," he said.

The program has been reviewed by OSHA, Moody said. He added that the PLCAA is confident it will serve as a valuable tool in helping lawn care operators be in compliance, and avoid scrambling around for other sources of information.

The package is estimated to cost \$200. PLCAA members will receive related mailings this month.

The PLCAA is also offering a pre-season sale on various slide/video training programs. Buy four of their video programs and you can get one free. There are similar savings on the slide programs and training manuals as well.

Bargain prices are available on the association's entire library of "ProSource" technician training videocassette (1/2-inch VHS format) or slide programs (complete with audio tape and script).

ProSource training videos are designed especially for the lawn care market by the PLCAA in cooperation with industry ex-

perts. Each program is a comprehensive, step-by-step guide to one facet of professional lawn care. Many are offered with a supplemental workbook that augments and reinforces the video presentation.

Video cassette programs include: Destructive Turf Insects (Northern version), Destructive Turf Insects (Southern version), Weed Identification and Control, Diseases of Turfgrass, Pesticide Handling for Lawn Care, Lawn Aeration and Liquid Calibration.

Slide programs include: Destructive Turf Insects (Northern version), Destructive Turf Insects (Southern version), Destructive Turf Insects (U.S. version), Weed Identification and Control, Diseases of Turfgrass and Pesticide Handling for Lawn Care.

Workbooks and Identification Guides include: Diseases of Turfgrass, Broadleaf Weeds in Turf, Pesticide Handling for the Turf Industry, Liquid Calibration and Application Techniques and the PLCAA Safety Manual.

For more information, contact: PLCAA, 1225 Johnson Ferry Road, N.E., Suite B-220, Marietta, Ga. 30068; 404/977-5222.

Feldmann

Model 2300 Multi-Purpose Turf Care Machine. For the professional lawn care and rental industry.

Walk-behind versatility for: core plugging aeration, slicing/scarifying for over-seeding, comprehensive slicing aeration, tilling/cultivation.

Core aeration performed at the pace the operator chooses. Core depth is achieved by strategically placed 45-lb. quick-release weight bar.

Soil scarifying penetration via the use of depth stick. 20-lb. quick-release weight bar or operator restraint applied at the handle bars.

Optional accessories — 20-lb. quick-release weight bar for slicing machine and a 45-lb. quick-release weight bar for the plugging aerator.

Powered by Honda 3 1/2-hp GX series overhead valve 4-cycle engine with oil alert feature. Easy starting, maintenance-free electronic ignition. Chain drive. Fold-down handle for compact storage and transport. Lift grip. Weight 128 lbs.



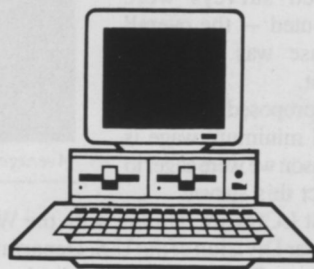
Circle 79 on reader service card

Feldmann

ENGINEERING AND MANUFACTURING CO. INC.,
SHEBOYGAN FALLS, WISCONSIN 53085 Dept ALA

LAWN ASSISTANT

Software for the Lawn & Tree Care Industry.



Call us to receive a free 80 page publication on choosing a computer system for lawn and tree care.

REAL GREEN COMPUTERS

2775 Haggerty Rd.
Walled Lake, MI 48088
(800) 422-7478

Inside Michigan call
(313) 669-1118

Circle 54 on reader service card

LABOR COSTS

Take a peek at what your lawn care peers are paying their employees as identified in our 1988 Labor Costs survey.

You say your wage scale is competitive with the marketplace? No doubt it is. It's getting harder and harder to find good workers, so you've got little choice. You can't take a look at everybody's books, however, so there's no way to know for sure if your wage and benefit package is in line with your competition. If you're at all curious about your lawn care peers, here's a chance to find out.

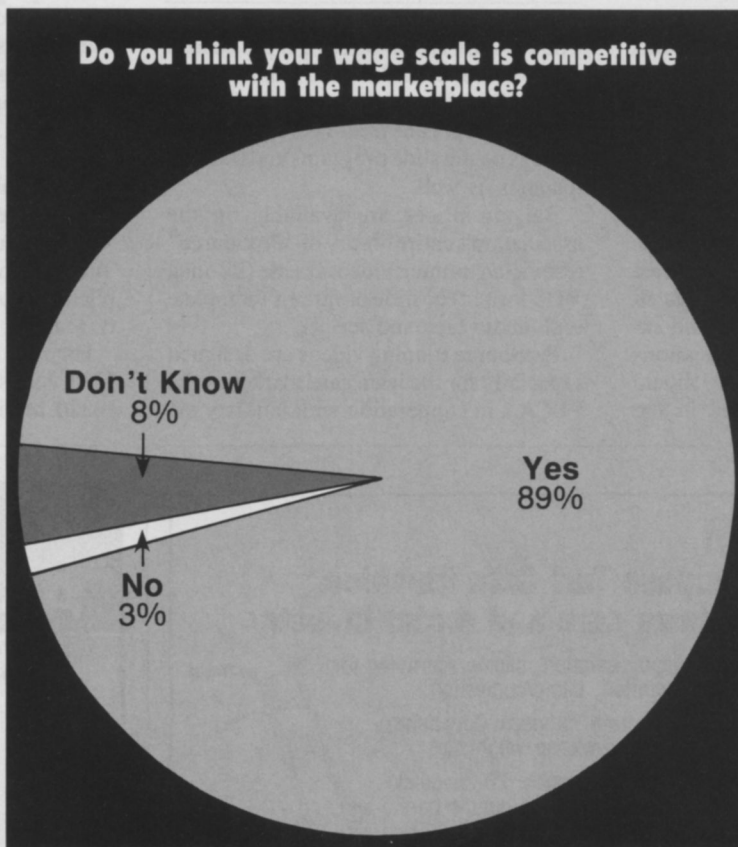
The following report was compiled from data submitted by 72 LCOs throughout the United States who participated in *ALA* magazine's 1988 Labor Costs survey. Three hundred surveys were distributed — the overall response was about 24 percent.

The proposed increase in federal minimum wage is one reason we were eager to conduct this survey.

Most LCOs are familiar with the Wage and Hour Division of the U.S. Department of Labor Employment Standards Administration. Wage-Hour administers and enforces the Fair Labor Standards Act under which a lawn care service is recognized as a retail or service establishment.

The Act states that firms which gross an annual sales volume of more than \$362,500 must pay employees no less than the federal minimum wage — \$3.35 per hour. (If you fall below this threshold level, you pay state minimum wage.)

Federal minimum wage — \$3.35 since January 1981 — may jump to \$4.25 on July 1, according to one proposal. How will this impact the lawn maintenance industry? Our results indicate it won't directly affect most operators as they already pay an average



Averages based on 72 U.S. respondents.

hourly rate above minimum wage.

Elsewhere, our survey results reveal that the vast majority of firms offer their employees such benefits as health coverage and bonuses. More than one-fourth provide benefits to seasonal employees. Perks include everything from personal use of a company vehicle to annual fishing trips.

In presenting these survey results, *ALA* hopes to spotlight trends in the industry. We think the data will serve as a handy reference tool. Here's the results.

RESPONDENT PROFILE. Our 72 survey respondents collectively employ 961 people. On the average, these firms employ 13 people year-round and 11 more during peak season. Individually, the various operators have on hand anywhere from zero

to 200 people throughout the year, and zero to 77 more seasonally.

The average annual operating budget totaled \$394,476, while individual budgets ranged from \$8,000 to \$2.8 million.

WAGES. Of the people employed by the firms during peak season, 94 percent are paid hourly wages and 6 percent are paid salary. Our results indicate that a total of 11 (1 percent) receive minimum wage.

Of those we defined as *permanent* employees (anyone who is employed throughout the entire year), 29 percent are salaried workers and 71 percent are paid an hourly rate. In this category, only three employees from the total 961 were listed as receiving no more than the minimum wage.

In the area of starting wages, respondents indicated that the average

wage for seasonal employees is \$4.61 per hour and \$5.67 hourly for those employed year-round. For seasonal employees, hourly wages varied from the federal minimum to \$6 per hour. Those employed year-round were compensated with hourly wages ranging from \$2.75 to \$11

The average wages for seasonal employees was reported to be \$5.60 per hour, while it averaged \$6.53 for permanent employees. Here the range went from \$3.75 to \$10 hourly for employees who work the peak season, and \$3.25 to \$16 for those employed year-round.

Jim Wilkinson, who is currently doing work with the Professional Lawn Care Association in the area of regulatory and environmental affairs, said an increase in the federal minimum wage probably won't

affect people who are employed in the lawn maintenance industry as they are typically compensated above that level.

Wilkinson also mentioned that there is already a "tremendous" amount of pressure to push wages up because of the difficulty lawn care companies have in finding workers. This is particularly true on the East Coast where unemployment is low and wages have been moving up rapidly over the last two or three years, he said. "I think we're far and above the minimum wage for the most part," said Wilkinson. "At least in the North and particularly in the Northeast."

Very few companies pay just minimum wage, he added. "A few companies may hire high school kids in the summertime, but even those kids are being paid \$4 to \$5 an hour."

Bruce Hovey, co-owner of Palmetto Environmental Industries Inc., Aiken, S.C., feels the same way. Hovey and his business partner Todd Stilp employ 20 people year-

Hourly wages paid to seasonal employees

Starting — \$4.61

Average — \$5.60

Hourly wages paid to permanent employees

Starting — \$5.67

Average — \$6.53

round and four to six others during the peak season. Hovey said he doesn't expect an increase in minimum wage to impact his business. "We pay above the minimum wage right now. In fact, we feel that our wages are higher than the industry average."

Hovey said that he and Stilp have seen

wages remain fairly stable over the past few years. "They've definitely been stable; pretty much in line with the cost of living and inflation."

Howie Pitts, chairman of S & H Landscape, Sitka, Alaska, doesn't feel the increase will have an effect on his marketplace. Pitts has a staff of one year-round and an additional two employees seasonally. "It won't have much of an impact around here, not in this area," said Pitts. "We pay more than the minimum anyway."

Pitts also said wages have remained stable over the past few years.

BENEFITS. Sixty-six percent of the firms reported that they provide their permanent employees with health coverage. Life insurance was offered by 36 percent of the respondents. The second most prominent benefit LCOs seemed to be offering was bonuses. Here 67 percent of the employers offer their people such an incentive for a

THE GOLDEN STATE

One-third of our responses came from the state of California. Not surprisingly, this state tipped the scales with wage levels somewhat higher than the rest of the country. Here many of the respondents are landscape maintenance professionals, with an average annual operating budget more than double that of the lawn care operator's national average.

A year-round climate that's conducive to lawn maintenance, plus a higher cost of living, no doubt account for differences in wage practices. But since we often spot trends coming from the West, below we've featured survey results from California.

RESPONDENT PROFILE. Twenty-three landscape maintenance firms submitted wage and benefit data for our 1988 survey. Of those respondents, the annual operating budget averaged \$841,648. Individual company budgets ranged from \$48,000 to \$2,800,000.

Collectively, the number of employees totaled 151. The average number of additional people employed during the peak season was 10, with an average of 28 employed year-round.

WAGES. Of the seasonal employees, firms reported that 85 percent are paid hourly, 15 percent are on salary and 0 percent are paid minimum wage. The survey revealed that 18 percent of year-round employees are paid salary, 81 percent receive hourly compensation and 1 percent are paid minimum wage.

Though it appears that only a small percentage of permanent employees are paid federal minimum wage, a change in this hourly rate could eventually alter payment practices in the lawn maintenance industry.

John Hermann, president of Total Employee Relations Services, Irvine, Calif., one of the largest labor consulting firms on the West Coast, said a change in the minimum wage will affect most service industries, including lawn maintenance. "The inflationary impact will be significant and substantial,"

said Hermann. "I think this is really the tip of the iceberg and that future increases will be in the offing."

Robert F. Millman, managing partner of Littler, Mendelson, Fastiff and Tischi, Los Angeles, Calif., the largest labor relations in the country representing the employer community, agreed with Hermann that an increase from \$3.35 an hour would have an impact on lawn care service. "There will be an upward ripple effect with regard to the entire industry," Millman said. "Clearly it's going to mean the jacking up of the costs by the contractor because he's now going to have to pay employees a minimum of \$4.25."

Starting wages for seasonal employees averaged \$5.12 per hour. And though a few operators pointed out that the starting wage for year-round employees varied based on experience, this total (\$5.21) was only 9 cents higher per hour.

Collectively, average wages for seasonal employees ranged from \$5 to \$9 hourly (average \$6.51). Average wage for year-round employees totaled \$7.28, with a range from \$3.25 to \$16 per hour.

BENEFITS. Fifty-six percent of permanent employees benefit from health insurance plans their firms offer. Bonuses were offered by 56 percent and 17 percent included life insurance in their plan. Only 9 percent of the firms offer a retirement plan. More than one-fourth provide other benefits such as profit sharing, sick days and paid vacations.

Twenty-one percent of the firms which responded to the survey offer benefits for seasonal employees. Individual employers listed these as paid holiday and vacation days, sick days and health insurance. Included among the perks were bonuses, free lunches and personal use of the company truck.

COMPETITION. One hundred percent of our respondents reported they felt their wage scale was competitive with the marketplace.

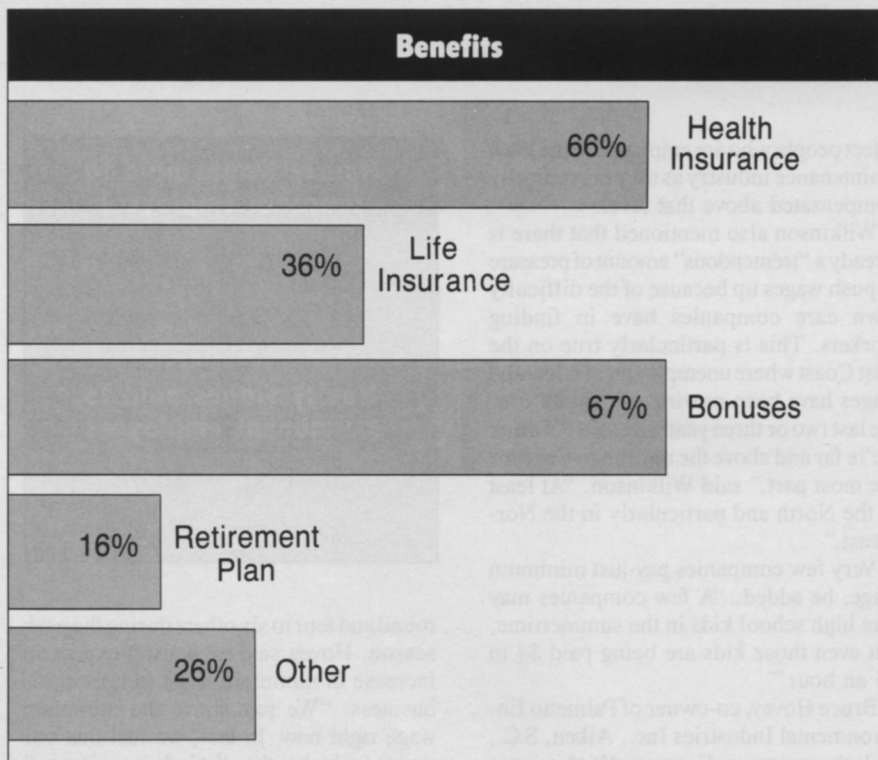
job well done. Results indicate that 16 percent of the firms offer retirement plans.

Twenty-six percent of the respondents reported that they offer benefits which fell under the category of *other*. In this area, lawn care operators listed profit sharing, personal use of the company vehicle, dental insurance, uniforms/clothing allowance, birthday holidays and paid vacations.

Twenty-eight percent of the seasonal employees benefit from various fringes including health coverage, paid vacations and bonuses. Other offerings include uniforms and workmen's compensation. Among the added perks were company outings, discounts and incentives. One LCO named *plenty of hours* as the benefit he offers those employed seasonally.

COMPETITION. Eighty-nine percent of our U.S. respondents felt their wage and benefits package was competitive with the marketplace. Three percent felt that what they have to offer was less than that of the competition. Eight percent said they don't know.

ALA magazine wishes to thank all those who participated in the 1988 Labor Costs survey. Any comments or questions on the data are welcome. Perhaps you have suggestions for conducting a future survey on



Percentage of employers offering fringe benefits.

labor costs in the lawn care field. If so, please address correspondence to: ALA magazine, 4012 Bridge Avenue,

Cleveland, Ohio 44113. — Julie November
The author is Assistant Editor of ALA magazine.

Grounds Managers

This Is What PGMS Is Doing For You



If you haven't checked out the Professional Grounds Management Society recently, then you're in for a surprise. We're offering a bundle of new benefits that make joining PGMS more rewarding than ever! Here's what we've been up to and how you can benefit:

ANNUAL CONFERENCE AND TRADE SHOW - The yearly forum bringing together grounds managers, top speakers, and suppliers for the sharing of knowledge and ideas.

NEWSLETTERS - A newsletter is mailed monthly to keep members current on the affairs of the Society and the latest developments critical to successful grounds management.

CERTIFICATION - Voluntary peer review of acceptable competence to enable you to become a Certified Grounds Manager.

RESEARCH AND SURVEYS - Information on operational practices is gathered for dissemination of all members.

INSURANCE - Included in your membership fee of \$5,000.00 accident and dismemberment insurance.

No matter how large or small your operation, PGMS is your source for the best, most meaningful grounds management information and help. Your membership investment goes to work for you immediately — that's the PGMS promise. Join now and grow with us!

AWARDS - Members are recognized for outstanding achievement in grounds management. Annual Grounds Maintenance Awards Contest.

GROUNDS MAINTENANCE ESTIMATING GUIDE

GROUNDS MAINTENANCE MANAGEMENT GUIDELINES

GROUNDS MANAGEMENT FORMS & JOB DESCRIPTIONS GUIDE

WORKSHOP TRAINING - Management skills covering all aspects of grounds management. Available to all sections of the country.

DISCOUNTS - Members receive discounts on Hertz, Avis and Alamo Rental Cars as well as discounts on a complete line of horticultural publications.

Clip and mail to:
**PROFESSIONAL GROUNDS
MANAGEMENT SOCIETY**
12 Galloway Avenue
Suite 1E
Cockeysville, Maryland 21030

(301) 667-1833

Send me more information on what PGMS can do for me.

Name _____

Company _____

Street _____

City & State _____

Zip _____ Phone _____

CALL TO EXCELLENCE

The outlook for Lawn Doctor in 1988 is better than ever. This is attributed to a higher level of confidence in terms of the company's ability to perform and confidence in its quality of services.

Entering its 20th year of business, Lawn Doctor Inc., Matawan, N.J., is attacking the market stronger than ever. Experiencing confidence and a sense of establishment it's never felt before,

Lawn Doctor is continuing to add to its more than 270 franchises in 23 states on a regular basis. It's also tackling this year's market with a new emphasis on growth and development, according to Russell Frith, president and chief executive officer of the franchise company.

Optional sales, a core aeration study and a new Lawn Doctor seeder were among the messages delivered at a recent Lawn Doctor seminar in Atlantic City, N.J. The three-day seminar was designed to gather representatives of Lawn Doctor's diverse franchises into one setting.

The company held a similar get-together earlier this year in Las Vegas, Nev., but attendance there was not nearly as large as the group of 400 which convened in Atlantic City.

Frith had a number of objectives in bringing together representatives from across the country for Lawn Doctor's "Growing Together by Strengthening Our Roots" seminar. His priority, however, was to initiate communication among franchise owners by staging this first such seminar in the history of Lawn Doctor.

"These people don't normally rub elbows, so it provided the opportunity for those who normally wouldn't talk with each other to share common experiences," Frith said.

The Atlantic City trip also reiterated in a personal way that each franchise is a part of a large organization. But more than anything else, Frith said, the seminar helped emphasize that franchisees have a support staff — 85 in the corporate office alone — ready and willing to help accelerate learning and growth.

"We all have a common benefit — par-

ticularly a common economic benefit," Frith said. "Anything that improves our market share helps benefit all franchisees. There's a strong economic incentive to care about your neighbors."



Ewald Altstadt, Lawn Doctor field representative supervisor, conducts a workshop on servicing optional sales, one of the nine different workshops that attracted nearly 400 attendees at the Lawn Doctor Eastern Regional seminar.

The outlook for Lawn Doctor in 1988 is better than in 1987. Frith attributes this to a higher level of confidence in terms of the company's ability to perform and confidence in its quality of services.

Franchise-related growth should increase anywhere from 8 percent to 9 percent in 1988 — nearly double the growth realized last year. The total combined company growth should jump nearly 10 percent, according to Frith.

To date in 1988, the company is already posting higher figures than anticipated, but it's still too early to tell whether that same growth will continue throughout the year, he said.

Talk of growth prompted discussion of attracting and training of employees in today's market. Recognizing that the number of working teen-agers is on a downward trend — one which will continue well into the 1990s — franchisees must aggressively attack the labor market, according to Fred

Diegtel, vice president of operations.

In addition to conducting employee searches through a labor department, community organizations, nurseries and even senior citizen organizations should be considered.

Once this task is accomplished, training programs are vital to creating a successful staff. Lawn Doctor Director of Training Dave Jones said a franchisee should take the time to recognize the strengths and weaknesses of each employee and work with them accordingly.

Three steps to successful training include giving the employee a proper description of the task, breaking the task down into digestible pieces and giving the employee hands-on experience before being asked to do the task himself.

Jones reminded franchise owners that a wealth of information is readily available for them in the form of videotapes,

slides and manuals. A three-day training seminar is also available for customer service representatives; taking them from right-to-know and labelling information to the identification of diseases. Certification credit is available in most states after attendance at the seminar.

Core aeration is one particular option Lawn Doctor agronomists have been researching. A recent study by the company's agronomy department emphasized the importance of offering core aeration as part of a lawn care program.

Specialists contacted for the survey agreed that root health is a major benefit of core aeration, according to Jack Armstrong, staff agronomist. Core aeration relieves soil compaction, improves the gas exchange and enhances root growth.

Among the specialists surveyed were Jeff Nus, University of Kansas; Paul Rieke, Michigan State University; and Richard Duble, Texas A&M University.

Armstrong said that coring relieves soil compaction and improves nutrient and moisture absorption to enhance root development. For the greatest benefits to root development, coring should be done in the optimum root growth periods of the spring and fall.

While offering the service in the spring may cause some to worry about the increase of crabgrass in lawns, Armstrong said, there is no evidence to support that claim.

A Lawn Doctor study of spring core aeration on home lawns has shown there is no significant increase in crabgrass, regardless of timing of a preemergent grass control. Whether coring is done before or after the preemergent is applied seems to make little difference in the amount of crabgrass in those lawns. Even after a preemergent application, coring does not disturb the chemical barrier.

"Spring aeration makes sense to prepare lawns for summer stress periods," Armstrong said. "Dr. (Paul) Rieke (at Michigan State University) has been saying all along that you can do it in the spring. However, the traditional thought was that you can't do it in the spring because it would ruin your crabgrass control. You can actually aerate twice a year, although it gets expensive."

Summer aeration is not recommended



David Schneider, Lawn Doctor Computer Support Specialist, explains facets of the Lawn Doctor Business Program to one of the four computer workshops which drew over 150 franchise owners and employees.

for any area unless moderate temperatures and adequate soil moisture exists, he said.

From the Lawn Doctor study, the agronomy department developed a regional service schedule for core aeration. The service is generally recommended in the months of April and May all across the country. However, a second choice would

be to offer the service from September through mid-November depending on your location.

The suggested dates are just recommendations and can be altered accordingly, said John Buechner, staff agronomist.

The study further recommended that coring not be done after October 15 on warm season grasses to avoid cold weather injury. Cold season grasses are not as susceptible to cold injury and can be safely aerated through mid-November.

The purpose of the study was to lengthen the production time core aeration could be offered, giving franchises an opportunity to service more customers with this optional service, Buechner said.

"Many people have walked away from optionals, but they're now more vital to sales and growth than ever," said Hal Zeve, Lawn Doctor director of retail marketing. "It gives us a chance to increase dollar volume without increasing service price."

Zeve said service calls from optionals can easily fit into a company's production schedule during traditionally slow periods. But before a franchise runs out and tries to sell optionals, it must first check which optionals are right for its area.

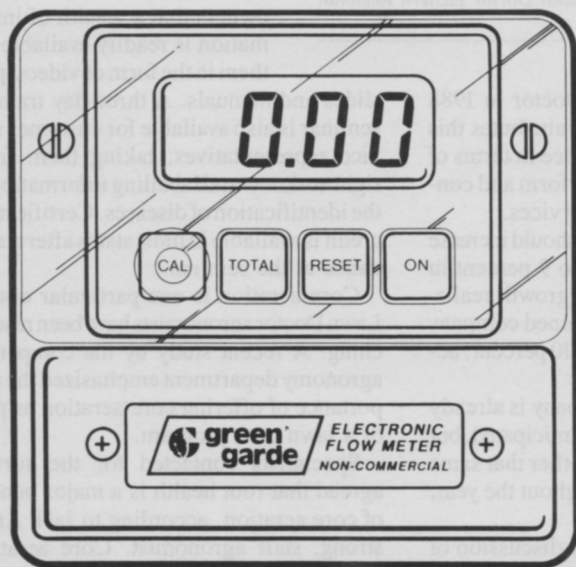
"Optionals are more than a way to make a buck," Zeve said. "Customer satisfaction is the main key because optional sales

NEW!

green garde

ELECTRONIC DIGITAL FLOW METER

... for the Professional **LAWNCARE** and **PEST CONTROL BUSINESS**



LOOK AT WHAT YOU HAVE DONE!

Imagine . . .

You or your applicator have completed a liquid application at one of your key accounts. The Green Garde Electronic Flow Meter monitored this application and displays in large, easy-to-read numbers the amount of liquid pumped. **NO MORE GUESSING OR ESTIMATING!**

NOW — with the Green Garde **ELECTRONIC FLOW METER** you can monitor all your liquid applications and you will know the amount of liquid that you or your applicator has applied on each service call — in gallons, quarts or liters. Record this information on the customer's record — and this vital information will be available at your fingertips for future reference. With the push of a button on the **FLOW METER**, the applicator is off to his next job, continuing to monitor and keep records which may be important in the future of your business.

Cumulative flow data is stored in memory permanently until the batteries are removed.

**ANOTHER QUALITY PRODUCT
from
the Green Garde Spray Team!**

See your Green Garde Distributor, or contact us at: (312) 593-6464
ENCAP PRODUCTS COMPANY, P.O. BOX 278, MT. PROSPECT, IL 60056

Circle 57 on reader service card

are made most often with current customers."

Since an optional sale will often represent a preventative service, franchises must first sell the concept, Zeve said. "Optionals like aerating, seeding and liming are hardest to sell because a customer has no awareness of the need for that service, but they are vital to maintaining a lawn."

Personal contact with customers must be established before the validity of optional services can be presented, he said.

In addition to information on optional sales, Lawn Doctor franchisees were introduced to several new services now available to them. For instance, Lawn Doctor franchisees can now take advantage of a company computerized business system and a group insurance program.

Beginning this fall, Lawn Doctor's new seeder — in research and development for about three years — will also be available to franchisees.

Only six test models of the seeder were in use last fall, but Frith said the seeder is now sufficiently along to bring prototypes into production. He expects to see a fourth-generation model in the field this fall.

Frith said potential demand for the seeder will initially exceed production capabilities. The company does project significant increased revenue when the final version of

the seeder is actively in use. In 1987 alone, Lawn Doctor spent more than \$220,000 on the project.

The cost of the seeder and the method of distribution to franchisees is not yet known, according to officials.

"Seeding is not new for us, or anyone else, we just think we'll be able to do it more efficiently with higher results," he said. "We're growing and we're making the tools to do it."

With all the tools seemingly in place to make a successful company, a franchisee must also consider its customers.

As the keynote speaker, William H. Bleuel, a leader in the field of customer service, satisfaction and retention, illustrated, it's important to relate customer satisfaction to every aspect of the business. "Customer satisfaction should be a goal not an afterthought," Bleuel said. "The cost of acquiring a customer is five times the cost of maintaining one."

Bleuel is president of his own company, as well as a professor in the school of business and management at Pepperdine University in California.

Considering that second chances with a lost customer are hard to come by, Bleuel said, customer satisfaction should be considered a business parameter. "For every service call you make you have two jobs

to do, apply the service and take care of your customer. That parameter will tell you the health of your organization."

To further illustrate the importance of customer satisfaction, Bleuel said 91 percent of the people who complain and nothing is done, will not come back. On the other hand, 82 percent to 95 percent of those whose complaints are solved quickly will come back.

Although it's often difficult to measure customer satisfaction, it's important to get a relative sense of what your customers desire. Bleuel said customer satisfaction can be measured through the mail, by telephone surveys and through personal interviews.

"There are a lot of ways of getting customers to open up to you. They like to tell you what they want," he said. "A survey doesn't have to be expensive, but it should tell you how you can improve your business."

While most of the seminar focused on future expectations and growth, Frith set aside an evening to recognize the accomplishments of 1987. Top achievers in numerous categories were rewarded for their efforts and given the opportunity to celebrate before setting out to achieve loftier goals in 1988. — *Cindy Code* ■

The author is Editor of ALA magazine.

SE STRONG ENTERPRISES, INC.

SALES • PARTS • SERVICE • ACCESSORIES
IN FLORIDA CALL COLLECT (305) 235-0967, OUTSIDE OF FLORIDA - PH: 1-800-228-0905
WE ARE THE ONLY WHOLESALE SUPPLIER OF SPRAYER REPLACEMENT PARTS
DIRECT TO THE LAWN CARE COMPANIES IN THE U.S. CALL US FOR QUOTATIONS

Bean Piston Pumps



JD9-C
SPRAY GUN
\$92.50

HANNAY REELS

SWITCHES FOR
REWIND REELS
REWIND MOTORS

REEL SWITCHES
\$7.00 EACH
REEL MOTORS
\$120.00



FLUSH
MOUNT

Hypro diaphragm pumps...

25% DISCOUNT ON
HYPRO PUMPS AND
REPLACEMENT PARTS



Medium pressure diaphragm pumps,
to 580 psi, with outputs to 13 gpm.



High pressure diaphragm pumps, to
850 psi, with outputs to 50 gpm.

REPLACEMENT REEL
SWIVEL JOINTS
1/2" \$21.00
1" \$32.00
BASE MOUNT

GLYCERIN GAUGES



PRICE EACH
\$13.50

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
PRICES GOOD ON COD SHIPMENTS ONLY
SOME PARTS OR PUMPS MAY BE SUBJECT TO INBOUND FREIGHT CHARGES
PRICES LISTED DO NOT INCLUDE OUTBOUND FREIGHT CHARGES
WE SHIP THROUGHOUT THE UNITED STATES AND LATIN AMERICA
for complete details and information write or call:

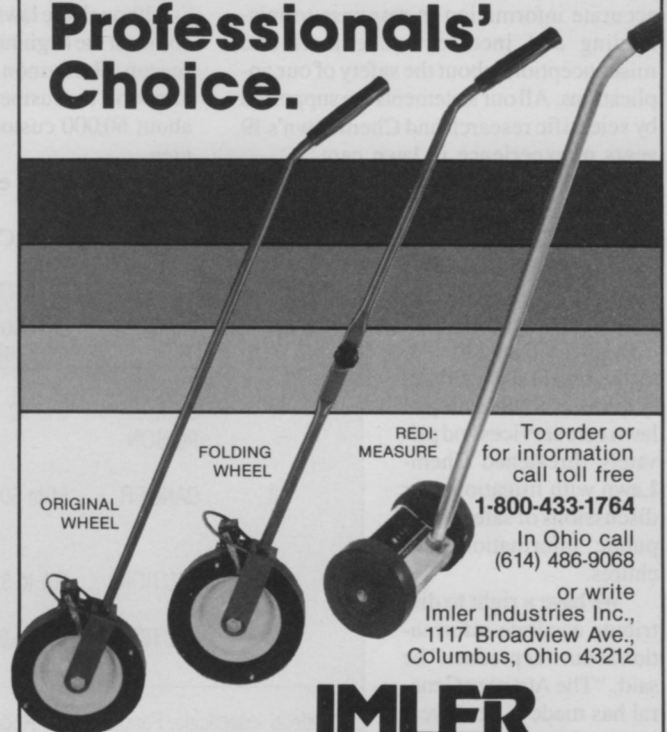
SE STRONG ENTERPRISES, INC.

14090 SW 144 Avenue Rd., Miami Florida 33186
In Florida (305) 235-0967, Outside Florida (800) 228-0905

Circle 58 on reader service card

IMLER MEASURING WHEELS

The Professionals' Choice.



ORIGINAL
WHEEL

FOLDING
WHEEL

REDI-
MEASURE

To order or
for information
call toll free

1-800-433-1764

In Ohio call
(614) 486-9068

or write
Imler Industries Inc.,
1117 Broadview Ave.,
Columbus, Ohio 43212

IMLER INDUSTRIES INC.

Circle 59 on reader service card

CHEMLAWN TAKES ON THE NEW YORK ATTORNEY GENERAL

SUIT AND STATE COUNTERSUIT FILED IN SUPREME COURT

First Amendment rights are at the center of a New York State Supreme Court battle between ChemLawn Services Corp. of Columbus, Ohio, and the New York Attorney General's office.

The state's Attorney General is claiming that ChemLawn provides false and misleading information concerning pesticides to its customers, while the lawn care company has defended its right to provide factual information — backed by scientific fact — concerning its services.

A year of debate preceded the initiation of ChemLawn's lawsuit. When the two could not reach an agreement, ChemLawn asked the Supreme Court of New York to evaluate its public information brochures and rule that they are truthful and accurate and protected by the First Amendment.

"We have filed for a declaratory judgment to protect our right to provide our customers and the public, truthful and accurate information about the safety of our services," said Mary Jane Goldthwaite, ChemLawn's chief administrative officer. "We developed these brochures to provide accurate information in response to misleading and incorrect statements and misconceptions about the safety of our applications. All our statements are supported by scientific research and ChemLawn's 19 years of experience in lawn care."

ChemLawn initiated the lawsuit because of continuing harassment by New York's Attorney General, according to Stephen Hardymon, ChemLawn's director of public and environmental affairs.

Hardymon said the Attorney General has publicly questioned the safety of lawn care services and privately threatened ChemLawn with litigation over discussions of safety in its public information brochures.

"We have a right to distribute accurate information about our product," he said. "The Attorney General has made it a political issue and we are tired of it."

Three weeks later, New York Attorney General

Robert Abrams sued ChemLawn for "fraudulent, deceptive and illegal" advertising regarding pesticide safety. He called for a halt to the ads and a fine for false advertising.

The Attorney General's complaint specifically deals with ChemLawn advertising saying that its applications of pesticides:

1. Are safe and free from risk of harm.
2. Are safe or safer than use of common household products such as baby aspirin or coffee.
3. Are "proven" or in any other way established to be safe from risk or harm.
4. Do not cause harmful effects to adults or children.
5. Do not cause harm to "non-target" plants and animals.

"We're not saying you shouldn't use them, but if ChemLawn is going to advertise, they have responsibilities under the law," said Ann Goldweber, New York's assistant attorney general. "When the EPA grants registration, they don't include a statement of safety. They're misleading the public who perceives it as free from risks."

Although the lawsuit against ChemLawn comes at the beginning of ChemLawn's new season, Hardymon said, it should have no affect on its business. ChemLawn serves about 60,000 customers in the New York area.

The case is not expected to go to court until early May.

Hardymon said ChemLawn has substan-

tiated its statements by providing the attorney general's office with information citing scientific studies and data compiled or reviewed by ChemLawn as part of its safety evaluation of pesticide products used for lawn care.

Dr. Roger Yeary, a board-certified toxicologist and ChemLawn's vice president of health and safety, presented the information to the attorney general's office, Hardymon said.

"However, on all occasions they (attorney general's office) refused to involve board certified toxicologists in the discussion that could have been available to them through the department of health," he said. "They said they had their own scientists...but they were hardly the credentials of Dr. Yeary or the background of many other board certified (toxicologists)."

While ChemLawn presented the Attorney General with scientific data in support of its public brochures, company officials felt the attorney general's office seemed unwilling to recognize basic toxicology theories.

"The attorney general's staff has ignored our requests to expand these discussions to include toxicologists and other persons with expertise in regulating pesticides from the State's Departments of Health and Environmental Conservation," Goldthwaite said. "They are comparing the toxicity of materials in concentrated form to that of our dilute mixture."

According to company brochures, ChemLawn applies dilute solutions of fertilizers, pesticides and water that promote healthy turf and plant growth. All solutions are selectively toxic to weeds, insects or diseases on lawns, trees and shrubs. The solutions are "practically nontoxic" to people, pets and the environment.

Its "practically nontoxic" rating comes from the *Clinical Toxicology of Commercial Products* rating scale.

ChemLawn uses the
(continued on page 62)

Category	Signal word	Oral LD50 (mg/Kg)	Dermal LD50 (mg/Kg)	Probable lethal oral dose/man
I	DANGER POISON	0 to 50	0 to 200	a taste to a teaspoon
II	DANGER	51 to 500	201 to 2,000	1 teaspoon to 2 tablespoons
III	CAUTION	501 to 5,000	2,001 to 20,000	1 oz to 1 pint
IV	CAUTION	Over 5,000	Over 20,000	1 pint to quart

Federal Insecticide, Fungicide and Rodenticide Act.

All of ChemLawn's products fall into Category IV, with a "practically nontoxic" rating.

You Wouldn't Send A Boy To Do A Man's Job

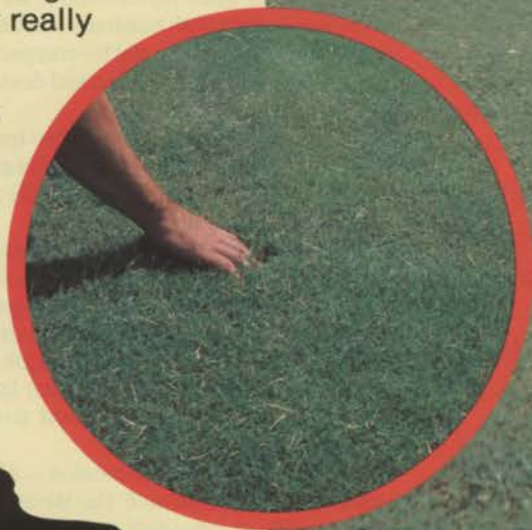
Neither should you use an inorganic, complex micro-nutrient product that is short lived, only supplies iron and no other essential micro-nutrients.

Multigreen, from Regal, with four essential micro-nutrients, is a chemical chelated product that assures long lasting benefits from this slow release source. Micro-nutrients from other sources react with the soil chemistry to become unavailable for plant consumption or use.

For results that count and show for months get Multigreen; it's really the **best** buy.

Over ten years usage without a single complaint.

True
chelate &
True value



Home of RegalStar™

REGAL CHEMICAL COMPANY
P.O. Box 900 Alpharetta, GA 30201
Phone 404/475-4837

Circle 7 on reader service card



Distributor inquiries invited.

ALA'S AWARD FOR PROFESSIONALISM

Greenlon's ability to maintain a high degree of personal customer contact in a competitive marketplace is just one reason it's deserving of our second annual award.

Selecting the winner of any contest is never an easy task. From the nomination form on down to the selection of finalists, the task is full of difficult choices. Such was the experience we faced in selecting the winner of ALA's second annual Award for Professionalism.

From the time the nomination forms went out last fall until the selection of one winner, we were faced with a quantity of quality nominees. Among the nominees were well-known industry leaders whose companies have set high standards in lawn care maintenance, landscaping and chemical application among other things. In addition, we saw nominees who are relatively new to the marketplace — many of whom have already begun to make significant contributions.

Not only did we look at the qualifications of the nominee (which in most cases was the president or owner of the company), we investigated the professionalism of the company as a whole.

Some of the criteria we evaluated included community support, involvement with industry happenings, customer satisfaction programs, condition of equipment, training programs and proper disposal of chemicals.

That's the caliber of nominee we were after — a company which truly embraces professionalism in the workplace,

"I'm very familiar with Greenlon — it's some operation. To do what he's done in a tough marketplace, he deserves a lot of credit."
—Des Rice, president, The Weed Man

in the field and all throughout the industry. That's what makes this award so special — it's a company award. It's a national award which signifies the accomplishments of a whole company rather than a single individual. Rather than individualism, this award is designed for team work. However, by association, we can't forget the individual who built the team and enabled the company to grow to the position it's in today.

The scope of the award is also what makes it so difficult to select one winner. Selecting one winner — one company qualified to receive an award for professionalism — doesn't mean the others aren't equally professional. It just means

we selected one company which we thought added a special quality to its business, making it stand out above the others.

With all that behind us, we're now ready to announce this year's award winner — Greenlon Lawn Care Services of Cincinnati, Ohio, and its President Rick Steinau. Although Greenlon may be considered small in size by some comparisons, it makes a big impact on the competitive Cincinnati marketplace.

Like our first winner, Atwood LawnCare and its President Tim Doppel of Sterling Heights, Mich., Greenlon has gone that extra step in asserting itself in the marketplace — becoming a leader rather than a follower.

Steinau readily admits to creating fires and attacking environmental issues rather than sitting back and waiting for things to happen.

After receiving a glowing nomination from Barry Brown, formerly of Dow Chemical Co., a further review by our staff found that Greenlon promoted an image our industry should be proud of.

As a former sales representative for Dow, Brown was in regular contact with hundreds of LCOs. But after working closely with Steinau and his company, Brown was convinced Greenlon was qualified and deserving of our Award for Professionalism.

Starting from a company with two trucks and seven employees, Greenlon has grown today to a multi-million dollar operation. But Steinau is not taking the company's current status and award for granted.

"I'm very pleased that we're recognized for our good work. There's a lot of people in this industry who are flat out top-dollar," Steinau said. "The award is really an award for history. It's based on our past merit; it means nothing about tomorrow. We've done a good job, but if you sit back and are not creative on a year to year basis, you're dead."

Greenlon's nomination received strong support from ALA's advisory board.

"I'm very familiar with Greenlon — it's some operation," said Des Rice, president of The Weed Man, Mississauga, Ontario. "To do what he's done in a tough marketplace, he deserves a lot of credit."

John Street, associate professor of agronomy at The Ohio State University, also credits Steinau's active involvement within the industry. "Rick (Steinau) has been actively involved in pesticide issues and pesticide organizations in Ohio. He is a true professional and represents the lawn care industry well."

Perhaps the person who has been familiar with Greenlon

almost since its inception is best able to judge one's professionalism. And if there's anyone who knows what Greenlon is all about, it's Bob Davis, a retired Hamilton County Extension Agent.

Davis became familiar with Steinau even before Steinau became the owner of Greenlon.

"I recall when they first considered starting in business. He (Steinau) sat down with me and talked about things he and his company could do to be viable in the industry," Davis said. "In fact, many of his techniques have been accepted (by the industry) and put into practice. It's a professional kind of company."

To this day, Greenlon staffers never hesitate to call the extension office when in need of clarification on a product or technical advice, Davis said.

In addition to maintaining membership in the county extension office, Steinau and Greenlon are members of the Professional Lawn Care Association of America, the Structural Pesticide Applicators Association of Greater Cincinnati, the Greater Cincinnati Pest Control Association, the Ohio Pest Control Association, the Ohio Pesticide Task Force and the Ohio pesticide Applicators for Responsible Regulation. The company is also active in Ohio Turfgrass Foundation activities.

Greenlon's original owners, Silver Oil Company, founded the company in 1972. Silver Oil Company was a supplier of residential home heating oil, but developed the side business to keep its staff busy during the slow months.

The lawn care business proved so successful during the first year of operation, that the oil delivery drivers were unable to keep up with the demand. Consequently, the Silver Oil Company had to make a decision whether to stay in the oil business or the lawn care business.

They chose to sell the lawn care business, and in early 1974 sold Greenlon to Steinau.

Steinau had been the manager of Ace Exterminating Company in Cincinnati before becoming president of Greenlon. There he was in charge of all route coordination, employee policies, hiring and termination, inventory maintenance and vehicle maintenance.

But he didn't leave Ace behind for too long as he later acquired the business from his father. He now operates both Greenlon and Ace under one roof.



President Rick Steinau and several Greenlon employees who helped the company receive ALA's second annual Award for Professionalism. (Counter-clockwise beginning left front.) Dave Pinson, Cherry Gray, Mike Stegmoyer, Steve Leisring and Dave Kohler.

Steinau attributes much of his success to the people he surrounds himself with, and the responsibility he entrusts each employee. For example, key staff members Steve Leisring and Cherry Gray have been with Greenlon for 14 and 16 years, respectively.

Leisring, now vice president of operations, started out as a lawn care technician. Gray, now vice president of finance, was first a secretary with the company.

Other key people at Greenlon include Dave Pinson, responsible for mole eradication and training programs; Mike Stegmoyer, Cincinnati branch manager; Chuck Irvine, responsible for commercial programs; and Dave Kohler, Dayton branch manager.

Despite limited room for upward advancement at Greenlon, Steinau makes sure his staffers know they can grow with the company. "You advance in this company by taking on more responsibilities on a horizontal level. They don't necessarily experience a title change, but they do receive financial rewards."

And responsibility is experienced in its truest form at Greenlon. Once Steinau has delegated a responsibility, it belongs to that person.

"I don't interfere. I let them know I'm working for them," he said. "Just like the managers know they are working

for their employees and technicians know they are working for our customers."

From the beginning, Steinau has kept a pulse on the Cincinnati marketplace, developing what the company needs to remain competitive. That includes the main office in Cincinnati and a branch office in Dayton.

Employing only 23 people in the lawn care division at Greenlon, the company touts an incredible ability to remain competitive in an often hairy market. Steinau said 65 percent to 70 percent of Greenlon's customers receive all five applications the company offers. Greenlon also offers aeration, but has left it an option for customers.

"We have a tremendous amount of customer contact," Steinau said. "They receive at least two personal contacts a year, four Greenlon newsletters and two to four kickback cards to see how we're doing."

That contact is in addition to the regular

visits to the home for application. Any customer complaint or service order is responded to within 48 hours, he added.

More recently, Greenlon has begun to use a hand-held computer bar code system which gives technicians instant access to a customer's file as well as immediate updating capabilities once a service call has been completed. For example, with just one run over a bar code on a written service call form, the customer's file back at the office can be updated.

Brand new to the industry, about 25 portable scanners will run the company around \$20,000. "It's something I knew we had to do. We believe in ourselves enough to give it a try," Steinau said.

The Telxon units are being marketed by Joe Ferrarelli of Ferrarelli Business Forms in Cincinnati. Ferrarelli said the unique system should become popular in the industry because of its time-saving

capabilities.

In fact, Greenlon has eliminated much of its paperwork through increased computerization. A company employee can walk into the office, sit down at a terminal and call up messages or tasks for the day.

"Everything we do is left in a permanent trail on our computer. It's the closest thing to self-routing we've seen," he said.

The future promises to bring more innovation to Greenlon. Steinau anticipates acquiring both a lawn maintenance and pest control business within the year. Those and other planned acquisitions will double the company's assets.

We'd like to congratulate Rick Steinau and Greenlon again for their Award for Professionalism. The company has set an example the rest of the industry can look to for guidance. — *Cindy Code* ■

The author is Editor of ALA magazine.

OUR OTHER FINALISTS

Just as important as our award winner are our two runners-up.

Following Greenlon in the finalist category were Ted Collins Associates Ltd. of Victor, N.Y., and Environmental Landscape Services of Houston, Texas.

Selecting the runners-up was just as difficult as picking a winner. All three finalists were run through the same background checks and presented to members of our advisory board for review.

Our thorough review included checks with Better Business Bureau offices; local, state and federal offices of the Environmental Protection Agency (or its equivalent); state health departments; state departments of agriculture; and county extension offices.

After detailed questioning, we found no reason that any of the companies should be excluded from the competition. According to offices of the Better Business Bureau, all three companies had a satisfactory business performance record to date, with no significant complaints filed against them. The "satisfactory" rating is the highest given by the bureau.

Just as significant, environmental offices in the vicinity of our three finalists could report no complaints against them. Even statewide associations familiar with these three companies could say nothing that would warrant exclusion from the competition.

Although it made our job more difficult, the recommendations from such a variety of organizations and associations made us proud to have qualified finalists for our second professionalism award. It also promoted a positive image of our constantly changing industry.

While we wish we could award all the companies which have had such a positive and professional effect on our industry, we can't. Nevertheless, we can credit our second and third place finishers — as well as the rest of our nominees — for a job well done.

Our second place finisher, Laurie Broccoli and Ted Collins Associates, have recently received a lot of press coverage, particularly because of their location in Western New York. As president of the Western New York Lawn Care Association, Broccoli has been active in efforts to positively promote the safe use of pesticides as well as the use of lawn care services in general.

Broccoli was nominated because of her unselfish, dedication of time she provided to the lawn care industry with testimony, organizational activities and media response in regard to the pesticides issues in the state of New York.

One association involvement worth noting was Broccoli's interest in a New York group, Rochesterians Against the Misuse of Pesticides. Broccoli and several other leaders from the lawn care field enrolled in the group's educational committee without revealing their industry affiliations.

The group has lobbied for school districts, local governments and institutions to reduce use of pesticides. Broccoli said she saw nothing wrong with becoming involved in the group because she, like other industry members, are against the misuse of pesticides. She also saw it as a chance to lessen confusion over the pesticides issue.

While she may soon wear out her

welcome as a member of the Rochester pesticides group, Broccoli is determined to remain an industry voice ready and willing to inform others on issues facing lawn care companies across the country.

Our third place finisher, Environmental Landscape Services Inc., has a proven track record in the industry.

Founded in 1971, the company now has three major divisions, landscape construction, landscape management and irrigation system repair and installation.

While the company began by constructing landscapes, today it provides a complete service to its customers, from the first design concept to the management of the finished product.

In 1987, the company won two national awards from the Professional Grounds Management Society as well as three national awards from the American Landscape Contractor's Association.

The company also has an impressive civic record. In 1986, Environmental Landscape Services donated labor and materials for the construction of the award-winning landscape sculpture "Labyrinth," and led citywide efforts to secure labor, services and materials from others in the Houston landscape community.

In short, we received an impressive number of nominations for our professionalism award. We like to see such pride and dedication in our industry.

We thank everyone for their continued efforts and look forward to receiving more impressive nominations next year. — *Cindy Code*

The author is Editor of ALA magazine.



How to avoid unwanted guests.

The last thing you want to see this summer is guests arriving, intent on destroying your turf.

That's why you need premium quality insecticides from Lebanon—straight or in time-saving fertilizer/control combinations—to stop even the most persistent soil and surface feeding pests. Like chinch bugs. Sod webworms. And grubs.

Plus fungicides—in granular or liquid form—to prevent or cure a wide variety of diseases including rusts, spots, smuts and blights.

We've got one of the widest selections of insecticide and fungicide products on the market. Enough premium quality choices to meet your every need. Which means the party's over for trouble-makers. And you needn't play host again.

For more information on Lebanon insecticide and fungicide products, contact your local Lebanon distributor. Or call our Greenline at 1-800-233-0628, 1-800-852-5296 (PA only), or 1-717-273-1687.

Circle 36 on reader service card

Lebanon
TOTAL TURF CARE
A division of Lebanon Chemical Corporation
P.O. Box 180 • Lebanon, PA 17042

HANDLING PESTICIDE SPILLS

Emergency response procedures and contacts every company should be aware of in the event of a pesticide spill.

Lawn care companies are providing employees with an expanding scope of training programs. Not only do these programs help LCOs comply with a growing range of regulations, they establish work practices and procedures which promote hygiene and safety. But, to borrow a current popular phrase, "what if." The what ifs of our industry are sometimes not pleasant to ponder, yet are demanded for the stewardship of the trade. One such example is a fleet accident which causes a pesticide spill.

Fortunately, the urban routing of lawn care servicing reduces speeds which lessens the injuries that may be sustained from vehicle accidents. However, service vehicles are often required to travel on highways, and even an accident at a slow speed can result in a pesticide spill. Aside from the obvious regard for the health of those who are

involved in an accident, it is essential to establish an emergency response and chemical spill procedure.

The three elements which provide assurance that the impact of these incidents is minimized are *prevention, preparation and training.*

Prevention. Seasoned employees are an excellent resource to learn of the circumstances that create accidents or cause spills. Often their experience will transpire into ideas for installing prevention devices on the equipment or for implementing methods that have been observed by operations in the field. It may be determined there is a need for more equipment knowledge or additional driver training programs.

Preparation. Preparing for an emergency response requires that the lawn care company's management team develop a spill kit and a guidebook.

EMERGENCY TELEPHONE NUMBERS

OFFICE

Telephone Number: _____

Manager Name: _____

Assistant Name: _____ Phone: _____

Coordinator Name: _____ Phone: _____

LOCAL

Police Number: _____

Sheriff Number: _____

Fire Dept. Number: _____

Ambulance Number: _____

Poison Control Center: _____

STATE

State Police Number: _____

State EPA: _____

NATIONAL

Chemtrec: 800/424-9300
(chemical transportation emergencies)

Response Center: 800/424-8802
(chemical spills affecting water)

EMERGENCY RESPONSE SPILL KIT. Service vehicles outfitted with a spill kit are able to respond to minor spills that could occur during daily production, such as a hose connection leak or a spreader upset. Since the kit is also the vital tool for larger spills it must be stored in the vehicles at all times. Spill kit items need to be customized for the types of liquid and granular products that are stowed.

A variety of sorbant products have been designed for containing liquid chemical spills. The various products should be checked for their sorbant properties with pesticides prior to use.

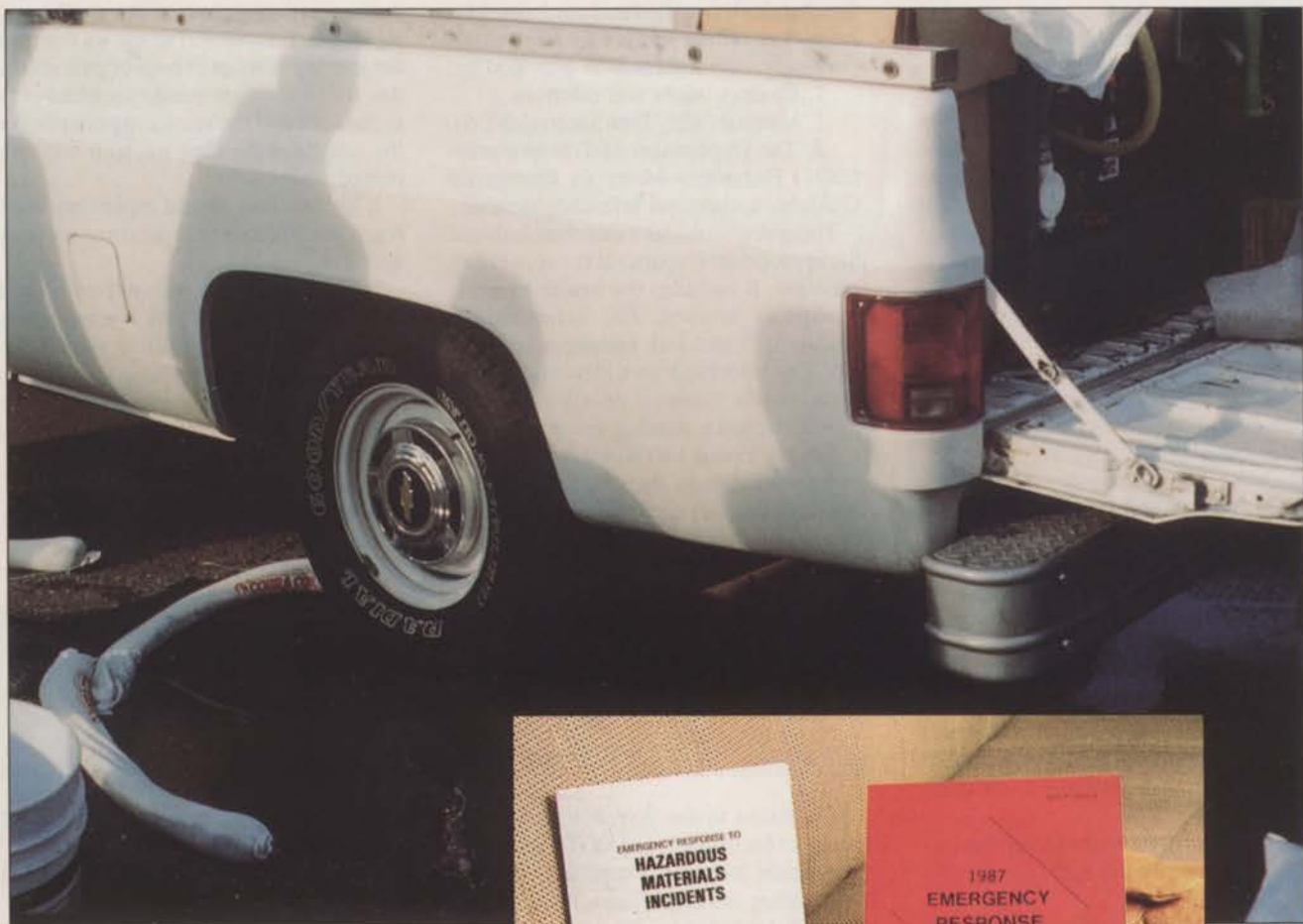
Sorbant coils and pillows are used to soak up minor spills, dam or reservoir a spill and to dike or divert larger flows from ground water drains or sensitive areas. These types of products have the sorbant materials sacked into a cloth or fabric.

Sorbant pads are beneficial for drips and leaks or to soak up a minor spill. These mats are constructed of chemical resistant materials that have sponge-like properties.

Sorbant gels may be spread onto a spill consuming several times the gel's own weight in liquid. Sorbant gels designed for certain kinds of chemical spills will not deactivate pesticides or fertilizers. These gels and the chemical cleanup may go back into the tank for recycling if they have not been contaminated with dirt or foreign materials that would damage the spraying system.

Epoxy type products have been formulated to be pasted over a hole or leak in a tanking system. These plugging products are designed for emergency purpose to be used only as a temporary remedy to stop the flow of a spill. However, the epoxy materials are remarkable in their ability

Figure 1.



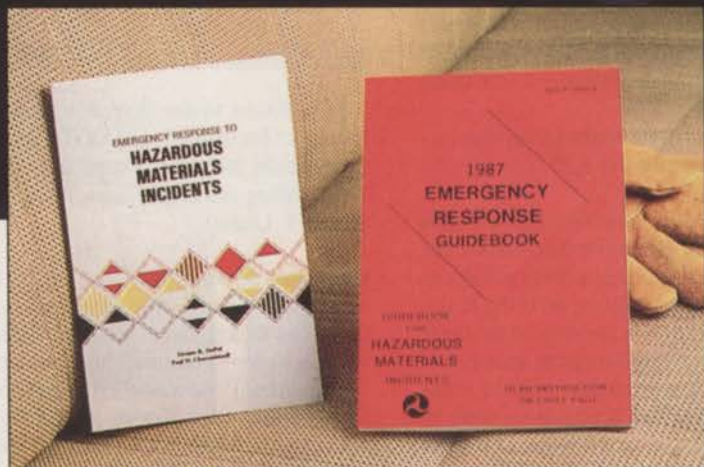
to stop a chemical flow at a low range of pressure.

Personal protective equipment, including gloves, boots, disposable protective coveralls and goggles, should be included in the fleet vehicle spill kit. Even though these items are in the vehicle for applicator use, it is essential to have this equipment packed as a unit for an emergency without having to search or retrieve the items.

The spill kit items may be stored in the vehicle by using an organizing container. The container also serves as a means to remove the contaminated cleanup products from the spill site to the lawn care facility for proper disposal. A chemical resistant, heavy ply bag could be used as it will conform to the storage area behind the cab seat. If cargo area permits, the items could be stored in a small poly drum.

Additional items, such as a small shovel, broom and reflective warning triangles could also be placed into the organizing container. It is important that all items in the kit be available to the driver for responding to the spill.

EMERGENCY RESPONSE AND PROCEDURE GUIDEBOOK. A guidebook with company procedures and information for emergency response should be placed into each fleet vehicle. The guidebook could be sized to fit into the glove compartment or into a binder packed in the spill kit. The information should be written in a step-by-step procedure that is outlined in clear language. The instruction must be concise and easy to follow since a driver could be nervous or anxious after the accident. The guidebook should also pro-



Sorbent coils being used to absorb a chemical spill from a truck. (top). These products have the sorbent materials sacked into a cloth or fabric. Emergency response handbooks vital to any applicator's spill kit. (bottom).

vide the reference for emergency response teams to identify the contents of the spillage so they may react accordingly.

THE 7 C's IN AN EMERGENCY RESPONSE GUIDEBOOK.

Command. Command of the situation must be taken by the driver following an accident. The driver should immediately gather his thoughts and assess the situation for any injuries that may have occurred which would hinder the response. Upon leaving the cab with the emergency response and spill kit, the driver has four initial steps:

1. Check the condition of the others involved in the accident to determine if first aid or emergency medical assistance is needed.
2. Circle the vehicle and survey if a spill of liquid or granules has occurred. Inspect for the potential of leaks or discharge.
3. Position the reflective warning triangles to notify other

vehicles of the accident. Or, determine if the vehicle should be moved off the road and parked in an area where a spill would pose less of a threat, i.e. away from a ground water drain.

4. Unpack the items in the spill kit and keep the guidebook for reference.

Control. Once (and assuming) the driver is able to establish command of the situation, the next priority is to control an existing spill. If there are no injuries, it will usually be more important to initiate a containment of a spill than to leave the accident scene to notify authorities.

1. Dress in the personal protective equipment included in the kit.

2. Evaluate how to control the spill or leak. It may be uprighting bags, or turning off valves to stop the flow of liquid to damaged plumbing.

Contain. While controlling the spillage the driver should be assessing the best method for containment.

1. Use the sorbant products to contain the spill.

2. Evaluate the direction and areas where the liquid may channel.

3. Use the sorbant products to dike and reservoir the liquid from ground water drains or sensitive areas. Use a shovel to trench around the spill to levy it in a small area.

4. The driver must use judgment and innovation to contain the spill.

Contact. Typically, the authorities will have been notified by the public that an accident has occurred and police or other emergency response teams may be arriving at the scene. However, in a residential or rural area the accident may have gone unnoticed.

1. The driver should stay with the vehicle if at all possible. A tear-away page in the guidebook listing contacts and telephone number(s) would allow the driver to stay at the scene, yet provide a reference for a bystander. To prevent a mishap at a pay phone, a set of instructions are included in Figure 1.

2. The office should have a company procedure on file for receiving an emergency phone call with a listing of the proper authorities to be notified.

3. Police and fire teams are trained for emergency response to accidents involving chemical spills, and know the proper authorities to contact. Preparation for company procedures might include meeting with these departments to describe the chemicals a company uses and to establish the networking sequence.

Communicate. Police, firemen and emergency response teams are trained to be informed of the chemical(s) at an accident scene prior to engaging response actions so they can evaluate any hazardous proper-

ties. Without a full disclosure of the spill contents, their response will be to apply the worst case scenario. Thus, the driver needs to supply them the information of the chemical(s) spilled and any hazardous properties. These teams may respond accordingly with information provided by:

1. Product labels and dilutions.

2. Material Safety Data Sheets (MSDS).

3. The Department of Transportation (DOT) Hazardous Materials Emergency Guidebook chemical reference number.

This guidebook lists many chemicals and the appropriate response at the scene of an accident. It includes the health hazards, emergency actions, fire extinguishing agents, spill and leak measures and first aid. The guidebook provides information for a specific chemical or will categorize it to a reference number for response.

The guidebook lists common pesticides as reference Guide Number 55. The DOT does not recognize each individual pesticide by a DOT identification number, but notes the following:

	DOT ID #	GUIDE #
2,4-D	NA 2765	55
Dicamba	NA 2769	55
Chlorpyrifos	NA 2783	55
Diazinon	NA 2783	55

In addition to the common pesticides listing, other examples of DOT classifications would include: Compound, Tree or Weed Killing and Insecticides, Agricultural and O/T Liquid.

Clean up. Minor spills that occur from equipment failures may often be cleaned up by the technician at the site. Granules may be swept or small leaks soaked up by the sorbant materials. The cleanup materials contaminated with pesticides that are considered to be unusable must be treated as a hazardous waste. Any cleanup materials returned to the facility in the organizing container must be disposed of in an Environmental Protection Agency approved method.

There is a great benefit to having extra cleanup in the warehouse. The inventory can be used for a spill at the mix and fill station, and will also provide a reserve for a company to dispatch to a spill site.

Regardless of a spill quantity, it is essential that a thorough cleanup be conducted.

Case Report. Many companies have a standard form that must be completed by a driver involved in a fleet vehicle accident. This form could be placed into the emergency response spill procedure guidebook. The guidebook should also provide a form for reporting a pesticide spill. This form may be required of an applicator for any pesticide release, whether caused by an accident or any other reason.

Information on a spill should include: date, time, location, exact cause, quantity, products/dilutions, notification contacts, response actions, cleanup, maps of the spill contamination areas and the applicator's signature. It is helpful to log on the form the starting number of bags or gallons that day, the production quantity applied prior to the spill and the remaining quantity on the vehicle at the time the spill was controlled.

1. Technicians should report any spill, regardless of quantity to the company management.

2. Companies are required to report a pesticide spill to the EPA if a reportable quantity for that chemical is released.

Training. Technician training for handling emergency response and spill procedures should take place in both the classroom and the field.

Classroom training includes:

1. Company policies for operating faulty equipment.

2. Instruction of equipment and the se-

quence for stopping spills from equipment failures from damaged components.

3. Review of the items in the spill kit and steps in the guidebook.

4. Instruction of company policies for working with the public, emergency response teams and media at a spill or accident scene.

5. Notification procedures for reporting spills or accidents.

6. Instruction to office staff on handling a phone call reporting a spill or accident.

Field training for technicians includes:

1. Role playing of accidents and spills.

2. Training episodes or occasional "spill drills" to reinforce the response procedures.

Minor spills of granules and liquids that are not properly handled convey a poor image of a company and the industry. Even a wet spot on a customer's pavement or a few granules that would not be reportable may be a concern to a customer or the public. A well-trained technician with the proper tools and information at the scene of an accident reflects a responsibility which an emergency team may use to effectively respond to a pesticide spill. — Gary M. Clayton ■

The author is vice president of field operations at Perma-Green Lawn Company, Boise, Idaho. He was formerly director of technical services for the Professional Lawn Care Association of America.

Spray herbicide directly over the top of your established shrubs and ornamentals? Go ahead. Surflan® lets you spray with complete confidence.

All you'll see are the bright colors of your landscape or lawn. No crabgrass. No oxalis. No chickweed. And no prostrate knotweed and 50 other grasses and weeds, either. You won't see them for six to eight months, in fact, when you spray Surflan preemergence herbicide.

You'll also see Surflan is more stable on soil surfaces. It'll wait three weeks for water. Then it stays put,

even in heavy rainfall, to provide outstanding weed control. Yet it's gentle enough to spray over the top of 175 different ornamentals.

So go ahead. Fill up with Surflan and take your weed control where you never thought possible. Over the top of your ornamentals without injury. See your Elanco distributor. Or call toll-free: **1-800-352-6776**.

Elanco Products Company
A Division of Eli Lilly and Company
Lilly Corporate Center
Dept. E-455, Indianapolis, IN 46285, U.S.A.
Surflan® — (oryzalin, Elanco)



Circle 26 on reader service card



**Take your weed control
where you never thought possible.**

EXTRA!

VOL. CXXXVI

The Daily Sun

GREENSBORO, WEDNESDAY, NOVEMBER 1, 1987

NEW INSECTICIDE STOPS GRUBS IN 3 DAYS!

**"Lawn care experts
get 90%
control in 3 days!"**

by THOMAS BAGOT

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

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

- Because it's fast acting it controls grubs in 2 to 3 days.
- Triumph's superior chemistry provides/delivers over 90 percent grub control quickly and maintains that performance over 10 weeks.

- New Triumph also controls surface insects and mole crickets and is labeled exclusively for use by lawn care professionals.
- And new Triumph's liquid formulation and low rates mean

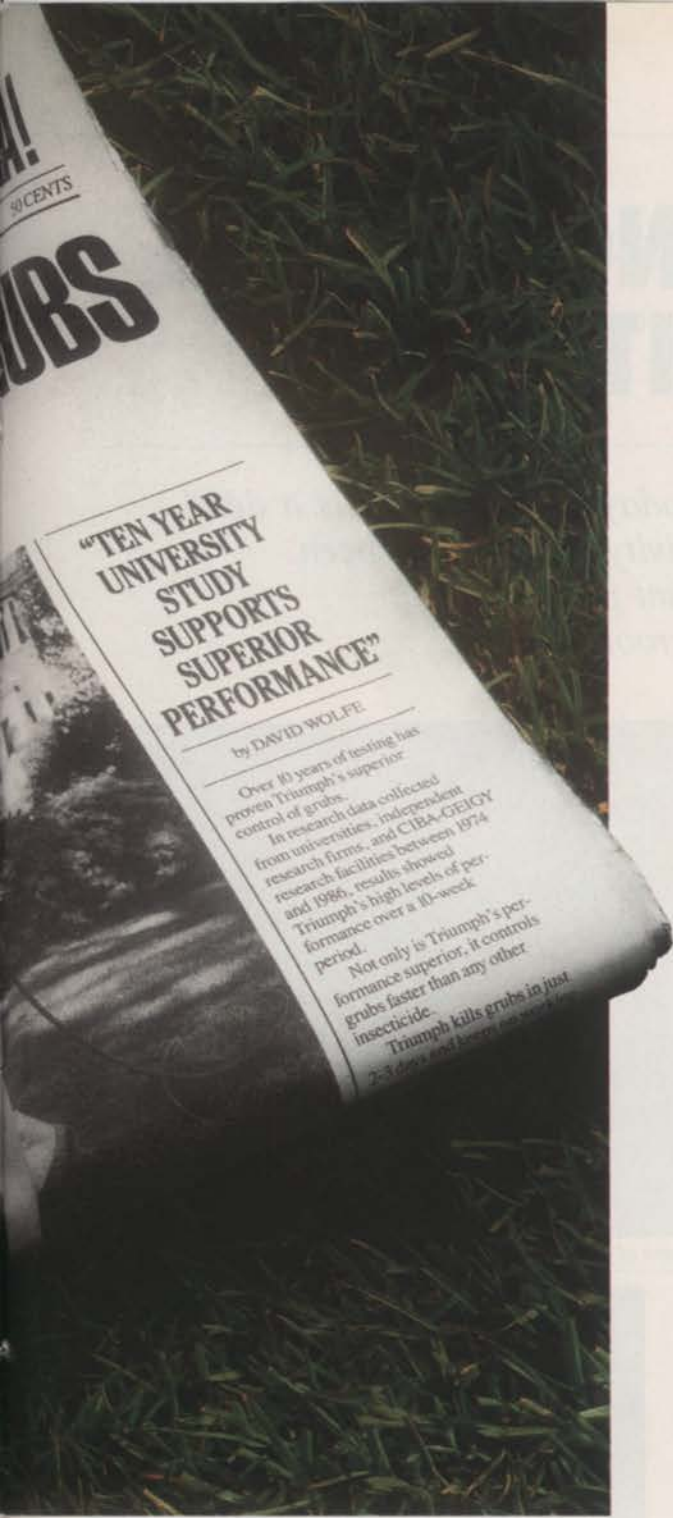
The fast acting control of Triumph stops root damage from grubs in a hurry so your homeowner customers can relax and feel confident that the grub problem is gone.

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

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



INTRODUCING THE BEST NEWS TO H



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

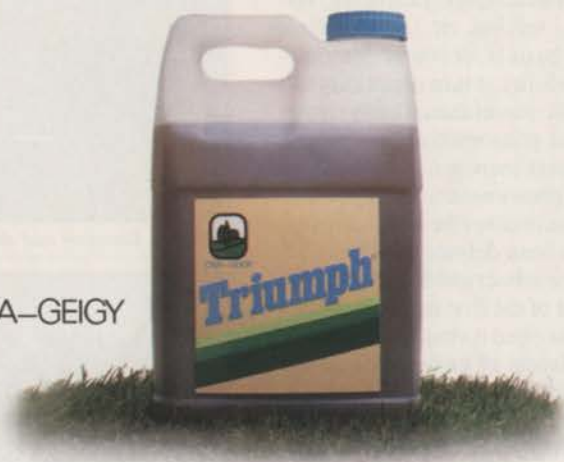
Triumph offers broad spectrum control of surface feeders like chinch bugs, sod webworms, army worms, chionodes, plus sub-surface mole crickets and annual bluegrass weevils.

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

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

Circle 20 on reader service card

CIBA-GEIGY



PRODUCING TRIUMPH. HIT LAWNS IN YEARS.

CHARACTERIZING THATCH COMPOSITION

A common fallacy which still exists today is that thatch is a dead zone lacking soil organism activity. Thatch has been shown to have an abundant population of microbes and soil microorganisms.

This is the first of three technical features written by Dr. John Street of The Ohio State University on the subject of thatch. The second and third articles can be found in upcoming issues of ALA. Ed.

Turfgrass is a perennial grass community. Management schemes are designed to avoid serious disruption of the turf surface via specialized cultivation techniques (i.e. coring, vertical mowing, spiking, etc.). Deep tillage on an annual basis is, of course, unacceptable. The inability to turn under (not till) the grass surface on an annual basis creates certain unique phenomenon or problems for the turfgrass manager. Thatch is one of just several phenomena occurring on turfgrass areas as a result of the no till concept.

Thatch has been defined in several different ways, Ledebauer and Skogley (1967), providing one of the first research reports on thatch, described it simply as an excessive accumulation of undecomposed organic matter located above the soil surface.

Several years later, Beard (1973) defined thatch as a tightly intermingled layer of living and dead leaves, stems and roots of grass that develop between the layer of green vegetation and underlying soil surface. This definition implies that thatch is not simply a dead zone, but that it does consist of living material.

Turgeon (1980) defined thatch as a residual biomass generated by the turfgrass community, situated above the soil surface and constituting an important portion of the soil medium supporting turfgrass growth. In stressing the biological nature of thatch, Turgeon divided thatch into the living component and non-living component. His definition and biomass terminology clearly removes the misconception that thatch is a dead zone.

A common fallacy which still exists today is that thatch is a dead zone lacking



Figure 3. Elevation and development of turfgrass plant within thatch as thatch thickness increases.



(Left) Figure 1. Cross section of turfgrass profile; layers of green vegetation, pseudothatch, thatch mat and underlying soil. (Right) Figure 2. Close-up of thatch showing fibrous roots, stem parts and nodes.



soil organism activity. A key living component of thatch is soil microorganisms. Thatch has been shown to have an abundant population of microbes in the form of bacteria and fungi. (Table 1.) Soil microorganisms are also present in significant numbers.

THATCH PROFILE. A general profile of a

thatchy turf reveals several distinct layers. The uppermost surface layer consists primarily of relatively undecomposed leaf clippings/leaves commonly referred to as pseudothatch. (Figure 1.) The pseudothatch is not considered to become a long-term component of thatch. The layer below the pseudothatch, the true thatch or thatch, consists of undecomposed and partially

	Bacterial Numbers		Fungal Numbers	
	(10 ⁶ /g soil)	(10 ⁶ /g thatch)	(10 ⁴ /g soil)	(10 ⁴ /g thatch)
Calcium Arsenate ¹	13	83	4.2	13
Bandane	48	102	6.0	15
Control	21	28	5.0	12

¹Turfgrass areas previously treated with calcium arsenate and bandane.

Table 1. Viable Bacteria and Fungi Counts on Thatch and Underlying Soil (Cole and Turgeon, 1978).

decomposed organic matter living plant material (i.e. roots, rhizomes, stolons, stems and basal organs) and soil organisms.

A layer intermixed with thatch and soil exists below the thatch and is specifically called *mat*. The mat layer usually consists of more highly decomposed organic matter, as well as living material. The underlying *soil* exists below the mat.

Detailed physical analysis of thatch reveals that leaf remnants are distinguishable only in the upper surface layer referred to previously as pseudothatch. Turfgrass leaf clippings are easily decomposable and not considered to be a significant factor in thatch accumulation. Leaf clippings are reported to contain more easily decomposable chemical compounds making for a short longevity. (Table 2.)

Physical analysis further reveals that the long-term components of thatch consist of stolon and rhizome parts, stems, stem nodes, crown fragments, sclerified leaf sheaths and roots. These turfgrass components have been shown to contain a higher percentage of less readily decomposable chemical compounds like lignin. (Table 2.)

Ledeboer and Skogley (1967) found that bentgrass thatch contained very little leaf material, was densely invaded by roots and consisted of considerable amounts of stolons and rooted crowns. Beard (1976) determined that thatch of 12-year-old bentgrass turfs consisted of 60 percent to 75 percent roots, depending on cultivar. (Figure 2.)

In Ohio State University research (Koski, 1986), physical examination of Kentucky bluegrass thatch revealed that roots, (living and dead) consistently comprised 60 percent to 70 percent of the thatch on a dry weight basis. Interestingly, roots, as a major contributor to thatch, contain a relatively high lignin content. Differences in surface rooting and/or root mass production characteristics among species and cultivars of turfgrasses may provide some explanation for variation in thatch accumulation among the latter.

ACCUMULATION. The exact sequence of events in thatch accumulation are not well understood. Many individuals question the organic matter sources contributing to thatch because they envision clipping return from mowing as the only or main deposition material. The source of organic matter for accumulation at the soil surface is from the constant turnover of many turfgrass plant parts. Leaves have only a limited life span that is estimated at 35 to 40 days. Lateral stems (tillers, rhizomes and stolons) also have a restricted life span. Their average life span is estimated at about one year.

Turfgrass roots are no more unique than leaves and lateral stems in that they have a limited life span of approximately six months

Whatever sort of grounds you manage professionally, ORTHO's new TAG Herbicide T/E can help you keep them clean and trim. With its fast-acting formula, TAG gives rapid burn-down, usually within 24-48 hours, of a wide variety of annual grasses and broadleaf weeds. TAG has a proven track record for getting rid of unwanted grasses and weeds, even under less-than-ideal weather conditions. A non-selective contact herbicide, TAG will burn back or control nearly anything green to which it is applied.

To help TAG work at its best, use ORTHO X-77 Spreader (non-ionic). X-77 makes spray droplets spread quickly and evenly to coat waxy leaf surfaces for optimum performance.

Check the savings on TAG versus a more expensive application of ROUNDUP.* TAG does the job with a substantial savings! Get new TAG Herbicide T/E - the edge you need to keep grounds at their best, for less!

Avoid accidents. For safety, read the entire label including precautions. Use all chemicals only as directed. Copyright © 1988 Chevron Chemical Company. All rights reserved. ROUNDUP* is a registered trademark of Monsanto Company.

Chevron

ORTHO
 Chevron Chemical Company

TAG
 HERBICIDE T/E

Circle 68 on reader service card

KEEP YOUR GROUNDS IN TRIM.



to two years depending on species. These plant parts are all renewed on a continuous basis resulting in the perennality of the turfgrass community. This constant turnover, deposition and renewal of plant matter serves as the potential source of organic matter for thatch buildup. Thatch buildup is set in place by the no till concept.

Finally, as the older shoots and roots die, the newly formed crowns, lateral stems and roots tend to orient themselves in the organic matter mass. As the thatch layer gets thicker, the turfgrass plant is elevated more above the soil surface and within the thatch. This phenomenon results in the turfgrass, in many cases, growing predominantly in the thatch rather than in the underlying soil. (Figure 3).

The next article in this series will discuss thatch as a growing medium for turfgrass. — Dr. John Street

The author is an associate professor in the agronomy department at The Ohio State University.

REFERENCES

1. Beard, J.B. 1973. Turfgrass science and culture. Prentice-Hall Inc., Englewood Cliffs, N.J. 658 pp.
2. Beard, J.B. 1976. Thatch: Its causes and control. Illinois Turfgrass Conference Proceedings. pp. 68-74.

3. Koski, A.J. 1986. Effects of timing of nitrogen application on quality, carbohydrate status, root growth and thatch accumulation in "Baron" Kentucky bluegrass (*Poa pratensis* L.) Ohio State University. 131 pp.
4. Ledebor, F.B. and Skogley, C.R. 1967. Investigations into the nature of thatch and methods for its decomposition. Agronomy Journal. 59: 320-323.
5. Turgeon, A.J. 1980. Turfgrass management. Reston Publishing Company, Inc., Reston, Virginia. 389 pp.

	Plant Part	Hemicellulose ¹	Cellulose	Total Cell Wall	Lignin
Creeping Bentgrass	Leaf	34.2	18.5	56.3	3.7
	Stem	29.8	22.5	56.5	4.2
	Root	35.8	26.6	76.3	13.9
Kentucky Bluegrass	Leaf	25.7	17.6	45.6	2.3
	Stem	39.3	27.5	71.7	4.8
	Root	33.9	27.1	70.8	9.8

¹The least decomposable chemical compound in plants is lignin followed in order by cellulose and then hemicellulose.

Table 2. The Percent Hemicellulose, Cellulose, Total Cell Wall, and Lignin Content in the Leaves, Stems, and Roots of Bentgrass and Bluegrass (Beard, 1976).

Ask for Exmark

Looking for excellence? Ask for Exmark.

From the sleek 48" to the powerful Turf Rake, Exmark's full line of professional lawn care products are engineered, tested and produced to give you excellent results and years of reliable operation. All Exmark products are backed by our national servicing-dealer network and two-year, limited warranty.*

What's more, Exmark mowers are easy to buy. Our competitive pricing and new Advanta Lease program help you own for less.

For a great cut at a good price, ask for Exmark. For more information, call Exmark today: **402/223-4010.**

*engine and Peerless transmission warranted separately



eXmark
MFG. CO. INC.
BOX 746 - BEATRICE, NE 68310

The mark of excellence in professional lawn care.

Our 32" commercial power mower, like all Exmark intermediate mowers, is available with variable speed or 5-speed transmission.


The Prevent Defense Kit

A quick, safe containment system made by professionals for professionals. No Mess!

Reduce clean-up costs and liabilities! Protect the environment. Avoid runaway spills!

For use in the plant and on the job.

The Prevent Defense Kit is a no nonsense, safe, economical, and pre-packaged spill control system for the containment and removal of chemical spills. Its effectiveness has been displayed at the PLCAA Regional Seminars as an inexpensive and safe method of spill control. An effective, quick response using **The Prevent Defense Kit** could save the user costly time and money in clean-up and damage claims resulting from spills not properly prepared for.



Environmental Safety Systems
P.O. Box 76339
Atlanta, Georgia 30358
(404) 252-6491

Nourish Your Turf With **NITROFORM**[®]



Nourishing your turf with NITROFORM[®] assures better root development and healthier turf by providing six important benefits...

- 1** Consistent 38% nitrogen.
- 2** Sustained, predictable release by soil bacteria to provide nitrogen when needed most by roots and vegetative parts.
- 3** Provides organic nitrogen and carbon to enhance bacterial activity, even in sandy soils.
- 4** Non-burning to turf, trees, or ornamentals when used as directed.
- 5** Environmentally sound... resists leaching, even in porous soils.
- 6** Fewer applications a year are required.



For a complete information kit on nourishing and protecting your turf, join the NOR-AM Turf Management program. Write to the Communications Department, NOR-AM Chemical Company, 3509 Silverside Road, P.O. Box 7495, Wilmington, DE 19803.

NITROFORM[®] is available as BLUE CHIP[®] or GRAY CHIP[™] for dry application, or as POWDER BLUE[®] or POWDER GRAY[™] for liquid application.

Always look for the NITROFORM[®] logo. It's your assurance of a high quality nitrogen.



NOR-AM

NOR-AM CHEMICAL COMPANY

3509 Silverside Road, P.O. Box 7495
Wilmington, DE 19803

IMPORTANT: Please remember always to read and follow carefully all label directions when applying any chemical.

Circle 31 on reader service card

CONTROLLED RELEASE NITROGEN FERTILIZERS

Research on ureaform fertilizers has paid off in products which have been improved greatly by reduced phytotoxicity and better performance consistency.

Granular ureaform fertilizers have been used since the 1950s, and the first direct application of ureaform liquids to turfgrasses was in the mid-1970s. Ureaform fertilizers are the lowest cost widely accepted chemically combined controlled release nitrogen fertilizers, and a large amount of research has been continued on these products since the 1950s.

The research has paid off in products which have been improved greatly by reduced phytotoxicity and better performance consistency. The granular ureaform products have provided the home gardener and do-it-yourself homeowner with materials which can be used with moderate effectiveness and safety.

To define the areas where improvements in urea formaldehyde (ureaform) products would be most valuable, a review was made of pertinent information on the ureaform properties which are most important to the performance of turf fertilizers. The properties which are discussed briefly below include: leachability, solubility, nitrification to nitrate and grass growing ability.

LEACHABILITY. Water soluble ureaforms are considerably less leachable than one might expect because of their affinity for the organic portions of soil and for some of the clay particles. The soluble ureaforms, including the methylol

and methylene ureas, are much less leachable than urea, potassium nitrate and most other mineral nitrogen fertilizers. Figure 1 illustrates data published by John Hays which shows comparative retention of nitrogen from several fertilizer sources in a test soil under conditions of high leaching. The resistance of the water soluble ureaforms to leaching was about half of that of the water insoluble ureaforms in the Hays data. The tendency of fertilizers to leach varies considerably with the soils involved, but a variety of data makes it clear that the polymethylene ureas, even the water soluble ones, are less prone to leach from the soil than is urea. To be of use in growing turfgrass it is necessary that the nitrogen fertilizer not be quickly leached from the soil.

SOLUBILITY. Nutrients must be dissolved before they may be absorbed by the grass plant's roots, or foliage, and translocated for metabolism by the plant. Liquid fertilizers offer many advantages including easy handling, good inventory control, accurate blending with other nutrients and turf protection chemicals, compact storage and accurate application. In addition, solution fertilizers have advantages over liquid suspensions, including trouble-free spray applications, no nozzle pluggage, complete utilization of the nutrients and most importantly, no agitation and no settling in storage tanks or pipelines.

NITRIFICATION. Plants, including turfgrasses, have been shown to metabolize only the ammonium and nitrate forms of nitrogen, with nitrate being the primary form used. Therefore, ureaform fertilizers cannot be utilized by turfgrass plants until at least some mineralization (nitrification) has occurred. Nitrification experiments provide a method for determining the availability of nitrogen as plant foods in fertilizers and an indication of the performance characteristics of the fertilizer. Hays has reported nitrification results with urea and several pure, low molecular weight, methylene ureas. These test results are shown on Figure 2. It is clear that as the molecular weight of the ureaform compounds (the number of urea units combined in the ureaform chain) increases, the nitrification rate decreases.

Fertilizer utilization rates and the tendency to cause phytotoxicity both increase as the amount of mineral (nitrified) nitrogen available in the soil increases. Thus, nitrification rates of ureaform fertilizers clearly relate to, and control, release rates phytotoxicities. Longer chain ureaform compounds will release mineral nitrogen slower and create less hazard of phytotoxicity than will the short chain ureaforms and urea.

LEACHING EXPERIMENTS OF JOHN HAYS, HERCULES, INC.

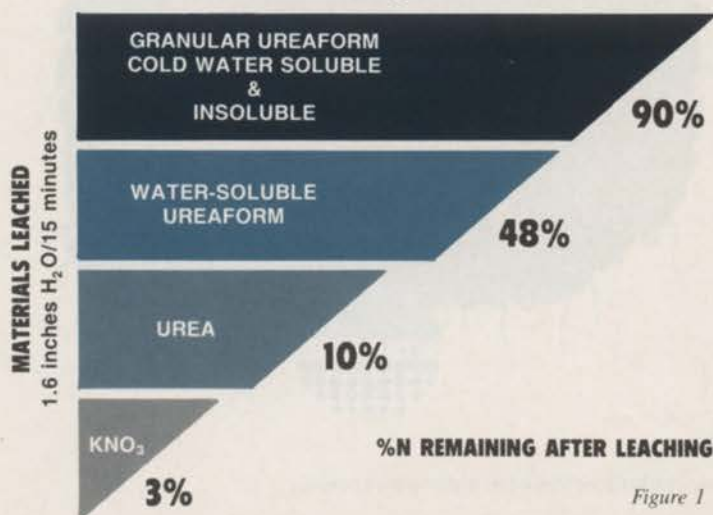


Figure 1

GRASS GROWING ABILITY. The ability to grow and sustain healthy, green grass, as might be expected, is directly related to the release of mineral nitrogen from ureaform. Figure 3 shows some of the results from a study made by Kaemffe and Lunt where they compared the performance of methylene ureas containing the varying average chain lengths of 2.5, 4.7 and 7.0 urea units.

It should be noted that the material containing an average chain length of 2.5 units contains a substantial, although unquantified, amount of free urea. The substantial, and maximum, grass growing rate was achieved with this ureaform only two weeks after application of the nitrogen because of its free urea content. After the free urea ran out in about four weeks, grass production declined slowly for the next 12 weeks.

Methylene ureas comprising ureaform chains containing an average of 7.0 urea units, produced little or no improvement in grass growing over no fertilizer application, even after four months. The methylene urea chains containing an average of 4.7 urea units also produced maximum grass production two weeks after fertilization, although peak production was only about 60 percent of that from the 2.5 urea chain length material. From four weeks until 18 weeks, the grass production was about the same for the methylene ureas containing 2.5 and 4.7 urea units.

More of the same work is shown on Figure 4 on which the cumulative percent of the applied nitrogen recovered in harvested grass clippings was plotted versus time for methylene urea fertilizers containing 2.5, 4.7 and 7.0 urea unit chains. Essentially no nitrogen was recovered from the 7.0 unit chains.

The nitrogen recovery rate from the 2.5 unit material was severalfold that from the 4.7 unit material for the first three weeks, due, at least in part, to the presence of free urea in the 2.5 unit material. In the period between four and 18 weeks both nitrogen recovery rates were about the same. For the whole 18 week test period the nitrogen recovery from the 2.5 unit material was roughly 60 percent higher than the nitrogen recovery from the 4.7 material.

UREAFORM PRODUCTS. To further define areas where ureaform products could be improved, the chemistry of urea formaldehyde compounds was studied and is discussed in the following paragraphs.

In 1953, DeJong and DeJong studied the composition of the ureaform fertilizers and concluded that they comprised a mixture of straight chain polymers of urea and formaldehyde containing as many as six urea molecules in the ureaform polymer chain. They reported no extensive ring structures in the mixture. Becker in 1956 partially purified pentamethylene hexaurea (a six urea unit ureaform) and examined it by infrared spectrum. These tests showed branching of the six unit ureaform chains.

Figure 5 presents a list of urea-formaldehyde (UF) compounds representative of those included in ureaform fertilizers. Urea is the starting material and is included in varying amounts in the final fertilizer products. It is very soluble and available to grass plants, provides no control of nitrogen release, is subject to substantial volatilization losses and causes phytotoxic effects on turfgrasses.

Monomethylol urea (MOU) is formed by the addition of formaldehyde to urea, and has the advantage of high water solubility. It is a fairly unstable and reactive material which under some circumstances can revert to urea and

NITRIFICATION OF UREAS IN SOIL DATA OF JOHN HAYS, TEMP — 86° F

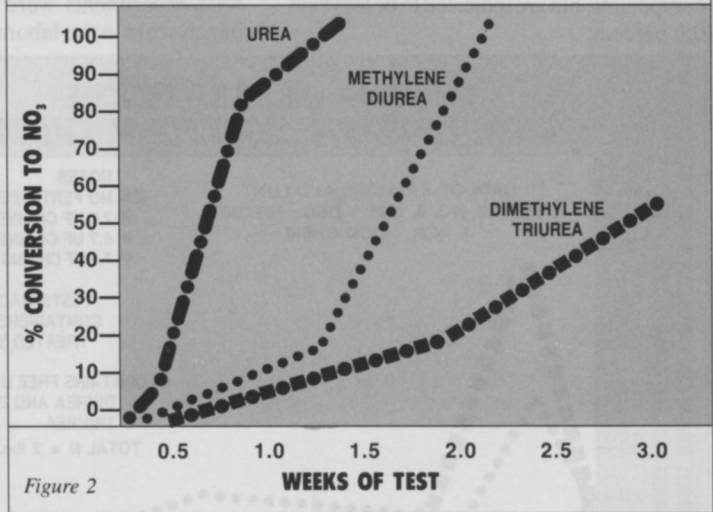


Figure 2

GROWTH OF ALTA FESCUE WITH DIFFERENT LENGTHS OF UREAFORM CHAINS

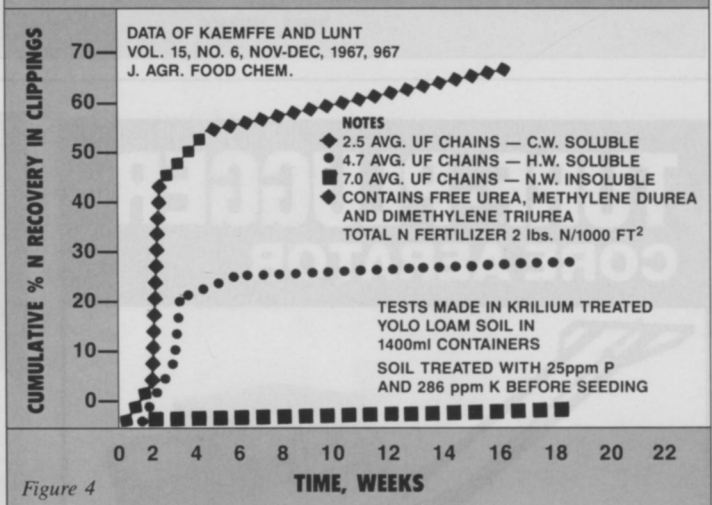


Figure 4

formaldehyde.

To provide storage stability to liquids comprising MOU it is necessary to maintain a basic pH, large amounts of free urea, and about one or more percent of free ammonia. Each of these requirements are undesirable to the lawn applicator because they: (1) preclude maximum use of local urea and the use of low cost iron micronutrients, (2) tend to burn grass when not properly neutralized and (3) cause strong odors for those handling and applying the materials.

Methylene diurea (MDU) is the first in the series of methylene ureas. Although it releases nitrogen considerably slower than urea and is stable enough for recovery for analysis, it tends to continue to polymerize and precipitate when in water solution at substantial concentrations with other urea-formaldehyde compounds. Stability is reduced at near-neutral pHs. Although some liquid fertilizers claim to contain high concentrations of this compound, its water solubility, reported by several researchers in the literature,

is only 2.5 percent.

The next compound in the series, dimethylene triurea (DMTU) has an even lower water solubility, reported in the literature to be 0.1 percent. The solubilities of the higher members of the polymethylene urea (PMU) series are not reported for individual compounds, but are indicated to be less than 0.1 percent.

The literature was carefully studied and it was conceived that by solubilizing intermediate molecular weight polymethylene ureas controlled nitrogen release could be obtained from a clear, near-neutral, ammonia-free, storage stable solution. To affirm and optimize this conception, numerous experiments were carried out on a bench scale in the laboratory, followed by

pilot scale tests on the most promising products. Performance evaluations were then made on these products under realistic handling, storage, blending and use conditions.

It was found that ammonia, and/or primary and secondary amines can be co-condensed with urea and formaldehyde at near-neutral conditions to produce linear amine modified polymethylene ureas which are much more stable and soluble than the polymethylene ureas reported by previous investigators in the literature. The stability of these compounds was strong enough that they could be stored for long periods of time at near-neutral pHs without the hazard of polymerization and precipitation.

CoRoN is an aqueous solution of a number of polymethylene ureas and amine modified polymethylene ureas. CoRoN is a new liquid polymethylene urea controlled release nitrogen source designed to maximize burn protection, nitrogen utility and ease of handling and application.

These materials are exemplified by the methylene diurea, amine modified, and the polymethylene urea, amine modified, shown on Figure 5. CoRoN consists primarily of straight chain (linear) amine modified polymethylene ureas containing from two to four urea units plus urea amounting to about 30 percent of contained nitrogen.

GROWTH OF ALTA FESCUE WITH DIFFERENT UREAFORM CHAINS

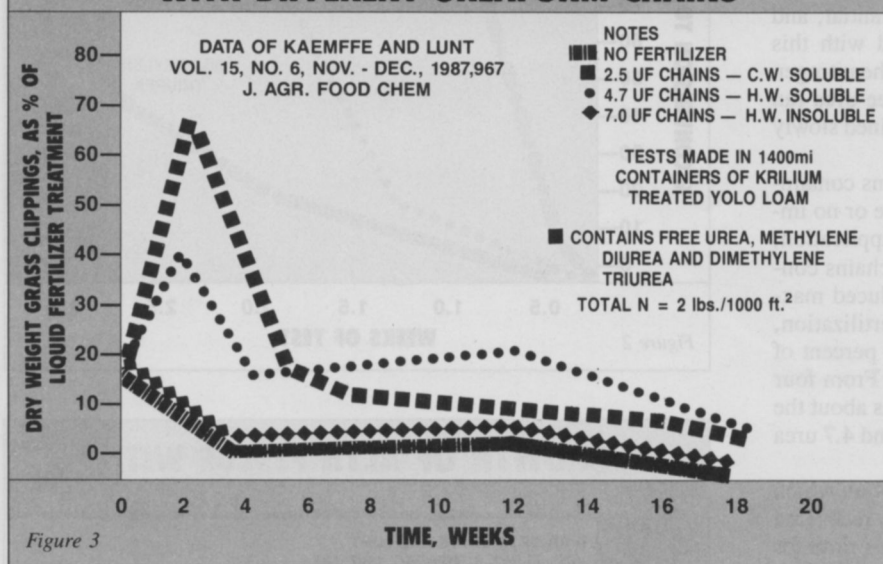


Figure 3

TURF-PLUGGER CORE AERATOR



- Self Propelled
- Quiet Running
- Easy Maneuvering
- Straight Up-and-Down Motion for Better Penetration
- All Roller Bearings - Case-Hardened Shafts
- Low Maintenance

3 MODELS AVAILABLE

- 400 - 24,000 Sq. Ft./Hr.
- 500 - 26,000 Sq. Ft./Hr.
- 600 - 36,000 Sq. Ft./Hr.

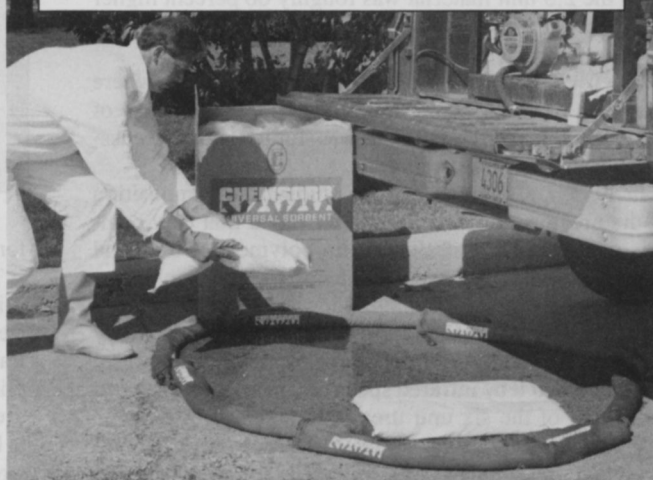
Ask about major lawn care companies who use it exclusively!



Classen Mfg. Co.

1403 Roach St. • Norfolk, NE 68701 • (402) 371-2294

CHEMSORB™ UNIVERSAL SORBENT



CHEMSORB™ picks up and contains any liquid spill... better, faster *and* safer.



PRECISION LABORATORIES, INC.
P.O. Box 127 - Northbrook, IL 60065
800-323-6280 - 312-498-0800

Small amounts of methylene diurea and dimethylene triurea are present. No cyclic urea formaldehyde products, such as triazines, are present. No free ammonia and little methylol urea are included as part of CoRoN. CoRoN contains a small amount of sodium bicarbonate to protect its near-neutral pH and sufficient water to safely maintain its 28-0-0 formulation in solution.

The nitrogen in the polymethylene ureas is contained in chain lengths which are long enough to substantially reduce foliage burn potential, but still provide nitrogen which is completely available for nitrification and utilization by growing plants.

Commercial scale applications and research tests have shown that CoRoN may be used effectively for soil fertilization, low burn foliar feeding and long-lasting deep root injection fertilization. — *William P. Moore*

The author is a veteran chemical and chemical engineering researcher with more than 100 U.S. and foreign patents covering products and processes. He was a pioneer in the development of liquid ureaforms as fertilizers.

REFERENCES

1. Hays, J.T., Hayden, W.W. and Anderson, L.E., *J. Agric. Food Chem.* 13, 176-179

(1965)

2. Kaemffe, G.C. and Lunt, O.R., *J. Agric. Food Chem.* 15, 967-991 (1967).

3. DeJong, J.E., and DeJong, J., *Rec. Trav. Chem.* 72, 1027 (1953).

4. Becker, H.J., *Chem. Ber.* 89, 1593 (1956).

5. Hays, J.T., Nitrogen Fertilization of Turfgrasses, presented at the 6th Virginia Turfgrass Conference. (1966).

UF FERTILIZER COMPOUNDS

NAME	FORMULA	SOLUBILITY, % @ 25° C
UREA	$H_2NCONH_2(U)$	53
MONOMETHYLOL UREA	$H_2NCONHCH_2OH (UCH_2OH)$	83
METHYLENE DIUREA	$H_2NCONHCH_2NHCONH_2(UFU)$	2.5
METHYLENE DIUREA, AMINE MODIFIED	$H_2NCONHCH_2NHCONHCH_2NH_2 (UFUFNH_2)$	SOLUBLE
DIMETHYLENE TRIUREA	$H_2NCONHCH_2NHCONHCH_2NHCONH_2 (UFUFU)$	0.1
POLYMETHYLENE UREA	UFUFUFUFU	<0.1
POLYMETHYLENE UREA, AMINE MODIFIED	$H_2NCH_2UFUFUFCH_2NH_2$	SOLUBLE

Figure 5

- ✓ 4000 LBS DUMPING CAPACITY
- ✓ 4 BOLT/1 WIRE INSTALLATION
- ✓ FITS STANDARD 8' AND 6½' SMOOTHSIDE AND STEPSIDE STYLES
- ✓ MINIMAL MAINTENANCE
- ✓ EASILY TRANSFERABLE



convert any conventional pickup into a multi-purpose dump truck with ...

minidump®

DEALERS NEEDED



REGISTERED IN U.S. AND CANADA

minidump® corporation P.O. Box 30278 Raleigh, NC 27622 • 919-781-6306

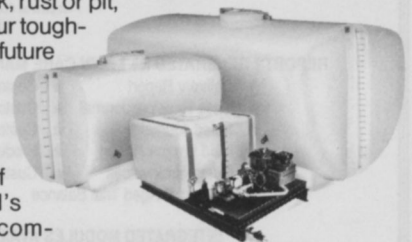
OUR STANDARDS:

TUFF TUFFER TUFLEX!

Some spray tanks are tuff. Others are tuffer. Tuflex-built tanks are the toughest because of our uncompromising standards in design, materials and craftsmanship.

Tuflex is the only manufacturer that specializes in hand-crafted seamless fiberglass tanks and spray systems for the pest control and lawn care industry. Our 10 to 1200 gallon tanks won't leak, rust or pit, so they can handle your toughest jobs with little or no future maintenance. And we stand behind our tanks with a full five-year warranty.

After 20 years of servicing the world's leading lawn care companies, we've proven that nothing compares to Tuflex because nothing is tougher than our standards.



Tuflex®
MANUFACTURING CO.

Call toll-free 1-800-327-9005 for prices on our complete line of tanks. In Florida, call collect (305) 785-6402. 1406 S.W. 8th St., Pompano Beach, FL 33060

Circle 35 on reader service card

Circle 34 on reader service card

LETTERS

RESEARCH AT YOUR FINGERTIPS

I just wanted to drop you a line to let you know how much I enjoyed the December '87 issue — The Technical Resource Guide. It is fantastic. It is the first time, that I can remember, that we have had the opportunity to have all the scientific articles for our use all in one place. I intend to have every one of my specialists read the issue from cover to cover. They can never know too much.

I've always looked to ALA for the technical articles that no one else has. You really do the best job of keeping the industry up-to-date on our agronomic issues. This issue can be used for general information, or, as I plan to do, as a premiere training tool.

Keep up the good work. I trust there will be an encore issue this year as well.

*Tim Doppel, President
Atwood Lawn Care Inc.
Sterling Heights, Michigan*

Yes, ALA plans to publish a second Technical Resource Guide in December. The issue will include features on wide-ranging sub-

jects, such as bluegrass patch diseases and the fertility of ornamentals, written by well-known researchers in our industry. Ed.

EYE-OPENER

The recent article on leasing and financing was very enlightening. We at Gravelly Financial Services feel the lawn and garden maintenance industries will see a tremendous increase in leasing and financing for the commercial and consumer markets.

Our leasing company was recently purchased by Ariens Company in September of 1987. Since that date we have developed and implemented a lease program specializing in Gravelly products. A specialized lease program for Ariens and Promark products is now in the planning stages. Your continued efforts in informing our industry in the technical and financial areas is to be commended.

*Von Jackson Snow
President
Gravelly Financial Services
Winston-Salem, N.C.*

FANTASTIC SERVICE

Just received your 1987 Technical Resource Guide — excellent. I like the idea of such a guide; it really provides a fantastic service. It's good to see some new things being tried.

*Eliot C. Roberts, Executive Director
The Lawn Institute
Pleasant Hill, Tennessee*

BUILDING A BUSINESS

First of all, keep up the good work. I look forward to each issue of your magazine.

Secondly, this fall, we will be putting up a new building. I would like to see an article on buildings. Things to consider, size, etc. This might be of interest to other LCOs.

*Charles McKeown
Golf Green Lawn Care
Pekin, Illinois*

Later this year we'll chart the top spots to open a new business. Ed. ■

Cado Systems of S.W. Ohio

CINCINNATI -
4434 Carver Woods Drive
Cincinnati, Ohio 45242
(513) 984-9040

Lawn Care Management System

Special features include complete Lawn Production/Accounts Receivable control with Automatic Invoicing and Statement Generation. Production figures, both complete and remaining, are available by Round. Customer History is kept by treatment type for both Rounds and General treatments.

**WE DELIVER
SOLUTIONS
BEFORE WE DELIVER
THE SYSTEM!**



1-64 users on CONTEL computers or IBM-XT compatibles

REPORTS GENERATED BY LAWN CARE MANAGEMENT SYSTEM

- ★ Delivery Report
- ★ Cash Receipts Journal
- ★ Sales Journal
- ★ Held Invoice Report
- ★ Customer Invoices
- ★ Customer Aged Trial Balance
- ★ Customer Statements
- ★ Customer Lists
- ★ Customer Labels
- ★ Production Report
- ★ Customer History Report

INTEGRATED MODULES AVAILABLE

- ★ Tree Service
- ★ Payroll
- ★ General Ledger
- ★ Accounts Payable
- ★ Inventory

CONTEL Business Systems
Where business solutions begin

Circle 40 on reader service card

Save On Your Choice of SOLO® Jetpak Knapsack Sprayers

MODEL 475—FOR ABRASIVE SPRAYS.

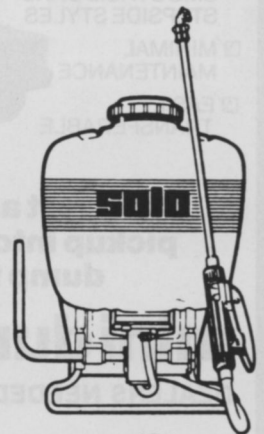
- Diaphragm pump.
- Max. pressure 45 psi.

MODEL 425—FOR ALMOST ANY SPRAY EXCEPT ABRASIVE SPRAYS.

- Piston pump.
- Max. pressure 90 psi.

BOTH MODELS FEATURE:

- ✓ Plastic, lightweight, 4 gallon capacity tank.
- ✓ Large opening with strainer.
- ✓ Quick shut-off valve.
- ✓ VITON® valves, gaskets, and seals.



425

No. 200200A Model 425 . . . ~~\$125.00~~ **\$72.50**
No. 200199A Model 475 . . . ~~125.00~~ **72.50**
(Add \$5.00 shipping and handling, for each sprayer.)

CALL TODAY!

1-800-241-6401 Outside Georgia
1-800-241-3136 In Georgia
(404) 455-0907 In Atlanta

Prices subject to change.



Ben Meadows Company

3589 Broad Street, Atlanta (Chamblee), Georgia 30366
Telephone 404 455-0907 Cable Address "BenCo"

5290B

Circle 70 on reader service card

CLIPPINGS

Efficiency experts. Fourteen employees at OMC Lincoln, Lincoln, Neb., have won a total of \$2,100 for their cost-cutting ideas. The winners were the first in a new monthly program called Employee Participation and Incentive Cooperative (EPIC).

Each month, an award panel of management and factory personnel picks the best new ideas for making factory or office operations more efficient. The first monthly winners were recently announced at a companywide meeting at the OMC Lincoln plant. First place award, a check for \$500, went to Sandy Underwood.

Underwood, who operates a cell of computerized machining centers at the plant, suggested a new technique for positioning one particular part in the machine's holding fixtures, while the parts are being machined. Her idea eliminated a nagging problem that sometimes caused rejection of the parts and increased salvage costs, according to company officials.

More than 70 ideas were submitted for the first EPIC contest and the figure is expected to increase as more employees compete for the awards.

At the end of the fiscal year, all winners will be eligible for 12 grand prizes for the most outstanding ideas submitted during the preceding 12 months. The first prize will be a 12-foot fishing boat with a 9.9 horsepower Evinrude motor and trailer. Second prize will be a 9.9 horsepower Evinrude outboard motor. Ten third prize winners will each get a Lawn-Boy mower.

The EPIC program provides a way to compensate employees for their ideas and suggestions, according to OMC Lincoln. Incentive programs conducted in other industries were evaluated by the company management in formulating the EPIC program.

Weather eye. The Professional Grounds Management Society reminded readers in a recent issue of its *Grounds Management Forum* newsletter that weather is probably the most important factor affecting their work. Unfortunately, weather is the least understood part of the job. Though no one can change the weather, it is possible to increase one's knowledge of what has happened in the past to be better prepared for

the future.

At the National Climatic Data Center in Asheville, N.C., the largest climatic center in the world, information from 10,000 reporting stations in the country is received, summarized and published. The PGMS newsletter highlighted three manuals.

Local Climatological Data is issued monthly and annually for 290 stations. Data includes daily and monthly temperatures, precipitation, wind and cloud covers. Yearly subscription cost is \$8.

A second publication, *Climatological Data* is released monthly and annually for each state. Records include daily high and low temperatures and precipitation. Some stations include soil temperatures, daily snowfall and evaporation. Yearly cost is \$13.

Storm Data is published monthly for 50 states. It features reported severe storms; covering information on place, time, character and estimated damage. Annual cost is \$3.

For more information, contact: The National Climatic Data Center, Federal Building, Asheville, N.C. 28801-2696; 704/259-0682. ■

Lawn Care Management System

A Complete Software Solution for Chemical Lawn and Tree Care Companies

PRACTICAL SOLUTIONS, INC.
500 West Wilson Bridge Road
Worthington, Ohio 43085
(614) 436-9066



*You've heard
we're the best!*

Circle 8 on reader service card

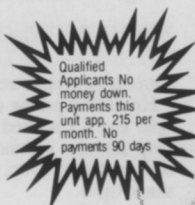
Why Mow and Go?

Stay and Seal Coat. Asphalt Seal Coating is a perfect add-on for Lawn Maintenance Companies

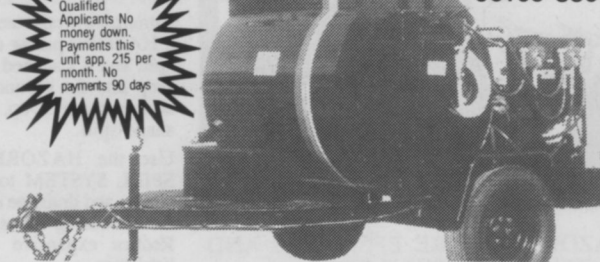
Easy Sell to your Present Customer Base

Extends Season
80% Profits
\$100,000 year realistic

Piston Sand Pump.
Finest in Industry
16 HP IC Engine.



Jevco 350



Over 20 Years
Call
(813) 921-7212

Please send information

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Mail To
Jevco Manufacturing Co., Inc.
4561 Samuel St., Sarasota, FL 34233

Circle 63 on reader service card

FINANCIAL CORNER

DESPITE POPULARITY, MUTUAL FUNDS STILL A MYSTERY

By nearly all accounts, mutual funds have become the investment of choice for most Americans. In fact, sales of stock, bond and income mutual funds totaled a record \$211 billion in 1986, more than double the previous record year of 1985. (Figures for 1987 were unavailable.)

But for some people, mutual funds are still a source of confusion. It's only going to get more confusing, with dozens of new funds opening each month — many of them in small market niches. Here, we present a primer to aid investors new to the world of mutual funds.

What is a mutual fund?

A mutual fund is an investment company that pools the dollars of many people and typically invests that money in a wide range of securities. Investors share in the profits and losses of the fund according to the number of shares they hold.

What kinds of securities do mutual funds



generally hold?

In general, funds invest in either stocks,

bonds or money market securities, with so-

(continued from page 48)

BE READY WHEN IT HAPPENS . . .

IT'S THE LAW!

ARE YOU PREPARED FOR A HAZARDOUS SPILL?



HAZORB IS MORE EFFECTIVE AND EASIER TO USE THAN CLAY

Tested on over 115 liquids, including acids, alkalis, hydrocarbons and agricultural chemicals. Hazorb is 15 times more effective than clay and absorbs up to 2.7 gallons of liquid per pillow. Makes disposal easier. Has indefinite shelf life, store it until you need it. Because HAZORB[®] is inert, it won't react with materials it's absorbed allowing costly reusable liquids to be recovered.

Now, the HAZORB[®] EMERGENCY SPILL SYSTEM makes it easy to properly deal with the accidental spill or leak you thought would never happen.

NO SHOVELING, NO SWEEPING NO HARD-TO-COLLECT RESIDUE

Eliminates messy sand and clay. Just throw a HAZORB pillow or tube on any liquid spill and it's soaked up fast before it can seep into the ground. Tubes are flexible so they can pick-up, dike and contain any shape spill.

Use the HAZORB[®] EMERGENCY SPILL SYSTEM to block floor drains, sewers and drainage ditches. Prevent spills from reaching rivers, streams and ponds. Reduce expensive clean-up costs and liabilities.

Be Prepared for the spill you thought would never happen...Order your Hazorb Emergency Spill System today!

To order, or for information on how to deal with hazardous spills, call Spectrum's Hot Line 800/248-8873

**Spectrum
Technologies, Inc.**

12010 S. Aero Drive, Plainfield, IL 60544
815/436-4440

HAZORB IS MADE IN THE USA

Circle 61 on reader service card

46 APRIL 1988 / ALA

FINALLY
THE PROVEN,
PROFITABLE
AND PAINLESS
WAY TO
COMPUTERIZE.

SEE MORE GREEN WITH
OUR AM+ LAWN CARE
MANAGEMENT SYSTEM.



QUINTESSENCE
COMPUTING

3001 Lake Austin Blvd.
Austin, Texas 78703
(512) 477-9038

Circle 62 on reader service card

Take Life's Twists And Turns In Stride.

For all the hairpin turns, the long stretches of straightaway, all the obstacles in your way, Toro presents the Groundsmaster® 220-D. No other out-front riding rotary mower is as maneuverable, as effortless to operate or provides as much trim productivity. Toro engineering and design is the reason why. A small, compact wheelbase* provides a small uncut trim circle and tight turnaround enabling you to trim close around any obstacle. Or get into and out of tight areas. Quadlink power steering provides even more maneuverability. Operators can make sharper,



easier turns with virtually no fatigue. For power, the Groundsmaster 220-D packs a compact liquid-cooled, 3-cylinder Mitsubishi diesel engine. That means more efficient and durable engine power and

reliability. But the real test of any machine is its quality of cut. And the Groundsmaster 220-D passes with flying colors thanks to patented floating decks that allow the cutting units to follow ground contours smoothly without scalping. And there are three decks to choose from: 52", 62" or 72". A deck-to-tractor weight transfer knob provides even more cutting control. A twist of the wrist easily balances cutting unit flotation to height of cut and traction needs. And the Groundsmaster 220-D is so versatile that all existing 200 Series Toro cutting and attachments retrofit to it. It is easy to see how Groundsmaster 220-D runs circles around the competition. Now it's time to see for yourself. Request a demonstration or watch our new video. Call your local Toro Distributor or contact Toro at the address below. The Toro Company, Commercial Marketing Services, 8111 Lyndale Avenue South, Minneapolis 55420.



TORO

The Professionals
That Keep You Cutting.

*Wheelbase is the distance between the front and rear axle. "Toro" and "Groundsmaster" are registered trademarks of the Toro Company. ©1988 The Toro Company

FINANCIAL CORNER

(continued from page 46)

called balanced funds having the ability to invest in any or all three of those categories. After that, it gets a little more complicated. Some funds specialize in certain areas of the market, such as technology stocks or corporate bonds. In reality, you can find funds that invest in just about any kind of securities.

Do different funds have different goals?

Yes, and that's a very important distinction. It's essential for fund investors to match their goals to the fund's goal. For example, some funds seek growth — an increase in the value of its investments. Those funds include aggressive growth funds, which have a lot of risk but offer the highest potential reward. A growth fund not considered aggressive will seek capital gains, but without taking as much risk. Others, usually fixed-income funds, seek maximum current income. Every fund has slightly different goals.

What are the advantages of investing in funds?

Many investors have neither the time nor expertise to evaluate the thousands of securities available in the stock or bond

markets, let alone make daily buy and sell decisions. A mutual fund provides an experienced manager, backed by investment analysts and other professionals, to choose securities and time buy-sell transactions to maximize gain potential or current income.

Won't I be putting "all of my eggs in one basket" by investing in a mutual fund?

On the contrary. Diversity of investments is one of the primary advantages of a mutual fund. By law, mutual funds must invest in a minimum number of companies, thus limiting the risk of loss due to poor performance by any one stock. Many funds also diversify their portfolios by investing in various industries, further protecting against a loss due to cyclical or economic slowdown in any one sector of the economy. Most investors are simply unable to afford a personal portfolio that offers such a wide diversity.

How can an investor determine what a mutual fund invests in?

A prospectus, which must be provided to all mutual fund investors when they buy shares, gives the fund's investment goals, fees, procedures and the types of securities in which the fund invests.

How safe are mutual funds?

Although any investment entails some risk, the nature of mutual funds minimizes risk since they offer both professional management and broad diversification. Generally, they have performed very well. Measured over the last 5-, 10- and 15-year periods, mutual funds on an average have outpaced both the Standard & Poor's index of 500 common stocks and the cost of living index. Various funds also have different degrees of risk. For example, a fund investing in blue chip stocks is generally considered to be less risky than one investing in small, newly formed companies.

Is participation expensive?

It depends on the fund and the fund family. Minimum initial investments are usually \$2,000, but can range from \$10 to \$25,000, with subsequent investments made in large dollar amounts or in smaller installments. Some companies offer accumulation plans through which investors periodically invest a fixed amount of money — often a relatively small amount — to buy shares of the mutual fund. This allows people to invest according to their financial ability, and may be a good way to begin an investment program. ■

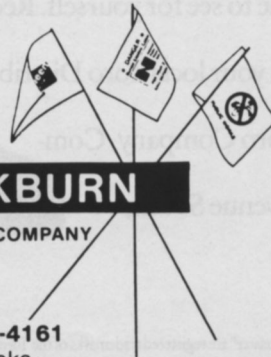
The preceding information was provided by IDS Financial Services Inc.

FLAGS



Designed especially for the lawn care industry

- 9 flag colors
- 8 ink colors
- 90° bend in staff
- Shipped straight. You bend when used.
- 18" or 24" PVC staff (1/8" diam.)
- Custom print available



Less than 5¢ ea.

(Min. 1000)

Actual Size:
4"x5" flag

BLACKBURN

MANUFACTURING COMPANY
P.O. Box 86
NELIGH, NE 68756

800-942-5816

402/887-4161
In Nebraska

AAB-SORB

Sprinkle AAB-SORB dry flakes around edge of spill working toward center.

Wait for about a minute, and the spill will turn to a gel.

A 2 1/2 lb. jar will soak up approx. 55 gallons of water-based spill.

We carry a complete line of safety equipment, including:

- Gloves •Goggles •Chemical Aprons •Rain Suits •First Aid Kits •Fire Extinguishers and more

VICA Series Spray Hose

600 & 800 PSI

300 & 400 coils

flexible but won't kink, light weight but strong; call us for information on any product.

TOLL FREE:

1-800-423-8850

IN FLORIDA (305) 749-1555

AABACO INDUSTRIES INC.

PEOPLE

Gravely International has named **Lawrence C. Wetzel**, owner of Freeport Lawn & Garden Equipment Company in Freeport, Pa., as the Gravely Dealer of the Year for 1987.

The annual award is presented to the top dealer out of 550 Gravely dealers worldwide. Competition is based on overall dealer performance, including dealer initiated promotional activities, finances, excellence of sales and service facilities and participation in Gravely-sponsored promotional programs.

Wetzel has won the honor the past two years. In 1986, he shared the award with **Pierce Christie** of MB Equipment in Plant City, Fla.

Jack Welch recently joined the ICI Americas Specialty Group in Wilmington, Del. He was employed by O.M. Scott, Northrup King and LESCO, before joining Stauffer Chemical Company. Upon the acquisition of Stauffer Chemical, Welch joined the ICI Americas group.

Welch graduated from the University of Rhode Island in 1961 with a degree in ornamental horticulture and turf.

BrushKing Division of Loos & Company Inc., Naples, Fla., has appointed **Donald R. Holbrook** to represent the company in the Northwest. His primary duties will be to develop new and existing outlets for the BrushKing heavy-duty Model S-3 Pruning Shear and other new entries such as a powerful, lightweight brushcutter and several new injector systems.

Pennwalt Corporation has appointed **William T. Spencer, Jr.**, group product manager for fungicides and insecticides.

Spencer received a bachelor of arts degree with a major in biology from Eastern College, and a master's degree in entomology from the University of New



Wetherholt



Cooper

Hampshire.

Prior to joining Pennwalt, Spencer held positions with Hoechst Roussel Agri-Vet and Rhone Poulenc. He is a member of the Entomological Society of America.

Mike Brocker has been named director/division manager of the Kubota Central Division.

Brocker joined Kubota Tractor Corporation in 1980 as sales promotion manager in the division previously known as the Great Salt Lakes Division. He was promoted to assistant division manager of the Northern division in 1982, and transferred to Dallas as assistant division manager of the central division in 1986.

Brocker replaces **Joe Daniel**, who started with Kubota in 1970. One of the pioneers with the company, Daniel was the central division manager for the last 17 years. He will continue to assist the company on special projects.

Jack Cross has been named assistant division manager of the Kubota Central Division.

Cross began his career with Kubota in 1980 as credit manager in the Northeast division. He transferred to the Northern division in 1982 as credit manager, and was promoted in 1986 to regional sales manager,

remaining in the Northern Division.

Weather-matic, a Dallas-based manufacturer of lawn and turf irrigation equipment, has promoted **Donald L. Cooper** from customer services manager to the newly created position of product manager. Cooper will oversee all new product and product modification planning. He will also assume duties of the technical services manager, which is responsible for service seminars, technical literature and customer assistance.

Cooper has 16 years experience with Weather-matic including assignments in manufacturing, engineering and customer service.

Elsewhere at Weather-matic, **Donna Wetherholt** has been promoted to the position of customer services manager. Her duties will include responsibility for order entry and processing, bids and quotations. She has nine years' experience with the company as a customer service specialist.

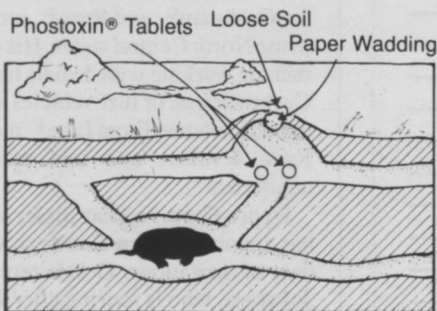
The Toro Company has appointed **Jim Hamilton** Northwest regional business Manager in the company's commercial division. In his new position, Hamilton will act as a liaison between the company's headquarters in Minneapolis and the 12 Toro distributors in the Northwest. He will focus on distributor education, presentations and marketing programs.

Hamilton has nearly 20 years experience in distributing Toro products.

Prior to joining Toro, he served six years as vice president of sales and marketing for Wesco Turf Equipment, where he oversaw a commercial sales force that sold Toro and other products to golf courses and municipalities. Hamilton also assisted in the management of the company's consumer and irrigation operations.

Charles A. Shaheen has been promoted

M O L E C O N T R O L



"Safe and effective control of Moles with Phostoxin® fumigant."



Fumigation Service & Supply, Inc.
10505 N. College Avenue
Indianapolis, IN 46280-1438

(317) 846-5444

to the position of vice president of marketing for Pepco Extruded Products Inc., a Fresno, Calif., -based manufacturer and marketer of drip irrigation products for residential and commercial landscape irrigation.

Shaheen had served as Pepco's national sales manager. Prior to that, he was a marketing and sales consultant in the aviation, construction and plastics industries.

Pat Cullen has joined KT Enterprises Inc. as landscape sales manager. In the position, he will oversee the estimating and sales functions of the company's landscape installation services.

Cullen came to KT after six years with Gustin Gardens in Gaithersburg, Md. Prior to that, he was a partner in a local landscaping company.

Cullen has a degree in ornamental horticulture and landscape from the University of Maryland.

Craig Norton has been named general sales manager of the Parker Sweeper Company, Springfield, Ohio. His new responsibilities include sales and marketing management of the company's nationwide distributor network.

Craig was formerly with Cincinnati

Milicron.

Parker Sweeper manufactures a wide range of lawn maintenance equipment including heavy-duty sweepers, power rakes, blowers, dethatchers and loaders.

Bill Stinehart has been appointed specification manager for the Turf Products Division of GardenAmerica. In the position, he will interact with specifiers and architects in the northern California and Pacific Northwest areas, providing them with updated information on products and programs.

Stinehart brings to the position more than 10 years of experience in the irrigation industry, most recently serving as regional sales manager for GardenAmerica's Turf Products division.

A graduate of California Polytechnic University, Stinehart has a bachelor of science degree in ornamental horticulture.

Dennis Hammond has been promoted to assistant manager, product planning and research for the Power Equipment Division of America Honda Motor Co. Inc. His new duties include evaluating products for sale in the United States and North America, and acting as a liaison with vendors who produce Honda attachments for sale in the United States. Additionally, Hammond will assist in determining market needs and working closely with Honda's research and development teams in Japan.

Hammond joined Honda in 1983 as a district sales manager for western Ohio. Prior to that, he worked in the power equipment industry as a sales representative.

John Kelly, Jr. recently joined RedMax™, a division of Komatsu Zenoah Company, Japan, as its senior vice president. In the new position, Kelly is responsible for the sales and marketing of the company's products throughout the United States and Canada.

Prior to joining RedMax, Kelly was president and owner of Virginia Outdoor Equipment, a distributorship that marketed four major outdoor equipment lines.

He brings to the company more than 23 years of industry experience and knowledge of both manufacturing and distribution of outdoor power equipment.

William H. (Bill) Rishworth has joined OMC Lincoln as district sales manager for Cushman® and Ryan® turf products in the North Central states. His duties will include working with dealers handling the Cushman line of turf vehicles and equipment, Cushman Front Line® mowers, and Ryan aerators and turf maintenance equipment.

Hypro Corp., a Lear Sigler subsidiary, has appointed **John Goode** to vice president of operations. Goode replaces **Carl Johnson**, who is retiring after 40 years of service. ■

LIMITED QUANTITIES

ORDER YOUR 1987 TECHNICAL RESOURCE GUIDE

NOW!

FIRST EDITION

- More than 60 pages of technical information
- Includes research on insects, weeds, and diseases as well as valuable equipment information.
- Articles indexed and categorized according to subject matter.
- A guide that can be referenced over and over again.

PRICE

\$25.00 per copy (payable in advance)

25% discount when you order four or more directories.

Enclosed is a check or money order for \$ _____,
Please send _____ copies of the

1987 TECHNICAL RESOURCE GUIDE to:

Name _____
Company Name _____
Address _____
City _____ State _____ Zip _____
Phone _____

Make check payable to:

ALA Magazine
4012 Bridge Avenue
Cleveland, OH 44113

Why cover the Same ground twice?



30-6S CORE AERATOR

Not only does one pass with the 30-6S give you top-quality aeration, but such is the speed and maneuverability of this rugged little machine, that you can aerate 25,800 square feet per hour . . . and that can translate into 12 to 16 average lawns each day!

This self-propelled aerator offers finger-tip maneuvering both on inclines and in a 15" radius; and will provide penetration of up to 4" deep.

The "camshaft method" of aeration used on the 30-6S not only ensures the removal of clean cores without tine jamming, but also enables the 30-6S to outperform much heavier machines . . . without tearing the turf.



SS-35-20S SLICER SEEDER

Seeding on 2" centers gives you a first-time, first-class job. And it's this kind of performance that allows you to seed 18,000 square feet per hour.

As for maneuverability, the SS-35-20S operates in an incredible 25" radius, allowing you to work with ease around trees, hydrants, flower beds . . . in fact any obstacle. Not only is the SS-35-20S remarkably good on the curves, it also performs like a champ on inclines of up to 40°. Truly the only all-terrain slicer seeder.

And as for simplicity of operation, just one lever lowers cutters, activates cutters, sets cutter depth and turns seed on. How easy and efficient can you get!

For complete information on the above products and our fine line of lawncare equipment write or call:

Salasco, INC.
LEADER BY DESIGN

105 School House Road
1-800-8SALSCO

• (203) 271-1682

Cheshire
• TLX 643708

• Connecticut 06410
• FAX (203) 271-2596

PRODUCTS

The SunStar Garden Tractor series from **Simplicity Manufacturing Inc.** has been extended to include 14 and 16 horsepower models. Both units incorporate the state-of-the-art components and the latest engineering technology the SunStar series features.

A full range of electrically operated attachments for mowing, collecting, tilling, dozing and snowthrowing chores are available for the new SunStars. All the attachments are shaft driven. The 16 horsepower model can be equipped with a 48-inch free-floating deck; and the 14 horsepower model with a 42-inch mower. Mowers are mounted to the tractors' double-pivoting front axle, which provides greater flexibility and evenness of cut over rough terrain and slopes.

Circle 101 on reader service card

New from **Falls Products Inc.** is the Sycamore Model 21-7500, a 21-inch rear discharge push mower featuring the Jumbo Hard-Pak grass catcher.

The Jumbo Hard-Pak is made of durable rugged plastic, and the installation and removal is simple. Larger capacity allows for less time taken away from mowing, and its wide mouth construction and molded handle makes emptying clippings easier.



The rear bagging configuration also enables close trimming on either side of the mower.

The 21-7500 is powered by a 3.5 horsepower Briggs & Stratton "MAX" series engine, with a heavy-duty air cleaner, electronic ignition, top-mounted oil fill and dip stick.

Circle 102 on reader service card

Swingle Tree Company is offering the Grow Gun, an efficient tool for fracturing

and aerating tough soils. Grow Gun also provides a convenient method to inject fertilizers (dry or liquid), water and other materials directly into the tree or shrub's root system.

The system uses compressed air injected into the soil to lift and fracture an area from four to 10 feet in diameter from the hole. The fractures can then be used to inject fertilizer or other material below ground.

According to the manufacturer, Grow Gun allows for proper allocation of material to the root system while providing the best aerating and deep watering a plant can obtain. Excellent results can be obtained in tough, heavy clay soils. Some amendments may be injected to help keep fractures open for a number of years.

Circle 103 on reader service card

Pepco Extruded Inc., a central California manufacturer and marketer of laser drip irrigation products, is offering its new 1988 Price and Technical Catalog.

The catalog contains more than 205 products ranging from Quadra Bubblers® to Laser Drip Tube®, Laser Soaker Line®, Hydrogene® Moisture Sensors, an extensive line of Hi-Temp PVC Compression Drip Fittings, and the full line of Pepco accessories needed to install complete drip irrigation or water conservation systems.

Pepco's new catalog contains the full range of Pepco laser drip products.

Circle 104 on reader service card

The new Bulb and Plant Auger from **G & H Manufacturing Co. Inc.** simplifies landscaping needs, making planting faster and easier. Although the product is designed for planting bulbs, it can also be used to plant bedding and ground covers up to 500 holes per hour.

The auger's 5/16-inch shaft attaches to a workshop drill and its 24-inch length allows operation from a standing position. The root cutter and soil loosener at the tip facilitates drilling and prepares a good environment for root growth.

The soil clearing whip positioned six inches above the base of the auger measures the proper depth for planting bulbs and prevents the dirt from falling back into the hole.

Soils that resist the penetration of trowels and shovels give way to the action of the 2 1/2-inch diameter steel auger blades.

Circle 105 on reader service card

Hypro Corp., a Lear Siegler subsidiary, recently added the Redball Spray Monitor to its product accessory line.

The Hypro Redball Spray monitor is an inexpensive manifold that monitors liquid flow. A simple gauge allows the applicator to visually monitor proper flow rate of liquid fertilizer and herbicide applications.

The unit works on the principle of flow pressure overcoming the effects of gravity on a weighted ball. As the chemical moves up through each chamber, marble-sized balls partially float, indicating flow. The monitor shows immediately if a nozzle becomes plugged as little as 10 percent, and at a glance, any variation in the application rate.

The spray monitor is manufactured of a high impact plastic to avoid chemical corrosion. It has no mechanical or electric parts.

Circle 106 on reader service card

The Gel-Tite™ Waterproof Wire Connector, designed to eliminate the need for messy sealants, has been introduced by the turf products division of **GardenAmerica Corporation**.

Each Gel-Tite unit is self-contained and easy to use. After crimped wires are placed inside the two-piece enclosure, it is snapped shut for a clean, waterproof wire connection. Gel-Tite is reusable and repairs may be made by simply unsnapping the enclosure and removing the old wires.

Designed to be used with 14- through 18-gauge UF wire sizes, it has a temperature tolerance of -40 to 160 degrees Fahrenheit, and a maximum recommended voltage of 600. Gel-Tite is non-toxic.

Circle 107 on reader service card.

Professional Tree and Turf, in cooperation with **The F.A. Bartlett Tree Expert Co.**, has developed an innovative integrated pest management unit.

The Bartlett IPM unit provides an alternative to blanket spraying for diseases and pests by allowing the operator to mix chemicals on-site.



Developed specifically for the green industry, the unit not only complies with federal and state regulations, but also pro-

(continued on page 56)

WHEN YOU'RE OUT OF ANSWERS, TRY THIS.



Because old-fashioned chemicals and plain organics just don't work like Ringer Turf Restore.[®] For those tough, recurring turf problems you need Ringer's unique combination of soil micro-organisms and organic proteins. It actually reduces thatch and attacks the conditions that lead to necrotic ring spot and other patch diseases. And Turf Restore nourishes grass plants naturally so it's safe for the environment. Ringer's a breakthrough in turf care!

But don't just listen to us. Ringer natural products are used and recommended by the Arnold Palmer Golf Management Company. These experienced golf course management professionals are recognized worldwide for their high standards. And you can see the dramatic results of their Ringer Turf Restore programs on top courses like Bay Hill, Latrobe, Turtle Bay and more.

So don't let turf problems ruin your professional reputation. Because there's no reason for anything less than perfection. Now that you know about Ringer Turf Restore, you have the answers.

Call 612-941-4181.



RINGER

Natural Solutions For Turf Problems.

Ringer Corporation
9959 Valley View Road
Minneapolis, MN 55344-3585
Distributed by Shemin Nurseries Inc.

Circle 96 on reader service card

PRODUCTS

(continued from page 52)

vides the user with the latest technology in pesticide application.

The apparatus is a special four-pump, four-mix chamber, four-reel, selective pesticide and fertilizer device. With the chassis mounted on the latest design one-ton Isuzu cab forward diesel, the unit provides the operator with a versatile delivery system.

The Bartlett IPM has four individual mixing chambers which eliminates the possibility of cross contamination of chemicals. In addition, hydraulically operated pumps and closed system concentrate induction devices permit a high degree of safety and selectivity.

Circle 108 on reader service card

Model TTC 85, a new two-cone tree transport trailer, is being offered by **Trans-Tree Inc.** The heavy-duty construction and ease of operation makes the unit an ideal companion to Big John or Stocker tree spades in all sizes.

Built in various configurations to customer specifications, the TTC 85 trailer permits transport of large trees obtained from outlying rural areas for planting in urban areas at economical costs. ■

Circle 110 on reader service card

PRODUCT SPOTLIGHT

Trimec-Plus is a new postemergent grass and broadleaf herbicide being debuted by PBI-Gordon Corporation, Kansas City, Mo. The product controls nutsedge crabgrass, goosegrass, dallisgrass and broadleaf weeds in turf. It is the first Trimec/MSMA product available as a stable mixture.

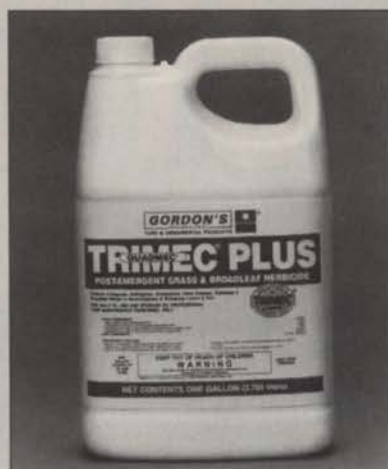
The new formulation is free-flowing, mixes easily and is labelled for use on Kentucky bluegrass and bermudagrass. Tests indicate it is safe on all tall fescue and zoysiagrass, but should not be used on St. Augustine, centipede or carpetgrass.

Crabgrass and other grassy-type weeds are most often controlled with one (two at most) application, according to PBI-Gordon. The product is said to be especially effective against nutsedge.

Trimec-Plus enhances broadleaf weed control, including certain plants not susceptible to most amine-type turf herbicides, such as oxalis and aster. In addition, hard to kill species like knotweed, heal-all, spurge and ground ivy are readily controlled by the product.

Application dosage is one gallon of the herbicide per acre in 50 to 100 gallons of water, with slightly increased dosage optional in bermudagrass heavily infested with dallisgrass or other mature grassy weeds.

Circle 114 on reader service card



THE ANSWER TO CHEMICAL SPILLS! SOAK UP



A 2½ pound jar will soak up approximately 55 gallons of

water-based liquid turning it into a gel that can be picked up with a shovel or broom and dustpan. SOAK UP eliminates dripping rags and contaminated mops.

TREBOR CORPORATION

4045-A Jonesboro Road • Forest Park, GA 30050
404/366-0957 • Telex 759-353 • (Outside Georgia) 1-800-331-1449

Circle 73 on reader service card

SIGNAL™ SPRAY COLORANT... NOW YOU CAN SEE WHERE YOU SPRAY!



See your turf dealer. If he doesn't carry SIGNAL, call or write for information and a trial sample.

PRECISION LABORATORIES, INC.
P.O. Box 127 • Northbrook, IL 60065
312-498-0800 • 800-323-6280

Circle 56 on reader service card

MAKE MORE PROFIT AT EVERY STOP WITH CHIPCO® 26019.

FUNGICIDE

CHIPCO 26019 fungicide stops
more lawn diseases...
for more days...for more
satisfied customers.

In today's lawn care industry, you've got two ways to make more profit. Go out and get more customers. Or get more business from the customers you already have. CHIPCO 26019 fungicide helps you do both.

CHIPCO 26019 fungicide controls most major lawn diseases, including Helminthosporium Leaf Spot and Melting Out, Fusarium Blight, Brown Patch, Dollar Spot and Red Thread. And unlike some other fungicides, CHIPCO 26019 fungicide stops these deadly diseases before they get started.

Better yet, CHIPCO 26019 fungicide provides the month-long protection it takes to get you from one scheduled round to the next. That cuts down on customer complaints and costly call-backs.

You'll also like the fact that CHIPCO 26019 fungicide now comes in a convenient flowable formulation as well as wettable powder. Plus, CHIPCO 26019 fungicide is low in toxicity, for added protection to applicators and homeowners.


So don't stop with just feeding and weeding your customers' lawns. Discover how better disease control can add up to bigger profits with CHIPCO 26019 fungicide.

Rhone-Poulenc Ag Company, CHIPCO Department, P.O. Box 12014, Research Triangle Park, NC 27709.



CHIPCO® 26019

FUNGICIDE

 RHÔNE-POULENC AG COMPANY

Please read label carefully and use only as directed.
CHIPCO® is a registered trademark of Rhone-Poulenc.

Circle 22 on reader service card

CLASSIFIEDS

COMPUTER SERVICES

Lawn Care Industry Software

Fortunate Enterprises Inc.
18329 U.S. Highway 19
Hudson, FL 34667
904/596-6347 or 813/869-2323

Nationwide network of service.

ACQUISITIONS

Wanted to Acquire

Lawn care companies of all sizes in U.S. and Canada being sought by national corporation. Complete buy out or stay and grow with us. If interested please call me directly: John Hayes, Executive Vice President, Tru Green Corporation, 404/ 442-8700. Strict confidentiality maintained.

Wanted to Buy

Lawn care companies of all sizes anywhere in U.S. wanted to purchase by national corporation. If interested please respond to: ALA magazine, Box 329, 4012 Bridge Ave., Cleveland, OH 44113. Strict confidentiality maintained.

Wanted to Buy

Ever-green Lawns, a Division of The Hawley

Group Ltd., an international service company doing in excess of a billion dollars in sales annually, wants to acquire lawn care companies of all sizes. All inquiries strictly confidential. Please contact: Steve Hirshmugl, Director of Finance and Acquisitions, Ever-green Lawns Corporation, 1390 Charlestown Industrial Drive, St. Charles, Missouri 63303; 314/946-9700.

FOR SALE

Denver Lawn Care Business

Outstanding lawn care business in Denver. AAA reputation, in business 18 years, all commercial accounts. Includes assets, trade name, contracts, good will. Will stay on part time if needed. Plenty of business available due to our reputation. 1988 gross over \$400,000 Price: \$400,000 cash. Write: ALA, Box 330, 4012 Bridge Ave., Cleveland, Ohio 44113.

Lawn Care Equipment

Hannay reels new in-the-box, E1526s, E1530s, \$339; lawn spray hose, 275 psi and 600 psi, all sizes; original Imler measuring wheels, \$48; glycerin-filled gauges, 0-6- psi to 0-1,000 psi, \$19.95; polypropylene ball valves, 1/2-inch to 2-inch; ChemLawn guns, \$75.95; lawn spray boots, \$16.95; lawn spray gloves, \$1.25-pair. Call **Hersch's Chemical, Inc.**

800/834-LAWN — outside of Michigan 313/543-2200

Like new Meyers sprayer: 500 gallon tank, 6110 Piston pump, Hannay 4000 electric reel, hose guilds, 300 feet hose, Chemlawn gun, extra pump, gloss white, ready to spray. New \$5,936 will sell \$3,100 Jacksonville, Illinois 217/245-6227.

HELP WANTED

Position Open

Middle Management Position available in 25-year-old financially solid, growth-oriented lawn service company. Equity opportunity can be available to the right party. Seeking a take charge person who can assume responsibility and thrives on challenges. Excellent benefit program. Your comprehensive resume should include business and work experience over the last 5 years, educational background and current or last salary. Write Vice President, Lawn Mate Inc., P.O. Box 403, Metuchen, N.J. 08840.

Manager Position

Top Firm Needs Top Person: Quality conscious, Texas-based landscape management firm has immediate opening for detail-oriented Operations

(continued on page 62)

TOLL FREE SERVICE

Tired of waiting for product information long after you have sent in your reader service card?

**TOLL FREE
800-456-0707**

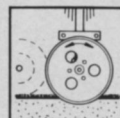
NOW, quick and easy access to manufacturers' information is just a toll free phone call away! ALA's new 800 Reader Service number will help all LCO's get this requested material faster than ever before!

TURFCO EDGE-R-RITE MULTI-PURPOSE TURF EDGER

Just like a small sod cutter, the Blade does not spin, the oscillating motion does not throw debris.

Self-propelled and push models available.

Rugged design for commercial use.



Disc Blade



V-Blade

Optional Blades:

Disc Blade for cutting straight edge along sidewalks and driveways.

Right Angle Blade for golf course sand traps, and flower beds.

"V" Blade for removing a strip of turf along a sidewalk.



Right Angle Blade

TurfcO Mfg., Inc.
3456 N. Washington Ave.
Minneapolis, MN 55412-2688
Ph. 612/588-0741
Telex 5106013762

Write or call for detailed literature

TURFCO

To apply granular XL is to excel in your preemergence weed control.

With just one application, you can keep your ornamental and landscaped areas free from many grass and broad-leaf weeds, for six to eight months.

And because XL contains Surflan®, your control's also stronger than Ronstar® against crabgrass. And just as strong or stronger against many other weeds. At less cost, too.

Not only that, XL stays put. And once activated, it forms a barrier to prevent weed breakthroughs better

and longer than anything else. Most importantly, XL is gentle on a broad range of ornamental species. Even when it's applied to wet foliage.

So excel with XL. See your Elanco distributor. Or call toll-free: **1-800-352-6776.**

Elanco Products Company
A Division of Eli Lilly and Company

Lilly Corporate Center
Dept. E-455, Indianapolis, IN 46285, U.S.A.

XL™—(bifenox + oryzalin, Elanco)

Refer to the XL label for complete use directions.

Surflan®—(oryzalin, Elanco)

Ronstar® is a registered trademark of Rhone-Poulenc.

Circle 24 on reader service card



**New for ornamentals.
Contains Surflan®.**

XL™ excels.



**For longer-lasting, broad-spectrum
weed control, excel with granular XL.**

Sure



**MORE GREEN.
LESS BURN. EASIER
APPLICATION, TOO:
ONLY N-SURE GIVES
YOU ALL THIS.**

With N-SURE, more nitrogen stays on the lawn for better greenup. That's because N-SURE's patented triazone technology delivers triazone nitrogen and less urea. Triazone does not

volatilize like urea, so it stays right where you put it instead of dispersing into thin air. N-SURE provides easier application with less water, less waste and less downtime, because it is clear

thing.



and clean: easy to store and handle.

N-SURE delivers more satisfied customers with fewer callbacks. N-SURE really is a sure thing. It's your surest way to

a greener bottom line. For more information about N-SURE, write or call Triazone Corporation, One Gatehall Drive, Parsippany, New Jersey, 07054. 1-800-524-0135.

N-SURE

Circle 32 on reader service card

ChemLawn*(continued from page 24)*

same fertilizers and general-use pesticides available to homeowners in any hardware or garden store, Hardymon said. The materials available at retail outlets are generally in a concentrated form, however, ChemLawn's materials are brought to customers' lawns in highly dilute form, and neither its customers nor the public is exposed to concentrates of the chemicals.

In addition, Hardymon said, the names and concentrations of all ChemLawn materials are printed on customer invoices.

However Goldweber argued that because information is not available about the chronic, long-term effects of many pesticides, ChemLawn could not guarantee full safety.

"The truth is, no one really knows if they're chronic or not," she said.

Goldweber added that the attorney general's office has looked at literature from other lawn care companies, but ChemLawn is the only one they are currently pursuing.

Hardymon argued that the issue of chronic, long-term effects is a moot point because customers receive no continuous exposure to the products. "In our case, there's not enough there...The materials are only applied once or twice a year.

"The Attorney General in New York has been taking on a number of people like this in cases he feels involve false and misleading advertising. We feel very strongly that we are not one of those companies," Hardymon said. "We are going to win. We are very confident and we look forward to the opportunity to get before an impartial judge to try this case."

ChemLawn served 1.8 million lawn, tree and shrub care customers in 1987, with revenues of \$353 million at the end of its fiscal year. ChemLawn is a wholly owned subsidiary of Ecolab Inc. of St. Paul, Minn.

— *Cindy Code*

The author is Editor of ALA magazine.

AD INDEX

Aabaco Ind.	48
Ben Meadows	44
Blackburn Manuf.	48
Bush & Cook Leasing	16
Cado	44
Chevron	37
Ciba-Geigy	34,35
Classen	42
CoRoN Corp.	62,63
Dow Chemical Co.	2,3
Elanco	15,33,59
Encap	22
PaveMan	7
Environmental Safety Systems	38
Exmark	38
Feldmann	17
Fumigation Service & Supply	49
Hersch's Chem.	16
Imler & Assoc.	23
Jevco	45
Lebanon	29
Lesco	64
Milwaukee Sewerage	14
Mini Dump	43
Moyer & Son	50
Nor-Am	39
PC Supply	16
PGMS	20
Practical Solutions	45
Precision Laboratories	42,56
Quintessence	46
Real Green Computers	17
Regal Chem	25
Rhone Poulenc	8,9,57
Ringer	55
Ryan	4
Salsco	51
Spectrum Tech	46
Strong	23
Toro	47
Trebor	56
Triazone Corp.	60,61
Tuflex	43
Turfco	58

and industrious, send resume to: Ray Knoll, Western DuPage Landscaping Inc., 31W478 Diehl Road, Naperville, Ill., 60540. 312/416-0072.

Sales Positions

Major manufacturer and distributor of Quality Lawn Care, Sprayer Trucks, Skid Units and related supplies seeking qualified individuals for inside and outside sales positions. Individuals should be experienced in sales and very trainable. Send resume to: WESTHEFFER COMPANY INC., P.O. Box 363, Lawrence, Kan. 66044.

Rates: All classified advertising is 55 cents per word. For box numbers, add \$1 plus six words. All classified ads must be received before the 10th of the month preceding publication.

Classifieds*(continued from page 58)*

Manager and/or Business Manager. If you have outstanding professional, managerial and horticultural skills and are not afraid of hard and healthy teamwork, then you could qualify for a top position with the finest landscape firm in the Southwest. Outstanding compensation and opportunity. Reply today to: ALA, Box 325, 4012 Bridge Ave., Cleveland, OH 44113.

Foremen

Foremen needed in these departments: landscape construction, lawn care applicator and grounds maintenance. High caliber people needed to lead and assist company doing quality work in the Chicago area. Excellent pay, complete benefit package and pension plan. If you are dependable

Your Regional CORON[®] Distributor is

- Agri-Turf, Inc.**
59 Dwight St.
Hatfield, MA 01038
Contact: Mr. Bruce Gordon
Phone: (413) 247-5687
Covers: The New England States
- Big Bend Supply**
P.O. Box 479
Cairo, GA 31728
Contact: Robert Sellers
Phone: (912) 377-7709
Covers: Florida, Georgia and Alabama
- Blakely Fertilizer, Inc.**
R. 4, Box 236
Springfield, IL 62707
Contact: Richard Blakely
Phone: (217) 529-6989
Covers: Southern Illinois, Missouri and Tennessee
- W.S. Clark & Sons**
St. James St.
Tarboro, NC 27886
Contact: Tony Farmer
Phone 1-(800)-672-2921
Covers: North Carolina and Southern Virginia
- Green Grow Fertilizer**
5201 Bird Creek Ave.
Catoosa, OK 74015
Contact: George Scroggs
Phone: 1-(800)274-7795
Covers: Oklahoma, Arkansas, Kansas and Texas
- Holwin Fertilizers, Ltd.**
5930 Atlantic Dr.
Mississauga, Ontario L4W1S4
Contact: Jon Kloosterhuis
Phone: (416) 674-2644
Covers: Ontario
- Moyer & Son**
113 E. Reliance Rd.
Souderton, PA 18964
Contact: Mark Phipps
Phone: 1-(800)-345-0419
Covers: Pennsylvania, Delaware, Maryland, Southern New York, Connecticut and Northern Virginia
- Na-Churs Balance Plant Food**
421 Leader St.
Marion, OH 43202
Contact: David Elliott
Phone: (614) 382-5701
Covers: Ohio, Indiana, Michigan, Iowa, Nebraska, Kentucky and Missouri
- Pure-Gro Fertilizer**
1450 N. McQueen Rd.
Phoenix, AZ 85035
Contact: George Carson
Phone: (602) 892-0513
Covers: Arizona and New Mexico
- Schall Chemical Co.**
120 N. Broadway
Ft. Lupton, CO 80621
Contact: Garry Schunk
Phone: (303) 857-2773
Covers: Colorado and Wyoming
- Stanton Ag Services**
3993 N. Main St.
Marion, NY 45051
Contact: Page Stanton
Phone: (315) 926-4294
Covers: Western New York
- Tyler Enterprises, Inc.**
P.O. Box 365
Elwood, IL 60421-0365
Contact: Warren Shafer
Phone: (815) 423-5551
Covers: Illinois
- Wolfkill Feed & Fertilizer**
217 Stretch St.
Monroe, WA 98272
Contact: Jim Price
Phone: (206) 794-7065
Covers: Washington, Oregon and Idaho
- Vogels Spring Valley Fertilizer**
1891 Spring Valley Rd.
Jackson, WI 53037
Contact: Bill Vogel
Phone: (414) 677-2273
Covers: Wisconsin and Minnesota

Contact one of these outstanding Companies today!

A New Force In Lawn Care

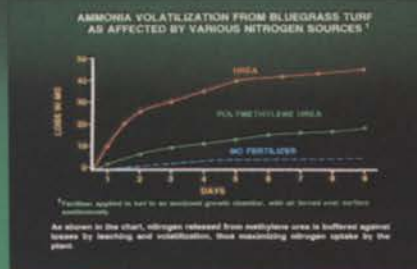
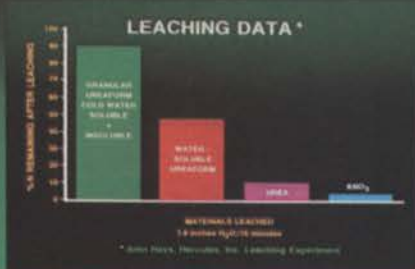
CORON®

CONTROLLED RELEASE NITROGEN

Now A Force Across America!



CoRoN now has fourteen major distributors and seven manufacturing locations to serve the lawn care industry. No matter where you are . . . CoRoN is there to meet your liquid nitrogen needs. CoRoN, Controlled Release Nitrogen; promotes even turf growth over a longer period of time, features low burn potential, assures nitrogen efficiency, is storage stable, and has low atmospheric volatility. Call one of our distributors today and join the Force That's Changing the Face of America's Lawn and Turf Industry.



CORON®

CONTROLLED RELEASE NITROGEN

Post Office Box 198 • Souderton, Pennsylvania • 18964 • Phone 1 (800) 338-0836

CoRoN® is a Registered Trademark of The CoRoN Corporation

© 1988 CoRoN Corporation
Circle 71 on reader service card



A reliable old friend.



Three-Way
bentgrass
formulation
now available.

Always read and follow
instructions on package
before using any
chemical product.

For outstanding and economical broad-spectrum weed control, one product stands alone. LESCO Three-Way Selective Herbicide.

The combined efficiency of 2,4-D, MCPP and dicamba stops more than 30 weeds with a single application. Including tough problems like ground ivy and spurge.

And just as important is the cost effectiveness of Three-Way. Why pay more for herbicides that do less?

Outstanding weed control at an economical cost. No wonder LESCO Three-Way Selective Herbicide is still the first choice of professional turfgrass managers.

It's nice to know you can rely on an old friend. Order today.

LESCO

(800) 321-5325 (800) 362-7413
NATIONWIDE IN OHIO

LESCO, Inc., 20005 Lake Road, Rocky River, Ohio 44116 • (216) 333-9250