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ABOUT SURFACE
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JUNE 1985 VOLUME 6 NUMBER 6

THE COVER

Assistant Editor Vivian Fotos fills us in on the insurance situation facing lawn care professionals. Everything seems fairly rosy now, but things could take a turn for the worst in the near future. Grit your teeth and turn to page 34. (Cover photo by Barney Taxel)

CALENDAR

July 11-13

California Landscape Contractors Association Family Summer Tri-Board, Contact: Bob A. Gouley, California Landscape Contractors, 2226 K Street, Sacramento, CA 95816; 916/448-CLCA.

July 16-17

Northwest Plant Food Association 36th Summer Fertilizer Conference, Salt Lake City, UT. Contact: Northwest Plant Food Association, 503/226-2758.

July 23-25

National Fertilizer Solutions Association 1985 Round-Up, Indiana Convention Center, Indianapolis, IN. Contact: Dennis E. Brown, National Fertilizer Solutions Association, 8823 North Industrial Road, Peoria, IL 61615; 309/691-2870.

July 25-28

Family Summer Tri-Board, Harbortown Marina Resort Hotel, Ventura, CA. Contact: Larry Rohlfes, CLCA, 2226 K Street, Sacramento, CA 95816; 916/448-CLCA.

July 29-31

International Lawn, Garden & Power Equipment Expo, Kentucky Fair & Exposition Center, Louisville, KY. Contact: Polly Moter, Kentucky Fair & Exposition Center, P.O. Box 37130, Louisville, KY 40233; 800/558-8767; or Lin Fish, Fleishman Communications, 312/397-7744.

Sept. 29-Oct. 2

1985 Florida Turfgrass Association Annual Conference and Show, Curtis Hixon Convention Center and Hyatt Regency, Tampa, FL. Contact: Bill Nass, Florida Turfgrass Association, 302 South Graham Avenue, Orlando, FL 32803-6332; 305/898-6721.

BUSINESS FEATURES

Insurance: Are We Covered? Assistant Editor Vivian Fotos gets the insurance scoop and warns us of coming problems.			
Lobbying For Lawn Care We interview the people who go to bat for us in state houses across the country.	42		
Service Calls We investigate the ways some of your peers are dealing with the hidden cost of service calls.	45		
Common Franchise Agreement Terms Thinking of buying a franchise? Here are some of the terms you can expect to find on your contract.	5(

TECHNICAL ARTICLES

Liquid vs. Granular White Grub Insecticides Dr. Patricia Vittum weighs the liquid vs. granular pros and cons of grub insecticides.				
Plant Growth Regulators Today and Tomorrow Ray Freeborg gives us an overview of what we can expect from PGRs now and in the future.				
From Waste to Lawn Care Resources W.H. Mitchell tells us about some new organic lawn fertilizers from recycled waste.				

DEPARTMENTS

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ALA (USPS 657-470) (ISSN 8750-5517) is published twelve times per year. Copyright 1985 Gie, Inc. Publishers, 4012 Bridge Ave., Cleveland, OH 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: \$12.00 in the USA and Canada; Single copy rate: \$1.25; Foreign subscriptions: \$30.00 per year. 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.



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to your insect
and weed con-

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From the turf care group at Union Carbide

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ALA PUBLISHER'S FEEDBACK

ow do customers view your service? How do they view your competitor's service? What's the best "position" for your company in your market area?

I wonder how many lawn care marketers have taken the time to research the answers to these questions? How many of our readers have ever taken the time to conduct customer business perception research?

As businessmen, we must accept the fact that no matter how good our service may be in an objective sense, our customers' and prospects' perception of our company is more often than not quite different.

Research focusing on how your customers' perceive your business can yield highly valuable management insights. It can help you formulate marketing, pricing and service strategies, as well as confirm certain vague management hypotheses, notions or

It is important that we accept the fact that consumer perceptions have a tremendous, yet silent impact on our business success and that they are based on multiple factors, including wordof-mouth advertising, media advertising and the image we project via our business locations, the vehicles we drive and the uniforms we wear.

Consumer perceptions are affected



by press coverage, as well as our past service performance. For example, you might now offer the best service in your market area, yet be perceived unfavorably by your prospects because of past incidents or service problems that have long since been corrected.

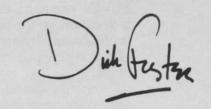
Customer perceptions can be evaluated by researching how your customers rate your pricing, delivery, service quality, sales personnel, technical support and business innovation to that of your competition. This customer feedback

will provide tangible data on the strengths and weaknesses of your business image.

It will also provide a profile of your market, revealing geographic and demographic opportunities for your business by identifying market areas where there is relatively little competition or sectors of your market where prospects consider the strengths of your company/services particularly important.

In reality, buying decisions are based more on perceptions than facts, and it is important that you know how your business stacks up to that of your competition in the minds of your existing and potential customers.

Now that you have your arms around the 1985 business season, it is an opportune time to undertake customer perception research that will give you valuable insight for your 1986 business strategy and planning process.



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P.O. Box 5439 St. Louis, MO 63147 (800) 325-7155 For more information on Duosan, or Dymet, or both, call Mallinckrodt toll-free. Or, contact your Mallinckrodt distributor. You might eliminate a long list of problems all at one time!

ALA INSIDE STORY

n our cover story this month, Assistant Editor Vivian Fotos files a report on the state of insurance available to lawn care businessmen in her article, "Insurance: Are We Covered?" The answer to that question is yes, at least for the time being. It seems that insurance companies nationwide have decided to drop pollution coverage from their policies in the near future. That means operators may have to look elsewhere to insure themselves against injury and property damage due to pesticide spills. Turn to page 34 for more insurance woes and worries.

After you have read about the insurance troubles that await us, you can read more about the right-to-know ordinances that afflict us in "Lobbying For Lawn Care." Local pesticide regulatory actions are the greatest threat currently facing this industry, so this month we talk with the people who defend lawn care in state legislatures around the country. Because of the nature of the industry's regulatory problems, most lobbying is being done

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84 PSI

Technical data

Tank Capacity

Max. Working

Weight #

Pressure

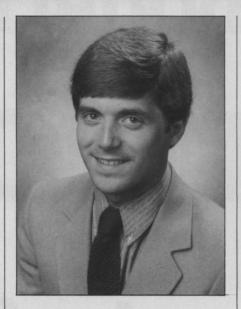
IRIS

3½ gal

11.4

3.9 gals

84 PSI



at the state level. This article should give you some insight into a lobbyist's job, and maybe inspire you to do some lobbying of your own!

In "Service Calls: The Cost of Servicing Customers," we look at one of the

most hidden costs of all hidden costs — the cost of service calls. First, we mailed surveys to 300 lawn care operators to get some figures to work up the charts in the accompanying story. Then, we interviewed several operators to get a more detailed picture of the way this industry deals with service calls.

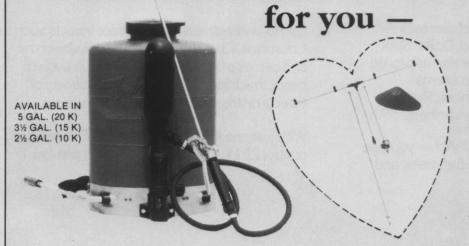
Finally, we received more reader response from the article we ran in February on lawn care franchising than any other article we have published before or since. So we thought we would give you a little more information on the topic in this issue in the article, "Common Franchise Agreement Terms." The article contains some stipulations most franchisors will expect you to agree to in their contracts.

And of course, we have an interesting selection of technical articles and departments. Read on!

Jim Weidrer

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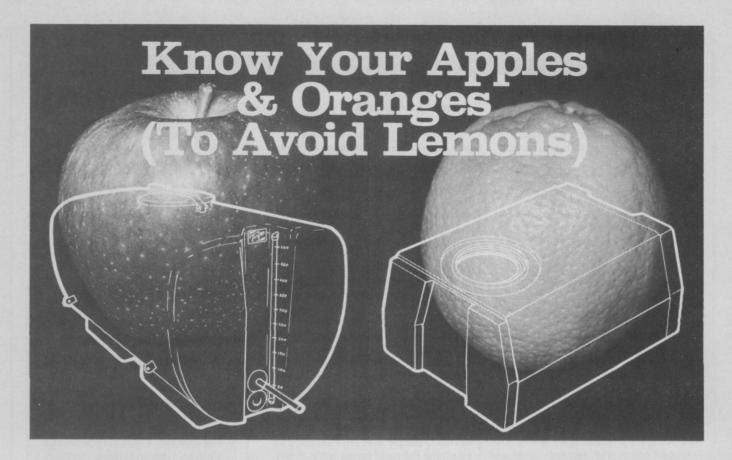
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DON'T FORGET LAWN DOCTOR

In reference to your article in *ALA*, March 1985, "Granular vs. Liquid Application." I thought this was a very good article.

However, I was wondering why a Lawn Doctor dealer or Lawn Doctor, Inc. of Matawan, NJ wasn't interviewed. We use a motorized spreader which is called the Turf Tamer. It applies granular material and a liquid weed control all in one application, and covers about 1,000 square feet per minute. It runs on a two-cycle engine.

This machine is Lawn Doctor's own patented equipment. I think your readers would be interested in reading about or maybe even seeing a picture of it in *ALA*. If interested, please contact Mr. Bob Magna of Lawn Doctor, Inc., 1/800/631-2166.

Vito Sabio Lawn Doctor of S. Morris Succasunna, NJ

Yes, we are interested! Our readers have just read about your machine, so if you could send a photo, they can get a look at it as well. Ed.

SERVICE CALLS, CANCELLATIONS

In response to your survey, I felt it necessary to go into detail on a couple of matters.

Service Calls: Our industry's guarantee about a "weed-free" lawn has become a thorn, since the marketplace is bombarded with direct mail heralding a beautiful, weed-free lawn. A 100 percent weed-free lawn is an impossibility. Many of the service calls that we re-service often have only a couple of weeds and often these weeds germinate after the application.

The cost of the service calls is hard to determine since the cost will vary due to the type of service rendered. Often the matter does not need reapplication, but rather, a talk with the customer about the problem. Sometimes our major function is horticultural consultation.

Cancellations: Many of the cancellations we experience are normally people who are interested in receiving the early spring applications which contain crabgrass control and broadleaf weed control. They get what

they're looking for and cancel service. We have seriously considered charging the client for the true value of each individual application on some type of graduating scale. The early spring applications being the most expensive and the late fall applications being considerably less.

John C. Loyet Greenscape Lawns Manchester, MO

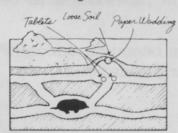
There are a lot of ways to get "stiffed" in this business, unfortunately, you have experienced one of them. Ed.

COMING NEXT MONTH

How successful can you be in the mowing maintenance field? Find out next month when ALA interviews some successful mowing maintenance businessmen to learn how they got where they are today. We'll also look at routing systems which save time and money, and explore various add-on services. Keep reading!

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ALA **NEWS IN BRIEF**

W.R. GRACE INTRODUCES LAWN SERVICE IN INDIANA

W.R. Grace and Company Agricultural Chemicals Group, the well-known plant food manufacturer, has opened its first Wondergro Custom Lawn Service operation in New Albany, IN. Grace's entry into the custom lawn care business was spurred by recent success with its prepackaged and integrated line of seasonal lawn care products, first introduced 28 years ago. Company executives felt they had detected a void in the professional lawn care market.

"Our research indicates that most lawn care services are not offering what homeowners really want - specialized, high quality, professional service, not by technicians, but lawn experts," says Mike DeGroff, service center manager for Wondergro Custom Lawn Service. "Homeowners know that no two lawns are identical, and that the same products may work differently on their vard than on their neighbor's." The



Wondergro system is essentially a prescription treatment service tailored to individual lawns, according to the company.

"The real key to success lies with our specialists' ability to analyze lawns individually and identify lawn care problems unique to each one, as opposed to simply treating all of them the same way," says DeGroff. Grace's "specialists" are trained in classroom and field work supervised and approved by the company. They are also indoctrinated into Grace's "up front" philosophy, according to DeGroff. "We explain to customers exactly what our products can and cannot do, including a disclosure of product costs, their chemical analysis and their intended use.

DeGroff notes that Wondergro provides ongoing assistance to homeowners through updated turf evaluations and seasonal advice on proper seeding, watering and mowing. "We also alert customers to special maintenance needs or emerging problems our specialists may detect," savs DeGroff.

The new Indiana location, no doubt the first of many in Grace's new chain, has a staff of six servicemen, operating six trucks, working six days a week. There is a switchboard operator to take calls from customers and potential customers. "We're pleased with the number of calls coming in and we're working hard to keep up with the increasing demand as more and more homeowners find out about us," boasts

W.R. Grace has launched a massive advertising campaign to promote its new lawn service. Founded in 1854, W.R. Grace and Company is a

diversified worldwide enterprise concentrating on specialty and agricultural chemicals, petroleum, natural gas and coal, and selected consumer-oriented businesses, mainly retailing and restaurants. Grace operates 2,400 facilities in 43 countries and 47 states and employs approximately 80,000 people. Annual sales in 1984 totaled \$6.7 billion. Do you think ChemLawn might be worried?

SQUIRRELS LINE NESTS WHILE WORKERS **SCRAMBLE**

Politics does make strange bedfellows. and nowhere is this more true than on Pennsylvania Avenue. Not in the White House, but rather, across the street in Lafavette Park.

As was reported recently in a Scripps-Howard syndicated newspaper article, the Park Service, which is responsible for keeping the park orderly, raked all the leaves as it does every spring. Unfortunately, this caused a problem for the park's squirrels who use the leaves to line their nests.

In response to the leaf shortage, the squirrels began taking unguarded phamphlets distributed by anti-war and anti-nuclear protesters. The protesters sided with the squirrels, and began smuggling in replacement leaves from Virginia and Maryland suburbs. The leaves were brought into the park in little paper bags to make hauling an easier job for the squirrels.

Understandably, the Park Service was upset because it had to rake the leaves a second time.

PLANS FINALIZED FOR EXPO '85

Plans have been finalized for the International Lawn, Garden and Power Equipment Expo '85 to be held July 29-31 at the Kentucky Fair and

(continued on page 16)



NEWS

(continued from page 15)

Exposition Center in Louisville.

Nearly 200,000 square feet of exhibit space will be used by approximately 300 key manufacturers and suppliers to the lawn and garden industry to demonstrate their newest products. More than 10,000 retailers, dealers, distributors, wholesalers and chain store and international buyers are expected to attend.

The industry-sponsored seminars planned for the event consist of Kristi Peterson's "Guest Relations: The Customer is King"; a panel discussion titled "Develop Greener Pastures: Successful Dealer Promotions;" "Make Your Store a Real Powerhouse: Recognize Your Customer's Needs" by Tom Stoneback; and Bart Basi's "Take Advantage of the New Tax Laws."

Of the 300 exhibitors, one-third will be newcomers. Many of the returning exhibitors are planning larger, more elaborate displays. Approximately 200 of the exhibitors will give hands-on demonstrations of their newest products in the outdoor demonstration area adjacent to the Expo Center.

Entertainment will be provided by Bob Hope and country/western singer Lynn Anderson.



Technician prepares a planting for certification.

TEST CERTIFIES 17 CALIFORNIA LANDSCAPERS

Seventeen technicians passed the certification test for landscape technicians conducted by the California Landscape Contractor's Association on April 20-21 at American River College, Sacramento. The addition brings to 40

the number of certified landscape technicians who have achieved a passing score.

Kenneth Gerlack, chairman of the association's Certification Committee, said the association sponsors the test to identify landscape workers who can meet every competency standard in the industry.

The examination took two days to complete and consisted of 14 hours of timed, hands-on work in 13 skill areas, including plan reading, working with a

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Test-takers had to earn a passing score on each of the 13 sections in order to to be certified.

The passing scores were received by Joey Adams, Capital Nursery, Sacramento: Randy Boyer and Joseph Horvath, Oakland Landscaping, Oakland; Jim Duhig and Murray Greenlaw, Contra Costa Landscape, Martinez; Steven Irvin, Bay Irrigation and Turf Supply, Sacramento; Reid Libby, Heritage Landscape, Granada Hills; Bartolo Lopez, Kumme Landscaping, Chatsworth; Thomas Lee Moulder, Redwood Landscape, Santa Rosa; Michael Poulsen, Kim Riffey and Scott Riffey, Danco Landscaping, Shingle Springs; Lester Quagliano, Lutner Landscaping, Oakland; Thomas Raeth, Lafayette Tree and Landscape, Lafayette; Brad Stewart, A. Bertotti Landscaping, Novato; David Walkenhauer of Martinez: and Bill Walt, Landscape by Barrows, Carpinteria.

The next test will take place October 12-13 at Marsan Turf and Irrigation in San Dimas, California. It is open to any landscaper or contractor who meets certain experience, age and education requirements.

More information can be obtained from the association's headquarters at 2226 K Street, Sacramento, CA 95816.

CHEMLAWN SUSPECTED IN FISH KILL

According to a recent news story in the Pittsburgh, PA, Post-Gazette ChemLawn Services Corporation in Warrendale, PA, is the cause of a chemical spill that has killed nearly all the fish and insects in Bush Creek in Allegheny, Butler and Beaver counties. Dead fish were reported over 15 miles of the creek.

The dead fish were found in a tributary of the Bush Creek behind an industrial park in Butler County. ChemLawn, whose storm sewer empties into the tributary of the creek. is located in the industrial park.

A mixture of the herbicides Trimec ® and Dacthal ®, Dursban ® and a fertilizer, are believed to be involved in the spill. Further tests are being

conducted at state laboratories in Harrisburg.

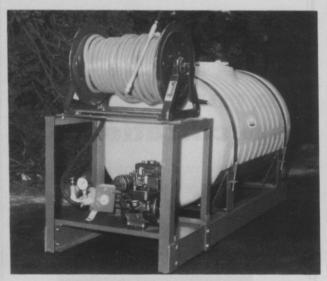
Ralph Lund, ChemLawn's vice president of Corporate Marketing, said if his firm is confirmed as the source of the problem, "We will do all that is needed to clean things up and be sure there is not a repeat in the future."

Traces of the chemicals may have been on the trucks when they were being washed. However, the water used to wash the trucks is recycled into the truck's tanks to keep it from getting into the sewer system, according to Lund.

CARDINAL **INDUSTRIES ACQUIRES RELIANCE**

Robert DuBeau, president of Cardinal Industries, Inc. announced recently the acquisition of the Reliance Company of Enfield, CT, a Northeast wholesale distributor of lawn, garden and agricultural supplies. DuBeau said "Reliance's solid reputation, product lines, established customer and sales territory base and growth potential are important to our plans for expansion in

(continued on page 18)



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(continued from page 17)

the distributor field."

"We regard the purchase of Reliance Company as a major step forward in our growth plans," said DuBeau. "With this acquisition, we can reasonably expect total revenues to rise from \$13.8 million in 1984 to approximately \$20 million for 1985, based on today's business conditions and outlook. Our per-share earnings could be expected to rise, under this same projection, from 14 cents last year to approximately 20 cents for 1985.

HMC GETS ITS SHOW ON THE ROAD

Last November, HMC took to the nation's highways with a series of total service seminars for its distributors and independent power equipment dealers. The seminars were conducted by John J. Johnson, national service manager, and David Dooley, market research manager.

The day-long seminars, hosted by



HMC distributors and regional managers, were a part of the company's "Thinking Green" marketing strategy for 1985. They were designed to help the dealers realize their total service capabilities and to gain an edge over large retailers and mass-merchandising chains.

The topics covered during the seminars included new product orientation and servicing, parts support to increase service profitability, merchandising as a service tool and an investment for future growth and how to promote a total service dealership through effective advertising.

All owners, parts and service managers and sales personnel were invited to attend the sessions. Each of the 62 seminars was attended by approximately 35 people, according to Dooley.

CULTURED SOD IS IN SHORT SUPPLY

The Minnesota Turf Association reported recently that sod for the 1985

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construction season may be scarce.

Curt Klint, the association's executive director, cautioned that all contractors and consumers should check with their suppliers and plan ahead according to availability and price.

The current shortage is a result of the construction industry slowdown during the early 1980s. Because of the reduced demand, turf growers converted their fields to other crops. Although the 1984 season saw a sod shortage, farmers are still reluctant to convert back to sod. "They are not convinced that recent increases in construction activity will continue long enough for them to recoup their investment involved in the conversion," said Klint.

Fields which were reseeded last season will not be ready for cutting until mid-1985, Klint said, because sod production takes up to 18 months.

EPA ISSUES INTENT TO SUSPEND NOTICES

The Environmental Protection Agency issued 36 intent to suspend notices recently to various pesticide manufacturers.

Stauffer Chemical Company was issued an intent to suspend notice for its production of dinoseb. O.M Scott and Sons Company was issued intent to suspend notices for its production of mecoprop and cacodylic acid. Van Waters and Rogers, a metam-sodium registrant, was also issued an intent to suspend notice.

Siduron registrants issued notices include Liqui Lawn Corporation; Asgrow Mandeville Company, Division of Upjohn Company; E.I. DuPont de Nemours and Company; Old Fox Agricultural Sales, Inc.; and Estech, Inc.

NJ BILL 1342 IS TABLED IN COMMITTEE



After a six hour hearing on the controversial New Jersey Senate Bill 1342, sponsored by State Senator Raymond Lesniak, the Committee on Energy and Environment decided to table the bill. This represents a major victory for the Alliance for Environmental Concerns which coordinated much of the testimony presented to the committee.

The bill would have

required unreasonable prenotification requirements for the use of pesticides, expensive and unjustifiable registration requirements, prohibition of aerial application, granting of the right to bring civil suit in the absence of actual harm, removal of trade secrets through "right-to-know," require certification of home owners who want to apply pesticides on their own premises under certain circumstances.

The Alliance brought together a grass roots coalition of 146 organizations, including county boards of agriculture, boards of Chosen Freeholders and various trade associations to effectively oppose this bill.



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ALA PLCAA UPDATE

he Professional Lawn Care
Association of America has a
new addition to its
"Management Monograph
Series" called "A Lawn Care
Employer's Guide to Drafting A
Personnel Handbook," authored by
Richard Lehr. The following excerpt
from the introduction to the handbook
should give you an idea as to what it is
all about.

"A PLCAA member may question why it is in his best interest to develop, publish and communicate written policies to employees. The reasons are two-fold. First, employees generally prefer working in an environment where there are written and published rules and procedures. To employees, this communicates what the company expects of them, what they may expect from their company, and how certain matters will be handled by their supervisor. This basis of understanding is at the core of subsequent endeavors by the employer to promote employee participation in the work place and trust in the employer.

The second reason is that, unfortunately, the number of legal



disputes arising from the employment relationship continues to increase throughout the country. The concept of 'putting it in writing' reduces the possibility of misunderstandings regarding the employment relationship, which in turn, could save PLCAA members the potential expense and time that employment problems involve."

The handbook also contains a

discussion on whether employees should be terminable at will or the policy manual should contain a "contract" of employment. There is also a passage on exempt, non-exempt, full-time, part-time or temporary employment. The implication of right-to-know laws is discussed. There is a section on writing, updating and communicating policies. The handbook also features a personnel manual checklist.

The bulk of the handbook is dedicated to sample policy language. This section covers such policy language as absenteeism, alcohol/drugs, bulletin boards, complaints, disability, holidays, insurance, layoffs and overtime.

PLCAA members will be sent one copy of this handbook free of charge. Members can obtain additional copies at \$10 per copy; non-members can obtain the handbook for \$25 per copy. For more information about the handbook or other PLCAA offerings, contact the Professional Lawn Care Association of America, 1225 Johnson Ferry Road NE, Suite B-220, Marietta, GA 30067; 404/977-5222.

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ALA PEOPLE







Paul Niewoehner



Bob Hefta



Tony Gambino



Dhil Smith

Paul E. Niewoehner has been named national sales manager for Union Carbide Specialty Products, a newly-formed marketing group of Union Carbide Agricultural Products Company, Inc. As national sales manager, Niewoehner will be responsible for sales of Union Carbide products in the home and garden, professional lawn care, professional grounds maintenance, nursery and ornamental and pest control markets. A 15-year veteran of the sales force, Niewoehner was most recently regional sales representative for Specialty

Products in the Midwest.

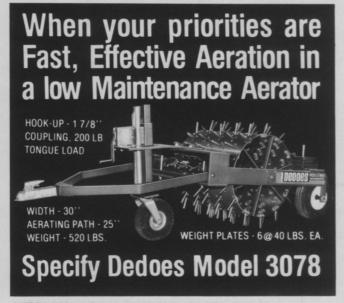
Replacing Niewoehner as regional sales representative in the Midwest is **Bob Hefta**, a Union Carbide employee for 14 years. Prior to his recent promotion, Hefta was a sales representative for Union Carbide's industrial chemicals line.

As a result of this new managerial position, sales territories for Specialty Products have been realigned. **Tony Gambino** will serve customers in the Northeast and along the Mid-Atlantic coast, while **Phil Smith** will service accounts in the Southeast and Florida.

Gordon Vosti handles sales in the West and Pacific Northwest.

Niewoehner will continue to have sales responsibilities in portions of the Southwest region.

Michael J. McCann has been appointed vice president of operations at Poulan/Weed Eater's manufacturing facilities in Nashville, AR. McCann spent almost 25 years with the Ford Motor Company. He most recently held the position of production manager at the automaker's Louisville, KY plant.



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LIQUID VS. GRANULAR WHITE GRUB INSECTICIDES



BY PATRICIA J. VITTUM

rofessional lawn applicators have often wondered whether liquid or granular formulations of insecticides differ in their ability to control insect populations in turf. In this article, I will discuss some of the advantages and disadvantages of liquid versus granular formulations in terms of ease of application and effectiveness on white grub populations.

Table 1 summarizes some of the advantages and disadvantages of handling liquid or granular formulations in the home lawn setting. Granular formulations usually are less toxic than liquid concentrates. Thus, while there generally is little or no difference in toxicity of an insecticide once it has been properly applied to a lawn area, the liquid formulation tends to be more toxic to the handler (applicator) because it is more concentrated before mixing. The liquid concentrate can also be readily absorbed through the skin. Granular formulations also tend to be less subject to drift into neighboring areas, particularly on windy days.

On the other hand, granulars usually cannot be applied accurately in very small areas, such as a narrow grass section between a driveway and a sidewalk, unless the area happens to match the width of the spreader. Overlap near perimeters of lawn sections may result in unwanted and/or inappropriate deposition of insecticide granules on pavement or in gardening areas. Failure to treat right to the edge of the turf area will provide areas where insect populations can build up. Granular spreaders normally cannot distribute particles evenly over rough terrain or on slopes, because the granules bounce around in the hopper and redistribute unevenly. Liquid insecticides are more likely to be applied evenly over rough terrain, but the applicator must concentrate on maintaining a steady speed and a consistent spray pattern.

Granular formulations provide flexibility, in

LIQUID

Advantages

Relatively safe to handle and apply, not subject to drift and is flexible (can carry several different materials on truck, use as needed).

You can apply it accurately in very small and odd-shaped areas (can use to spot treat small sections of lawns). It can be applied evenly over rough terrain and can be tank-mixed with some fertilizers and/or fungicides in single application.

Disadvantages

Cannot be applied accurately to very small areas or hilly or rough terrain and there are relatively few materials currently available in combination with fertilizers or fungicides.

Liquid concentrates are more toxic to handler, especially during mixing process. Spray is subject to drift on windy days. It is sometimes difficult to calibrate or to keep nozzles clean and pressure uniform. Liquids are subject to hydrolysis in alkaline water supplies.

Anticipated Directions in Coming Years

There will be more fertilizer/insecticide combinations, more uniformity of granule size within a formulation (will lead to more uniform applications). There will be generally lower percent active ingredient for home lawn materials.

More flowable and micro-encapsulated (*slow release*) formulations should be on the way. We should see some "dry flowables" which are packaged as tiny beads, but are diluted in water for application. We can anticipate dyes incorporated into formulations (or sold separately), which temporarily color the treated area, so the applicator can see what has and has not been treated.

TABLE 1. Comparisons of granular and liquid formulations of turf insecticides.

that an applicator can carry supplies of several granular insecticides on the truck and apply the appropriate insecticide to each individual account. In contast, liquid applications normally are prepared at the start of the day so an applicator has to be careful to select an insecticide which can do an acceptable job of controlling the spectrum of insect problems which might be encountered during the day. (Normally this is not a problem because insect problems tend to be similar within a given area.)

However, liquids have an advantage, because

The critical factor in any insecticide application is that the applicator must calibrate his equipment carefully, preferably before he begins the season's applications.

they often can be mixed with fertilizers and/or fungicides in the tank, so that a single application can take care of several cultural conditions. The applicator can maintain supplies of appropriate insecticides, fungicides and fertilizers, and prepare combinations as needed.

Note: Never use a new combination of pesticides until you have first tried that blend on a small section of turf and observed no harmful effects. Often two or more pesticides will perform very differently when they are applied in a combination than when they are applied separately. Combinations may chemically burn or stunt grass, and they may interfere with each other so that insect control may not be as good as it could be with a single pesticide.

The technology already exists to incorporate insecticides onto granular fertilizers, and some combinations are already available commercially. However, it is impossible for the formulator to anticipate, produce and store each of the possible combinations until it is needed. Formulators are currently working on several attractive granular insecticide/fertilizer combinations.

More than 20 insecticide trials have been conducted in eastern Massachusetts over the past four years, primarily screening insecticides against Japanese beetle grubs. Several of these tests have included two or three different formulations of the same active ingredient. In virtually every case, there has been no statistically significant difference between formulations in inducing grub mortality.

One test, conducted in 1983, involved applications of liquid granular formulations of isazophos (Triumph®) and isofenphos (Oftanol®) on five spring and six summer application dates. Plots received about 1/2-inch of water 12 hours after application, and were sampled 1, 2, 3, 4, 6, 8 and 10 weeks after application. In every case, there was no significant difference between formulations of the same active ingredient.

Another test was conducted in 1984. This test was of the same design as all of our screening

(continued on page 24)



Active ingredient Untreated		Formu- lation	Rate (lb Al/A)	14 days		35 days			62 days		
	Trade name			Ave. grubs per sq. ft ^a .	Per cent control	Ave. g		Per cent control		grubs dq. ft	Per cent
					71.4 a		62.4	a		33.9	a
Isazophos	Triumph	1 E	2	11.8 b	84	12.0	bc	81	15.8	b	53
Isazophos	Triumph	2 G	. 2	8.8 b	88	8.8	bc	86	13.0	bc	62
diazinon	Diazinon	5 G	6	16.0 b	78	11.8	bc	81	11.7	bcd	66
diazinon	Diazinon	2E	6	23.2 b	68	22.6	b	64	16.7	b	51
trichlorfon	Proxol	80 SP	8	2.4 b	97	1.8	C	97	5.5	cde	84
trichlorfon	Proxol	6 G	8	2.8 b	96	3.8	C	94	4.7	cde	86

^aNumbers followed by same letter are not significantly different from each other at the 5% level (Duncan's Multiple Range Test). All grub populations are based on 5 replications per treatment, one square foot sample per replicate per sampling date.

Table 2. Insecticide screening trial at The International Golf Course, Bolton, MA. Plots were treated August 10; sampled August 24, September 14 and October 11, 1984.

LIQUID VS. GRANULAR

(continued from page 23)

trials — a series of plots 10 feet square. Each chemical was applied on August 10 to five of the plots, arranged randomly. Granular materials were shaken from hand-held glass jars with perforated lids. Liquids were applied by watering cans, with two quarts of water per plot (slightly over four gallons per 1,000 square feet).

In each case, half the material was applied in one direction, and the other half was applied at right angles. This procedure enabled us to get very precise and even coverage. One square foot of sod, about four inches deep, was removed from each plot on several dates throughout the

While there generally is little or no difference in toxicity of an insecticide once it has been properly applied to a lawn area, the liquid formulation tends to be more toxic to the applicator because it is more concentrated before mixing.

fall. The sod and underlying soil was hand inspected and any grubs were removed and counted.

The 1984 summer test, summarized in Table 2, demonstrates several points of interest. Of all three sampling dates, all of the materials reduced grub populations significantly compared to the untreated check. In all three active ingredients considered here, the performance tailed off as the season progressed (70 to 95 percent control 14 days after application, dropping to 50 to 85 percent control two months after application). This would suggest that none of these materials had the capability of providing residual control comparable to that of Oftanol 1.5G ®, which went from 73 to 93 percent control in the same period, and was significantly better than either the Triumph formulation or the diazinon liquid on the last sampling date.

Most importantly for our discussion, however, note that in no case did either formulation of an active ingredient differ significantly from its

counterpart on any sampling date. In fact, this test involved eight sampling dates thoughout the fall, and in no case was there any statistically significant difference between formulations of the same active ingredient.

Admittedly, our screening trials are applied by hand, in a manner that is precise but does not necessarily reflect the conditions encountered by the commercial lawn applicator. Since the spring of 1983, we have been careful to use amounts of water that correspond to three to four gallons per 1,000 square feet for our liquid applications. However, all of our tests received 1/2 to one inch of water within 30 minutes after our applications were made (with the exception of the 1983 study mentioned earlier). This immediate watering, which is absolutely critical for effective white grub control, is not always possible in the lawn care setting. Some of our 1985 tests will address the question of delayed watering, specifically, do formulations vary in their ability to withstand delayed watering?

The critical factor in any insecticide application is that the applicator must calibrate his equipment carefully, preferably before he begins the season's applications. He must make spot checks throughout the season to be sure his equipment is clean and functioning properly. Calibration of granular insecticide spreaders should be redone each year, because manufacturers sometimes change the inert carrier and this may change the flow rate of the material.

Each person who will be applying pesticides must be fully aware of the importance of thorough, even coverage of any application. Often, a drop spreader has a small hopper on the outside edge of the main hopper. If flour or lime is placed in the outer hopper, it trickles out and traces the outer edge of the drop pattern so application will not overlap or miss an area. Meanwhile, some special dyes have been developed which can be added to tank mixes. These dyes make the treated areas appear noticeably darker (usually bluer) than untreated areas, so the applicator does not double-cover an area or, equally important, miss an area. Most of these dyes wash off the grass or break down within 24 hours.

Many people are concerned because the insecticides currently available for use on home lawns do not demonstrate the residual activity which chlordane had in the early 1970s when it was still

(continued on page 26)





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LIQUID VS. GRANULAR

(continued from page 24)

legal to use on lawns. But in fact, many of the new insecticides are very effective at controlling insect populations if they are applied properly. In the case of white grubs, these applications

There is no significant difference in the performance of different formulations of the same active ingredient applied to control white grubs in turf if the material is applied at the right time (when grubs are feeding actively) and is watered-in properly.

should be made when the grubs are feeding actively (August or late April in the Northeast). In any case, it is imperative that the insecticide be watered in throughly (preferably an inch of water) immediately after application, to drive the insecticide through the thatch and into the soil, where the grubs are feeding.

The current insecticides are capable of controlling white grubs in turf, but they must be used more precisely than the chlordane-type materials were. In a sense, we must use a rifle approach, where good aim (proper timing) is essential, whereas the shotgun approach (apply it any time) worked with chlordane.

In summary, there is no significant difference in the performance of different formulations of the same active ingredient applied to control white grubs in turf if the material is applied at the *right time* (when grubs are feeding actively) and is *watered-in* properly. Future studies will determine whether formulations vary in their ability to tolerate inadequate or improper watering.

The applicator must *identify the insect pest* correctly and select an insecticide which is labeled and effective against that pest. He must use the right chemical when the insect is most susceptible to insect control, which means he must *know the life cycle* of the pest population in question. Finally, he must apply the chemical properly. In the case of white grubs, this means the application must be watered-in, and the water used in the tank and/or the irrigation water should be slightly acidic, to avoid alkaline hydrolysis. And of course, the applicator must apply the chemical at the right rate, calibrating equipment throughout the year and avoiding overlaps or misses.

The decision to use granular or liquid insecticide formulations ultimately rests with the lawn applicator. His decision will depend on the equipment he has available, or on the investment he is willing to make, or on personal preference, because the formulations themselves, properly handled, are equally effective.



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PLANT GROWTH REGULATORS TODAY AND TOMORROW

BY R.P. FREEBORG

here are several ways to control turfgrass growth. It can be controlled by repeated physical trimming, controlling nutrition levels, breeding-in desired growth characteristics or by using growth control chemicals. Physical trimming (i.e. mowing and vertical cutting) is by far the most popular method of maintaining turf at a desired height.

Some progress has been made in selecting cultivars which tend to produce medium to low growing plants. Much more needs to be done by turfgrass breeders to achieve this goal. In many cases, cultivars need to have competitive vigor, produce ample seed, start quickly and recover rapidly. Where needed, these characteristics are extremely desirable, as are less mowing, production of fewer seedheads or reduction in clippings.

The following questions serve to illustrate the complexities of achieving chemically acceptable growth restriction in turfgrasses:

- •Is it desirable to prevent seedhead development on bluegrass, bentgrass, red fescue or mixtures of these?
- •Should vertical leaf growth be reduced 50 percent for 60 days, or 90 percent for 30 days?
- •Will disease kill the old leaves while no new leaves are being formed because of inhibited growth?
- •Will nitrogen applied for greener color negate or reduce the effectiveness of the growth regulator?
- •Will drought-caused dormancy or excess rain result in increased infestations of crabgrass, chickweed or spotted spurge in turf inhibited with a PGR?
- What response will a species and/or cultivar have either alone or in a mixed stand to a growth regulator?

Growth inhibitors currently on the market adequately inhibit vertical leaf growth. Some produce a moderate to severe phytotoxicity, especially noticed in the better stands of turf. Therefore, current use has been limited to lower maintenance sites such as golf course roughs, edging around trees, on roadsides and in cemeteries where slight to moderate thinning of turf is less objectionable.

Another problem resulting from the use of some growth regulators is accentuated plant susceptibility to disease and weather stress. Plants whose growth has been restricted may be subjected to severe leaf damage and eventual loss. A desirable solution appears to be a chemical that offers inhibition of vertical leaf growth, yet

provides continual horizontal tiller, rhizome and root growth.

Royal Slo-Gro. One of the first plant growth regulators to be sold in the United States was maleic hydrazide (MH) (1950). Today this product is sold as Royal Slo-Gro® and is an improved version of the older Slo-Gro. The new formulation allows a lower rate of active ingredient to achieve the same results obtained with higher rates of the earlier product.

Royal Slo-Gro is used mostly as a substitute for mechanical mowing on various commercial turf locations, such as hard-to-mow areas along highways, airports, industrial areas and golf course roughs. It can be used for grass inhibition in all turf areas except for those with heavy foot traffic, such as golf course fairways and greens and fine lawns where esthetic appearance is more important than reduced maintenance requirements.

On grass areas where broadleaf weeds are a problem, Royal Slo-Gro may be used in tank

Growth inhibitors currently on the market adequately inhibit vertical leaf growth. Some produce a moderate to severe phytotoxicity, especially noticed in the better stands of turf. Therefore, current use has been limited to lower maintenance sites.

mix combinations with low volatile ester or amine formulations of 2,4-D. One pound of 2,4-D per acre should be used with Royal Slo-Gro in most spring applications.

Perennial grasses that can be effectively retarded with Royal Slo-Gro are bluegrasses, fescues and perennial rye. Bentgrasses can be retarded, but often show discoloration effects. This product will injure St. Augustinegrass and should not be used on this species.

Growth regulant action prevents seedhead formation and slows down leaf growth. If the application is timed properly, no significant growth will occur for several weeks after treatment. As the effect gradually wears off, the turf may grow six to 12 inches in height by the end of the growing season. One or more mechanical mowings may be required if grass height must be kept under six inches.

The best time to use a Royal Slo-Gro application is when dandelions and forsythia are in full bloom. Application will curtail the normal spring flush of growth and eliminate the need to mow for at least several weeks. If time or weather

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PLANT GROWTH REGULATORS

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does not permit early application when grass is six inches or more in height, the product should be applied to the site and the area then mowed about seven days later. This procedure helps prevent stretching of the seedhead in the treated area. Under no condition should the turf be mowed under three to four inches to prevent a scalped appearance.

Royal Slo-Gro may also be applied late in the growing season to reduce grass growth the following spring. Treatment should be made while grass is still green, but before it becomes dormant, usually during October. An additional benefit of fall application is control of wild onion, garlic and biennial-type weeds such as dandelion and plantain. Since grass growth is inhibited the following spring, the area will greenup about two weeks later than untreated turf. Note: Do not apply Royal Slo-Gro in the summer or other times when grasses are dormant or under drought conditions.

Embark. A more recent plant growth regulator is mefluidide, brand-named Embark * and developed by the 3M Company about 15 years ago. The primary use of Embark is to retard the growth and suppress seedheads in grasses.

Although Embark is absorbed by roots as well as leaves and stems, rapid metabolism by soil microorganisms usually limits its uptake to upper portions of the plant under normal field conditions. Foliar uptake and translocation of Embark is greatly influenced by the physiological state of plants, temperature, humidity and wetting agents. A high relative humidity and temperature permit greater translocation and uptake. Wetting agents speed up penetration and cause greater uptake and translocation.

Depending on the plant species, as much as 70 percent of the Embark may be taken up, although a 25 to 50 percent uptake is more common. Less than 25 percent of the absorbed Embark is translocated to aboveground grass tissues, and less than 8 percent appears in the roots. Such low accumulation in roots may explain why root growth is not inhibited at normal use rates.



A dramatic demonstration of Embark seedhead control.

Observations of growth retardation in the field indicate that movement of Embark in grasses is rapid. On seedling Kentucky bluegrass, noticeable inhibition of growth occurs within five hours after treatment and reaches near maximum levels within 48 hours, especially if a wetting agent is used. However, it has been observed both in controlled studies and in field tests, that it takes four to seven days, depending on the grass species and the environmental conditions, for maximum growth retardation.

As with maleic hydrazide, Embark has similar recommended use areas, including commercial and industrial, highway rights of way, utility rights of way, industrial parks, airports, cemeteries, golf course roughs and low maintenance turf sites.

Removing treated turf blades early after application will reduce the amount of Embark that can reach the active sites within the plant. For an early trimmed appearance, grass may be mowed from three to seven days after application. If the site is mowed before application, grass may be mowed up to two days before Embark is applied. Clippings and other debris should be removed before spraying. If mowing is not desired or practical, apply Embark in the spring after greenup or before mowing is necessary, thus you can avoid mowing until the PGR's effects wear off. Where broadleaf weed control is a problem, Embark may be tank-mixed with one of the following herbicides: Trimec, 2,4-D, low volatile ester, or amine salt formulations, or MCPP amine salt formulations.

Maximum benefits, including season-long seedhead suppression of cool season grasses, can be obtained by applying Embark with surfactant after uniform grass greenup until approximately two weeks before seedhead appearance. If applied less than two weeks before seedhead appearance, applications will continue to give vegetative growth suppression up to eight weeks. It may be necessary, however, to eliminate seedheads. The use of non-ionic surfactants (i.e. DuPont WK or X-77) is recommended to increase the extent and consistency of turfgrass regulation. The recommended surfactant rate is between 0.25 and 0.5 percent - one to two quarts per 100 gallons finished spray solution. A slight, temporary discoloration of turf may appear with the use of a surfactant.

Embark should not be applied to turf areas within four growing months after seeding. Do not reseed within three days following application. Turf treated with Embark may appear less dense and temporarily discolored when compared with untreated, actively growing turf, but after a time turf may actually appear darker green than untreated areas. Results will not occur if rainfall or overhead irrigation follows within eight hours after application.

Limit. The newest growth regulator available is Limit (amidochlor) released by Monsanto Company in 1985. Limit is a turf regulator that reduces vegetative growth and suppresses seedheads of most cool season grasses for approximately six weeks. Early data indicate that Limit is absorbed primarily by roots of mature grasses. It moves rapidly upward in the plant, but appears to concentrate its effects in the crown of the plant, resulting in reduced growth. Limit is absorbed by the root system. It is not susceptible to





The photo at left, provided by 3M Corporation, shows a roadside park three weeks after an Embark application. Note the turf growth in the untreated plot on the left. (Right) This 3M photo depicts a turf area 12 weeks after an Embark application in which the crew neglected to overlap each pass of the sprayer.

leaching in most soils. There is no evidence of volatility. The primary method of breakdown is microbial. As this product is rapidly degraded, it has a half life of less than one week in the soil.

Limit should be applied to mature cool season grasses in the spring as vigorous growth begins. Applications before greenup are effective, but may delay color development. Applications can be made prior to seedhead emergence, but should be avoided after seedheads appear, due to their visibility as a result of reduced vegetative growth. Limit is labeled for use on frequently mowed, non-residential turfgrass areas where Kentucky bluegrass, tall- and fine-leaf fescues or ryegrass are the predominant species.

Application should not be made to residential turf, playgrounds, schoolyards, or areas subjected to significant stress or turf with a history of significant disease or insect problems. Since Limit is taken up by roots, not by leaves, rain or irrigation within five days after application will improve its performance. In fact, some managers have capitalized on rainy days by making applications in the rain.

Growth of grassy weeds such as quackgrass, sedges or broadleaf weeds such as dandelion, plantain or chickweed are not prevented by a plant growth regulator. Where weeds are a problem, herbicides recommended for their control should be used.

Additional growth regulators still being evaluated, include Elanco's flurprimidol, Cutless and ICI America's paclobutrazol, PP-333 Both are similar in activity and are primarily soil active PGRs requiring uptake through the root system, as was the case with Limit. Because both products are excellent foliar growth inhibitors, but do not inhibit seedhead formation, much experimental work includes combinations with either mefluidide or Limit.

There is some evidence of weed control with growth regulators. Embark, for example, has shown reduced growth activity of *Poa annua*. Some weed species are suppressed to the extent that they are no longer competitive. This is also evident with the Cutless and with PP-333. It appears that as a weed is suppressed and no longer competitive, the desirable perennial grasses in the area, which are tolerant to the growth regula-

tor, are then able to compete and to become the major turf vegetation.

Warm season grass growth response to plant growth regulators is less than that of the cool season grasses and often higher rates are required to obtain the same level of growth inhibition. Work completed by Heald in California showed that hybrid bermudagrass had a slight deterioration in color two or three weeks after application. This typical response for bermudagrass lasted about one week and was followed by recovery to a good green color. Mowing at four weeks resulted in retention of good color on treated turf. Turf was mowed four weeks after treatment because of uneven growth caused by loss of inhibition.

Conclusions. As we have seen, the development of a chemical that will induce growth restriction in turfgrass is a challenge for the chemical company, the researcher and the individual turf manager. Such a product, in a satisfactory form for treating turfgrass, can contribute to reduction in labor, fuel and clipping removal costs. Although progress in the use of growth control chemicals has been slow, research has been extensive, with more than a dozen companies, some of which are international, participating in plant growth control research. A slow but steady increase in products labeled for turf use may be expected.

Another PGR, chorflurenol (Maintain CF-125), did not influence turf color when applied to bermudagrass. Temporary discoloration was found with Embark at one pound per acre and with combinations of a half pound each of chlorflurenol and Embark applied at a 21 day evaluation. Good cover, good color and recovery occurred within 28 days. Significant growth reductions occurred through 28 days with Embark only, and with Embark plus chlorflurenol.

Approximately four week growth control is found for the hybrid bermudagrass with 3/4-pound of Embark per acre, and for common bermudagrass with one pound per acre. Growth of St. Augustinegrass turf was not reduced at 3/4-pound per acre.

Ray P. Freeborg is an agronomist at Purdue University, West Lafavette, IN.



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FROM WASTE TO LAWN CARE RESOURCES

BY W.H. MITCHELL

rganic waste that was once squandered on landfills in the state of Delaware and the city of Philadelphia is now being converted into fertilizers for the lawn care industry.

If you travel south on the New Jersey/Delware Turnpike, look to the western shore of the Delaware River from the top of the Memorial Bridge. Looming up out of the once pristine Delaware marsh is a four million ton pile of northern Delaware waste. This miniature 65-foot mountain is a monument to our wastefulness. It seems stable enough, but experts say when it reaches a height of 70 feet it will start moving laterally into the Delaware River.

In 1970, then Governor Russell Peterson and the Delware General Assembly recognized the need for alternatives to landfills to protect our groundwater, since it accounts for 70 percent of our water requirements. Through their efforts, a far-reaching research and development program was initiated. Now, 15 years later, northern Delaware has a brand new \$100 million facility for coprocessing municipal waste.

It is designed to handle the nine million tons of solid waste and two million tons of sewage sludge (20 percent solids) generated over the



Aerification holes backfilled with Earthlife topdressing to improve root development.



next 20 years by the 400,000 people who live in the region. Much of this waste will be processed and sold, which will take the pressure off existing and new landfills. With help from this new facility, it is estimated that the state will have met its landfill needs for the next 40 years.

The waste-to-resource program is turning out glass, ferrous metals and aluminum, for which there are ready buyers. Soon, steam and electricity will be produced for use in powering the plant, with the surplus sold to local industries. Just starting up is the composting process which will turn out a series of humus-based fertilizers as well as a lightweight, absorbant mulch that can be used in hydroseeding.

The conversion of solid waste and sewage (two to one ratio) to compost takes place in 100-foot diameter digestion vessels where the environment can be reasonably well controlled and odors trapped. Under forced aeration and constant agitation of the waste products, it takes about seven days to complete the composting process. Temperatures in the 150- to 170-degree Fahrenheit range destroy pathogens. The finished compost is relatively uniform because of the large size of the digesters and the constant mixing of the waste. This also facilitates quality control.

After seven days in the digesters, the humus is conveyed to drum-type driers where it is flash-dried at 300 degrees. It then moves through a series of milling, pelleting and crumbling processes on the way to becoming a family of marketable products called Turflife and Hydrolife.

Turflife is a humus-based fertilizers containing 50 to 75 percent organic crumble, by weight. Plant nutrients contained in the humus crumble are supplemented from a wide choice of water-soluble and slow-release fertilizer materials. The basic fertilizer will be 6-2-4, consisting of 75 percent crumble on a weight basis and containing



Below is a renovated plot of ground at Swarthmore College, Swarthmore, PA, six weeks after treatment. At left, the same area, six weeks earlier, is being renovated using a four-step program involving Roundup for knockdown, a Ryan aerifier to open up the compacted soil, topdressing with 1/2-inch of screened Earthlife and band seeding of a perennial ryegrass blend with a Jacobson vertiseeder.



about 15 percent organic nitrogen. This will also be available as a weed and feed specialty product. In addition, there will be 10-0-5 and 20-0-5 for use where soil phosphorus levels are high and 5-10-5 for use in turfgrass establishment. All products will be made by a bulk-blending process and will be marketed in bags and bulk.

Hydrolife is produced from composted waste which is passed through a series of screening and fluffing operations designed to maximize its water absorbancy. Its dark brown color facilitates use in hydroseeding without the addition of a marking dye. The product will be packaged with a bonding agent and fertilizer for convenient use by hydroseeders.

A few miles up the Delaware River, the city of Philadelphia is making a daily conversion of about 500 million gallons of sewage into a broad spectrum of products that are useful to the turfgrass industry. Again, the process involves basic, time-proven principles of composting. Unlike Delaware, which uses solid waste as a bulking agent, the Philadelphia plant uses wood chips to facilitate movement of air through the waste during composting.

Instead of closed vessels, they use windrow composting with air pulsed through perforated tubing placed in the base of 12- by 100-foot pyramid-shaped piles. Composting goes on for 20 to 30 days. The piles are then broken down and the humus stockpiled in a holding area for an additional 30 days. The humus is then run through a 1/2-inch rotary screen to refine the product while recovering the large wood chips for recycling.

The remaining humus, called Earthlife*, is the basic product marketed from the Philadelphia waste recovery plant. With additional screening and mixing with sand and other materials, several useful products are produced. These products are handled in bulk with all of the cost advantages associated with high volume production.

This is a brief review of the waste recovery program which has been set in motion here in the Delaware Valley. Valuable products are being produced and they are creating interest in the marketplace. The waste-to-resource concept is being accepted by the public because it is a very good buy.

W.H. Mitchell is professor emeritus at the University of Delaware, Newark, DE.

Waste to Resource Products Produced in Philadelphia

Earthlife.

Composted humus passed through a 1/2-inch screen can serve as a:

- Substitute for topsoil, when incorporated, for soil improvement in all types of new construction from industrial parks, housing developments and athletic fields to home lawns.
- Topdressing for athletic fields.
- · Component in potting mixtures for container stock.
- Component in overseeding and pregermination mixes.

Earthlife Construction Mix.

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Unscreened Earthlife which contains large wood chips and sand, is being used for soil improvement where the requirements are not demanding and emphasis is on low cost.

Earthlife Topdressing Mix.

Re-screened through 1/8-inch mesh and approved sand is ideal for:

- · Topdressing all fine turf areas.
- · Divot repair.
- Topdressing all turf areas originally constructed with Earthlife construction mix.

INSURANCE: ARE WE COVERED?

BY VIVIAN FOTOS

s an intrepid reporter, I began my assigned story this month with the notion that I'd hear insurance horror stories from the lawn care industry similar to those I've heard from pest control operators. It seemed natural to think the same problem of availability would exist. Fortunately I was wrong — for the most part.

I don't mean to say the green industry has been spared from insurance problems, such as escalating premiums and discrimination based on chemicalphobia. On the contrary, like every business sector in America, it has been victimized by the insurance industry's recent financial woes, and its association with chemicals has created some

chemical users. Unfortunately, some of those distastes have spilled onto the lawn care industry. Despite the fact that lawn care operators have no control whatsoever of disasters like the forementioned, they pay a price. Such events, along with their accompanying lawsuits, provide the kind of exposure every chemically-related business can do without.

"Whether or not we are actually polluting, the fact is anybody using chemicals is open to lawsuits," explains Ober. "And that means the whole lawn and tree care business."

"We might be able to continue to get pollution insurance," he adds, "but the price tag is going to go up."

That's because most lawn care operators probably are going to have to turn to specialty carriers for their pollution coverage as of January 1, 1986. The Insurance Services Office (ISO), New York, NY, a national organization of

an insurance policy that has an endorsement which says that it covers certain aspects of pollution."

These types of endorsement requests have increased over the last six to 12 months, forcing insurance companies to decide whether or not they want to make that commitment. Many insurance companies, such as St. Paul Fire and Marine, never intended to write pollution coverage and currently do not. And it looks like that number will increase dramatically by the first of next year.

As a class of business, St. Paul does not see anything different with lawn care than any other group of commercial risks. "They don't have anything inherently different other than this emerging pollution issue," Somsen says. "And only time will tell how much of an issue that is for them."

According to St. Paul, the pollution issue was not the reason why the insurance company recently terminated its group general liability program with the Professional Lawn Care Association of America (PLCAA). "I can't pinpoint anything on PLCAA on the pollution aspect," Somsen says. "I don't think the lawn care guys are particularly hazardous from a pollution standpoint. We didn't have pollution losses involved with this program at this point. All I'm saying is we don't write pollution liability."

The insurance company did not cancel the PLCAA program because of a "horrendous" loss ratio either. The "paramount" reason for its demise, Somsen explains, is because "we have not written enough business to support a program-type approach. We are doing an overview of all of our program-type business."

Since St. Paul became sponsor of PLCAA's group liability program in November of 1981, the company wrote approximately 60 policies out of about 600 PLCAA members. "We don't write the lion's share of this association," Somsen notes. "They are obviously being written on an account-by-account basis all over the country and getting various types of treatment."

PLCAA is currently shopping for

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Tragedies like Love Canal and Bhopal certainly have soured the insurance industry's sentiments toward chemical users. Unfortunately, some of those distastes have spilled onto the lawn care industry.

fear among brokers. But most turf professionals I talked with aren't worried about the availability of general liability and medical insurance — not *yet* anyway — though there is an obvious concern for problems that may peak on the horizon, particularly over pollution coverage.

According to Gordon Ober, general manager of Davey Lawnscape, Kent, OH, the lawn care industry is going to have a difficult time obtaining long-term pollution insurance policies in the very near future. He has been forewarned by his company's carriers. "The whole insurance business is going through a real turmoil," he says. "It wouldn't surprise me if they stop writing pollution insurance coverages."

Tragedies like Love Canal and Bhopal certainly have soured the insurance industry's sentiments toward insurance companies which promulgates insurance rates and develops policy wordings and coverages, is rewriting the general liability policy that serves as a standard for the insurance industry. The new policy will contain an absolute exclusion of both gradual and sudden and accidental pollution coverage, says Jan Somsen, product and program director for St. Paul Fire and Marine Insurance Company, St. Paul, MN.

"In various states, and even on a more local level, there's increasing scrutiny of anyone who sprays any sort of chemical, whether it be fertilizer, pesticide or herbicide, into the environment," Somsen explains. "There's an increasing awareness and there's increasing control. And as a result, in some states it's gone so far as to require (through legislation) the insured to get

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INSURANCE

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new group liability coverage, according to Executive Director Jim Brooks. "We're in the midst of looking for another program through two brokers. Whitney and Associates and Alexander and Alexander." The latter firm has experience with the turf industry, presently representing some lawn care companies.

However, Brooks is concerned about the pollution problem. If ISO's new liability policy omits such coverage, PLCAA, along with the entire lawn care industry, is going to have to come up with other alternatives for proper protection. "We may have to look at a self-insured program for that type of coverage," Brooks explains. "Or we might have to go with a special carrier."

Or the association may have to join forces with other organizations encountering similar problems. Brooks has talked with National Arborist Association. Inc. executives, discovering they, too, are having difficulties obtaining pollution insurance.

"I think lawn care operators are going to continue to be able to do business," says Brooks. "But this chemical issue, no doubt about it, is a concern response from PLCAA members. According to Brooks, over 200 inquiries were received from an initial promotional mailing last fall. But little has been heard on the 200 quotes that were sent to those expressing interest.

"We're not sure there's a problem." Brooks explains. "We don't think we've been in it long enough to really get discouraged yet, particularly with the number of inquiries that we've received. It's just that based upon the response level, we haven't had that many people sign up. We think they're still interested. It's just a matter of getting around to it," he says. "You know what happens when they get out the shoots and get to working. If they've got a policy on board, then that's the last thing they're thinking about."

An insurance survey recently was sent to members to determine why more people are not taking advantage of the new service, but results were not conclusive at presstime. However, several respondents did indicate that the insurance quotation from National Benefits Corporation, the administrator of the group program, was difficult to understand. According to Brooks, National Benefits Corporation will be contacting those lawn care operators who are confused, and PLCAA will be send-

dent of Ever-Green Lawn Care, Troy, OH, "I think a lot of people thought that because of the association's size and so forth, there was going to be a big sugarplum out there, something that was really going to be a whole lot less than what they could get locally."

In some cases it might be, but quotes are being given on a regional basis. That way, someone in Tulsa is not being compared with someone in Chicago, says Brooks.

Insurance in general has skyrocketed over the last year, and every sector of the economy has felt the losses suffered by the insurance industry in the form of increased premiums. Because of the major run on insurance companies' cash flows, rates have increased to cover the substantial losses. In addition, insurance companies must adhere to a 4:1 underwriting ratio, which means their premium writings cannot be more than four times their cash surpluses. For example, if Insurance Company A has a surplus of \$1 million, to maintain its solvency it shouldn't be writing more than \$4 million in premiums.

Increased insurance rates automatically raise premium writings without insurance companies even having to write additional business. In fact, the insurance industry is telling its underwriters not to write any new business. And that's a major reason why companies are finding it difficult to get insurance at all, regardless of their loss ratios.

The price of insurance will continue to escalate until the employee starts sharing part of the cost, says Jim Sackett. "As long as employees continue to go into that emergency room with that migrane headache and expect it to be paid for, our costs are going to keep going up. It has to reach a point where you've got to discourage the employee for going in there for every little ache and pain. This is not only an industry problem, this is a nationwide problem, he emphasizes.

"We shop (for insurance) all the time," he adds. "And with the rising cost, we've had to raise our deductible and partly self-insure in order to hold the cost down."

Putting recent across-the-board insurance increases aside, is the lawn care industry paying premiums that may more accurately reflect the risks involved in other green industry occupations, such as landscaping or tree care? "Since we're new, the insurance companies and the state rating agencies haven't gotten a clear cut idea of our claims history in order to allow a special rate for the lawn care industry itself," says Gordon Ober of Davey. "We just don't have a long track record of claims."

"Once we have that track record," (continued on page 40)

"I feel there's not really a good classification in the worker's comp area that really addresses lawn care. Insurance companies tend to throw us in with mowing maintenance companies and people that are handling more dangerous equipment. Because we don't have our own classification, I think we are paying a little bit of a premium in that area." -Patrick Norton, general manager, Barefoot Grass Lawn Service, Worthington, OH

for us. And it's one that the insurance industry is shying away from.'

"It may be that there has to be some legislative alternatives to this, because this is going to affect agriculture as well," he adds. "The government has already gotten involved with flood insurance, because nobody will write flood insurance."

Through the Pesticide Public Policy Foundation (3PF), PLCAA is working to get the pollution story heard in Congress. Recently a sympathetic ear was found. Brooks says 3PF has explained the general situation to Congressman Denny Smith (R-Oregon), who is willing to look into the matter.

In the meantime, Brooks is paying close attention to the association's new group life and medical insurance program, which was launched last October but has yet to receive an encouraging ing out another promotional mailing in late summer or early fall.

PLCAA's group health plan is a comprehensive program which offers the lawn care operator a choice of deductibles in both medical and dental coverage. The only requirement is that participating companies purchase at least \$10,000 of life insurance.

"The program has been built for the smaller company, which is obviously the majority of our members," says Brooks. Those lawn care firms with fewer than 25 employees should find the program competitive as far as insurance rates go; however, larger firms probably will do better elsewhere.

Competitive does not necessarily mean cheaper. And price may be a concern of PLCAA members. According to Jim Sackett, chairman of the association's Insurance Committee and presi-



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he adds, "the lawn care portions of people's businesses hopefully will be able to get a better rate, because I just don't think there are the type of accidents in lawn care that occur in more dangerous occupations, like landscaping or tree care."

Patrick Norton, general manager of Barefoot Grass Lawn Service, Worthington, OH, agrees, at least as far as worker's compensation rates go. "I feel there's not really a good classification ly will never happen — but that's what insurance is all about."

"I'm sure there are small operators that cut corners and only get the bare minimum policy, which you can do," he explains. "But then when they have a problem, they're not only out of business, there's a bad mark on lawn care in general."

Preventing adverse publicity will always be a high priority job for lawn care operators, especially among homeowners. But it looks like turf professionals now have to contend with the insurance industry's perceptions as well. And to help avoid any misconcep-

and Chemical Company" (a fictitious firm). "They think it gives them sophistication by putting in the word 'chemical," Savich says. "And that's the worse thing they can do, because attornies and the public will think they are the distributor, the supplier or the manufacturer. And insurance companies don't want to write chemical companies."

"Today, with the environmental protection and consumer groups, the media and political figures, chemicals are the number one headlines. These consumer groups are powerful," warns Savich. "They want to do away with a large number of our effective chemicals whether they're justified or not, so lawn care operators and pest control operators shouldn't ally with them."

In addition, Savich says, they shouldn't use the words guarantee and warranty. "It's like the electrician or air conditioning man who services your home or apartment. He comes out and fixes it, but he's not going to guarantee that the air conditioner is going to last for 10 years and be trouble free," he explains. "Lawn care and pest control people guarantee performance, which they shouldn't be doing. If they're negligent - fine. They burned the lawn, misused a chemical, misapplied the fertilizer, they're liable. But they shouldn't use words like guarantee and warranty, because when it gets to court they're dead."

"The jury is made up of housewives and they're fed up with these service people who come out and guarantee this work. You get an irate housewife as a claimant," Savich notes, "and the jury is sympathetic with her because they relate themselves to her."

Training is also important, he says. Fewer mistakes happen when technicians know what they're doing. And the fewer the accidents, the happier the insurance agent.

"I think lawn care operators are going to continue to be able to do business. But this chemical issue, no doubt about it, is a concern for us. And it's one that the insurance industry is shying away from. It may be that there has to be some legislative alternatives to this, because this is going to affect agriculture as well." — Jim Brooks, PLCAA executive director

in the worker's comp area that really addresses lawn care. Insurance companies tend to throw us in with mowing maintenance companies and people that are handling more dangerous equipment. Because we don't have our own classification, I think we are paying a little bit of a premium in that area."

Though that may be the case, the important thing to remember is to remain insured regardless of any encountered price discrimination. "I think that the major players in the lawn care industry are definitely covered," Norton says. "But I don't have a good feel for what the small operator coverage is and whether they have an umbrella that would cover the problems that hopeful-

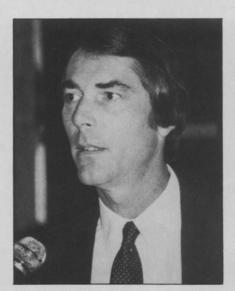
tions, it's best that a lawn care operator does not directly tie his company name with the word *chemical*, says William Savich, president of William Savich & Associates, an Atlanta-based insurance company specializing in the pest control market. Savich handles a small portion of lawn care claims since about 15 percent of his clients perform lawn care services in addition to their indoor control.

"The lawn care operator shouldn't ally himself with the chemical industry," Savich explains. "He should state in his advertising and even in his corporate name that he's a service company. He's not manufacturing the pesticide or fertilizer, all he does is service."

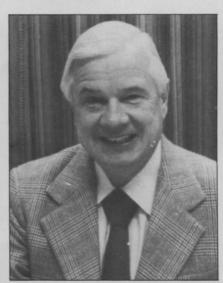
For example, take "Ajax Lawn Care



Gordon Ober



Jim Brooks



William Savich

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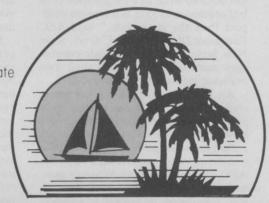
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LOBBYING FOR LAWN CARE

BY TIM WEIDNER

obbying is generally considered an activity of high-powered special interest groups like the National Right to Life Committee, Inc. Therefore, it may come as a surprise to you to learn there are entities lobbying on behalf of the lawn care industry in this country. But unlike the NRA or the NAACP, most lawn care lobbying goes on in state legislatures rather than the federal legislature.

This is largely due to the nature of the legislation opposed by this industry. The biggest legislative hassle currently facing the lawn care industry is the proliferation of right-to-know ordinances at the local government level. To curtail these ordinances, lawn care groups have formed to initiate state laws which would preempt any potential local ordi-

separate fronts. "There is a state law that allows any municipality or township to write its own pesticide control ordinance as long as it is more stringent than the state code," says AEC Executive Director Ilona F. Gray. So in New Jersey, state law actually encourages municipalities to enact their own pesticide regulatory ordinances.

But the legislative activity has begun shifting from the local to the state arena. Up until about a year ago, most New Jersey regulatory activities occurred in municipalities. Seven of these initiatives were overturned by the AEC, according to Gray. When an ordinance was drafted and a public hearing was announced in a local newspaper, the AEC contacted volunteers who were sent to the hearing. Grav says the volunteers were businessmen who worked in the municipality sponsoring the ordinance. "They would go to the public hearings and ask for time for their input," says Gray. "They also gave equipment demonstations.

Then, in February of 1982, Senate

American Cyanamid, Union Carbide and Dow Chemical to lobby the five senators on the state's Energy and Environment Committee responsible for drafting the bill.

If it were not for the efforts of the 73-year-old Alampi, Gray says many of the AEC's trustees and executive board members believe the bill would have passed. Alampi, AEC members and chemical company executives formed a steering committee to address the bill. If and when the bill finally dies, the steering committee will disband. Unfortunately, the bill's author, Senator Raymond Lesniak (D-NJ), is currently writing a fifth draft of the legislation which is still in the senate energy committee.

Despite Alampi's effectiveness as a lobbist, Gray says the expenses associated with his lobbying efforts have forced the AEC to restrict his activities. Last year, Alampi was not under a contract and he ran up expenses totaling over \$20,000. That is a significant amount, considering the AEC collected less than \$20,000 last year in funding. "It was the fault of the Alliance; they never really gave him specific projects," says Gray. "This year we are putting him under a contract at \$7,500 and only working on specific projects. He is not too happy about that."

Under the terms of the new contract, Alampi has to get his activities approved in advance by the AEC. Because of reduced expenses, Gray says much of the newspaper publicity Alampi did before will have to be curtailed. With the emphasis shifting away from the AEC's paid lobbist, more responsibility now falls upon Gray to recruit volunteer lobbists through a grassroots membership drive.

She has begun contacting AEC members who live and work in the districts represented by the senators who sponsored SB 1342. For instance, Senator Paul Contillo serves District 38, so Gray contacted all the AEC members in that district and instructed them to let their senator know how they feel about the bill he supports. "You need grassroots membership and then grassroots lobbying," says Gray. Her efforts must be paying off, because at a recent

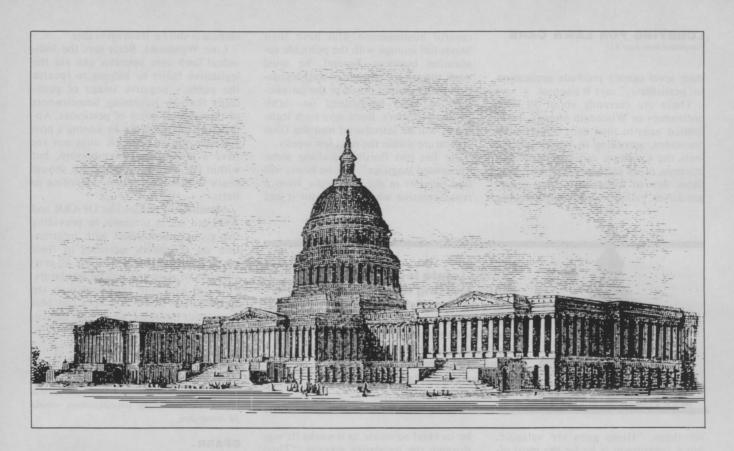


To curtail right-to-know ordinances, lawn care groups have formed to initiate state laws which would preempt any potential local ordinances that would regulate the professional and responsible use of pesticides in the environment.

nances that would regulate the professional and responsible use of pesticides in the urban environment. Most propesticide groups find themselves fighting for the rights of pesticide users in state legislatures, while at the same time battling regulatory brushfires in municipalities.

The AEC. The Alliance for Environmental Concerns (AEC), headquartered in Wayne, NJ, is one such group that finds its energies divided on two

Bill 1342 was introduced in the New Jersey State Senate. As originally drafted, SB 1342 proposed the posting of warning signs on chemically-treated lawns, pre-notification to anyone in the vicinity of a lawn or tree spray treatment and virtual duplication of the federal EPA process for registering pesticides at the state level. The AEC hired former New Jersey Secretary of Agriculture Phillip Alampi to help organize chemical manufacturers like



senate hearing Gray says a senator mentioned receiving 130 letters in opposition to the bill.

The AEC's grassroots and lobbying efforts are supported by member contributions. Membership fees are graduated according to the member's status - individuals \$25, associations \$100, New Jersey companies \$250 and corporations \$1,000. Of the nearly 200 AEC members, Gray says only nine are agrochemical companies. "There are a number of chemical companies that should belong but don't, like Velsicol and Stauffer," says Gray. "We have been helping them directly, but they haven't supported us financially." She says most of the AEC's financial support comes from individuals rather than companies.

Gray is a little disappointed by the lack of support from New Jersey lawn care companies. "I have approached Davey (Lawnscape), who is very big here in New Jersey, but they have not supported us as yet," says Gray. "The two that have supported us financially have been ChemLawn and Lawn Doctor. Even though they all reap the benefits of our efforts, it is sometimes difficult to get financial support from them."

Wisconsin Agri-Business. Although the Wisconsin Agri-Business Council of Madison, WI, is made up primarily of agricultural interests, it can also claim a conspicuous lack of support from lawn care businesses. Executive Director Russel Weisensel can claim financial support from one unnamed

lawn care company. However, lawn care operators have at least expressed enough interest in the Council to form a division known as the Forestry/Rights-Of-Way/Turf Coalition.

The coalition representing the lawn care industry's interests in Wisconsin was formed when right-to-know and other regulatory activity at the local

right-to-know for a couple years now," says Weisensel. The Coalition is working with other state and national propesticide groups to get a state law preempting local regulatory ordinances, but Weisensel knows he is facing an uphill battle. "It is difficult to do that in this state; we have an extremely strong home rule philosophy," says Weisensel. "We know some environmental



The AEC's grassroots and lobbying efforts are supported by member contributions. Membership fees are graduated according to status: individuals \$25, associations \$100, New Jersey companies \$250 and corporations \$1,000.

level began to heat up during the period from December, 1983 to January, 1984. Weisensel contacted Council members representing individuals and 35 professional associations statewide to propose the formation of the Forestry/Rights-Of-Way/Turf Coalition. The coalition now consists of 40 members.

"We know we will be faced with some model ordinances of citizenry right-to-know, we have had worker groups will be pushing for a model state ordinance."

Weisensel was encouraged when the Massachusetts Supreme Court upheld the Attorney General's ruling which stated their proposed right-to-know lawn was precluded by FIFRA (Federal Insecticide, Fungicide and Rodenticide Act). "We would like to see FIFRA strengthened to make this perfectly clear that jurisdictions beneath the

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LOBBYING FOR LAWN CARE

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state level cannot preclude application (of pesticides)," says Weisensel.

There are currently about 30 local ordinances in Wisconsin already, from limited bans to total bans of particular pesticides, according to Weisensel. He feels the Coalition can best serve the interests of its members by instructing them *how* to lobby their state representatives, rather than actually lobbying

control businessmen who have their hands full enough with the pesticide application business. Second, he must work toward the passage of state legislation which would preempt the jurisdiction of local legislatures on right-to-know matters. Betts says such legislation will be introduced into the Ohio legislature within the next few weeks.

He has just finished drafting some "proposed language" that he hopes will find support in the legislature from a representative who will sponsor it and

climate is still far from favorable.

Like Weisensel, Betts says the individual lawn care operator can aid the legislative battle by helping to reverse the public's negative image of pesticides through informing homeowners of the relative safety of pesticides. Applicators can also help by joining a propesticide group. OPARR does not yet have a broad-based membership, but within the next 60 to 90 days it should begin to solicit members, according to Betts

Members of groups like OPARR and AEC can act as sentinels by providing the group's executives with information on regulatory activities in their areas. And remember, you are all constituents of state and federal legislators. Find out who your representatives are and let them know how they can best serve your interests, which also happen to be everyone's best interests.

If you have information you would like to pass along to a pro-pesticide group, or you would like to become involved with such a group, the following organizations would be interested.



"Some (state legislators) are really starting to look closely at any additional regulatory burdens businessmen may suffer at the local level." — Jim Betts, Executive Director, Ohio Pesticide Applicators for Responsible Regulation

for them. "Hired guns are valuable, but a constituent is by far the most effective voice," says Weisensel.

Beyond lobbying your state representative, Weisensel says positive public relations is also extremely important. He says we should be as careful as possible when making applications and let customers know how safe lawn pesticides are in relation to other common substances. "We have to get people to accept these materials in their everyday lives as readily as they do gasoline or asprin," says Weisensel.

OPARR. Like the Wisconsin group, Ohio Pesticide Applicators for Responsible Regulation (OPARR), based in Cleveland, also depends upon members to lobby state representatives, rather than a paid lobbist. However, when specific legislation affecting pesticide application is considered in the state legislature, OPARR Executive Director Jim Betts will be there to make sure the applicators' best interests are served. "When one senator is contemplating a specific initiative that we will probably wind up opposing," says Betts, "we want to make sure that we can develop contact, have input into his bill drafting and try to provide testimony and information during committee as the measures might move to the floor of the senate or the house.'

Like most pro-pesticide groups, OPARR is busy dealing with proposed local ordinances, as well as lobbying at the state level. Betts says his duties are two-fold. First, he must keep the organization running between board meetings, since OPARR board members are lawn care, tree care and pest

be its chief advocate as it works its way through the legislative process. "Then we will begin to talk with key members of the legislature — committee members on the committee the proposal will be referred to," says Betts. "And of course, the members of the House and Senate who will be voting on it before it can be passed into law."

The state house has its fair share of good intentioned, but misinformed legislators who follow the wishes of emotional anti-pesticide constituents, but Betts is surprised by the number of sympathetic congressmen. "We continue to find that people in the legislature are aware of the small businessman and the regulations they have to comply with at all three governmental levels," says Betts. "Some are really starting to look closely at any additional regulatory burdens businessmen may suffer at the local level." But Betts is quick to point out that the legislative

OPARR

1215 Terminal Tower Cleveland, OH 44113

Forestry/Rights-of-Way/Turf Coalition

1400 East Washington Avenue, Suite 185 Madison, W1 53703-3041 608/255-7976

The Alliance for Environmental Concerns

P.O. Box 3692 Wayne, NJ 07470 201/595-7172

Professional Lawn Care Association of America

1225 Johnson-Ferry Road NE, Suite B-220 Marietta, GA 30067 404/977-5222

Pesticide Public Policy Foundation

1270 Chemeketa Street NE Salem, OR 97301 1/800/GET-PPPF

LOBBYING ON CAPITOL HILL

Though most lawn care lobbying takes place in state houses across the country, legislators in Washington, D.C. are now becoming acquainted with this industry's needs. At the FIFRA hearings on May 20, conducted by the House Subcommittee on Department Operations, Research and Foreign Agriculture, Dr. Robert Miller, vice president, ChemLawn Corporation,

presented an oral statement on behalf of the PLCAA.

"Basically, with this testimony we are trying to get them (the House Subcommittee) to include in FIFRA a clear preemption of pesticide regulation by local government entities," says Miller. "If we can get that written into FIFRA, then we have solved all the Lyndhursts and Waucondas."

SERVICE CALLS: THE COST OF SERVICING CUSTOMERS

BY TIM WEIDNER

ost costs associated with the lawn servicing business are relatively easy to calculate. You can add up your sales receipts to find out how much you spend per year on fertilizer, for instance, but when it comes to figuring how much service calls cost you, considerably more complex computations are required. In fact, it is probably fair to say that most lawn care businessmen do not have a good handle on the cost of service calls.

You are not the only person in the industry who has sought a better understanding of this elusive cost. John Latting, president of Bulkkem Corporation and vice president of Lawn Groomer, both of Normal, IL, proposed a survey and subsequent article on this topic to myself and our Associate Publisher Maureen Mertz.

Responses to the survey and the phone interviews generated the information which appears in this article. The tabulated responses to the mail survey appear in the accompanying article. At the bottom of the survey, we provided space for respondents who wished to participate in a phone interview on the subject of service calls. Of the 70 surveys returned, more than half agreed to a phone interview.

Lawn Groomer. Latting suspects many lawn care operators could save a considerable amount of money by keeping closer tabs on the expenses associated with making service calls. He says you should reconsider sending assistant managers or managers on service calls, which seems to be a common practice according to the results of our survey. "Could that guy have been used for a

sale, rather than for a callback or a service call?," asks Latting.

Latting also suspects operators could reduce their number of callbacks by using more effective products in their regular applications, for instance for weed control. "One of the things we are hearing from a lot of customers is the reason they

changed (lawn care) companies is due to the fact they are not getting (satisfactory) weed control," says Lawn care businessmen should consider cost versus performance to reduce callbacks. It would be worth an operator's time to calculate how much more he could spend for a better product and still be more profitable because of reduced callbacks, suggests Latting. "You may need to look at the products you are using and be more questioning of their performance," says Latting. "Is the cheapest way out the most effective way, particularly where we have (service) guarantees?" Nitro-Green. Roger Albrecht, president of Nitro-Green Corporation, Bismarck, ND, concurs with Latting and is in the process of comparing cost to performance in regard to weed control products. "Is it better to spend the extra money and put down Dacthal ® which is expensive, and if we do, how many service calls are we saving?," queries Albrecht. "Usually, we have found it is more economical to put the Dacthal down and it has worked well for us." He says O.M. Scott and Sons'

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SERVICE CALLS

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Proturf Division has a weed control product that is reportedly even more broad spectrum in control of target weeds than Dacthal, so he is also experimenting with this product.

"They (operators) need more statistics on what it costs to use preemergent type materials to eliminate the problems before they start," says Albrecht. Operators are likely to be outraged by a \$5,000 bill for Dacthal, but Albrecht says they haven't considered what it is costing them not to use a product like Dacthal. "They know how many service calls they have made, but they haven't really stopped to think how much they are paying that guy, how much production they are losing because they are tying up a guy on a service call. They just haven't added all that stuff up.

Since Albrecht buys his materials in bulk to service his 30,000 customer base, he can probably get a little better price break from suppliers than many smaller businessmen. Even so, he figures his first round preemergent application of Dacthal costs him about a dollar per 1,000 square foot of application. On the next application, he puts down a half-rate of Dacthal which would cost him 50 to 60 cents per 1,000 square feet. "On a 5,000 square foot lawn that (first application) would cost \$5," says Albrecht. "You can't make very many service calls for \$5, still the guys really hesitate to put it down because of the cost.'

Albrecht tracks his service calls by filing the service call forms that are written up by his office staff and serviced by his applicators. He says the form has space provided to list any necessary follow-up, the steps he took to remedy the problem and reasons for the initial call. A copy of that form is left with the customer and the applicator's copy is brought back to the office for filing. The information on the form is recorded on an account card which also lists the customer's lawn size, payment amount and any supplemental applications that were made during regular applications. The cards are filed in an A to Z file which is scrutinized during the winter months by Albrecht and his staff to determine where improvements are necessary.

Besides reviewing account histories, Albrecht says his people take other steps to reduce service calls. During the summer they add adjuvants or spreader-stickers to their tank mixes, which costs the company an additional \$10 per tankful. "If it helps us get a 10 percent better kill on weeds we want it," says Albrecht. If an applicator spots an account on his route that has developed a weed problem, he is instructed

SMITHED

to stop, make a spot treatment and leave the customer a note explaining what he did. "Customers really appreciate that and they think you are on the ball."

Granulawn, Inc. John Gassaway,

Lawn care businessmen should consider cost versus performance to reduce callbacks. It would be worth an operator's time to calculate how much more he could spend for a better product and still be more profitable because of reduced callbacks, suggests John Latting, president, Bulkkem Corporation.

president of Granulawn, Inc., Carrollton, Texas, knows that when a service call is necessary, it had better be done right the first time if you expect to keep that customer. But to prevent service calls, he instructs his applicators to "clean up" an entire lawn if they notice a problem over 30 percent of its surface while on a scheduled application.

During the second round application, Gassaway's customers receive a "booster shot" of preemergent weed control.

"We automatically spray the edges, curbs and hot spots, where there are weeds," says Gassaway. "They get a booster preemergent of Dacthal to stop spotted spurge. We guarantee each customer we will check it one additional time just for performance, generally between the rougher times of the season."

Gassaway tracks his service calls with a program on his computer. The computer keeps track of when service calls are requested and when they are performed. "It prints the service calls out and if we ask for the current service calls, it will give us the name, address and date of the service call and what was the problem," says Gassaway. Company policy dictates that service calls be acted on within 48 hours, according to Gassaway.

Griffin Lawn Care. At Griffin Lawn Care in Kalamazoo, MI, supervisor of the Pest Control/Lawn Care Division, J. Wayne Bro, also tracks his service calls with a computer. "When we do a service call, we use a code in the computer that tells us what kind of service call it was, when it was done and who did it," says Bro.

Regardless of how well you can track service calls, Bro believes they will always be unavoidable to a certain extent. You just have to stay on top of



them by working every day. "We use Trimec® and we use a good fertilizer and the lawns look good as a whole, but some people will complain regardless and you are going to have trouble calls regardless," says Bro. He doesn't believe one product necessarily works better than another to reduce callbacks. "We have changed products a lot of times over the last six years and it hasn't really made a whole lot of difference," says Bro.

Green World Lawn Care. Rather than look for a product that is better than another, Matt Shooner, president of Green World Lawn Care, Fairfield, OH, tries to incorporate products of uniform high quality into his treatment program. "Most of our service calls end up being for problems not covered by our basic program, such as grubs or disease problems which many times result in additional sales of service to the customer," says Shooner.

After service calls are made, Shooner says his company contacts the customer to make sure the problem was solved to the customer's satisfaction. Reports on each service call are then filed on a monthly basis. "At the end of the month, quarter or whenever we get the chance, we go back through (the file) and summarize our monthly tally of service calls in different categories, what costs were involved and what sales were generated from the service

calls," says Shooner.

The best way to reduce service calls is to inform the customer during the selling process of exactly what he can expect from the lawn care program over the course of the year. "We try very hard to put across to the customer that we're talking about a process of developing his lawn and maintaining his lawn," says Shooner, "thereby making him more patient with the development of his lawn."

DeReu Skelgas. Incorporating agronomic practices as add-on services has helped Roger Dereu, president of DeReu Skelgas Company and Lawn Care, Geneseo, IL, reduce his service calls. "We started into core aerification a couple years ago and we're trying to promote that heavily," says DeReu. He has also tried to convince customers to raise their mowing heights.

"We figure the best offense is a good defense," says DeReu. "If we can get that lawn to thicken up, we are going to solve some of our weed problems. If we can get them to mow it higher, we are going to have a better root system." That way, DeReu can get his customers through drought periods better and reduce callbacks.

DeReu is skeptical of the claims by some chemical manufacturers that their weed control products are better than others. He says difficult weeds like spurge and oxalis are supposedly easier to control with the new ester formulations, but they require a certain moisture level to be effective. Because of drought conditions over the past couple years in his area, DeReu believes any herbicide formulation will have only limited success.

But then again, DeReu has somehow been blessed with incredible luck when it comes to service calls. "Right now we have about 850 customers and so far we have had about three service calls this year," says DeReu. He has either stumbled upon the most docile homeowners in the world or he has awed them with stunning service.

ChemTurf. George Meeley, president of ChemTurf, Anaheim, CA, would probably envy DeReu's service call record, but he would also note that a certain amount of the responsibility for service calls must rest with the homeowner. "We had a watering schedule printed for warm and cool

If you promise customers more than you can deliver in your sales pitch and advertising literature, you had better brace yourself for service calls and even cancellations from dissatisfied customers.

season type grasses as a result of 23 years of research done here in Orange County, but customers take them and put them in the drawer," says Meeley. "If they read them and used them, it would help considerably."

Still, every June Meeley sends out watering schedules in the hope that some of his customers will read them and help him reduce his service calls. Meeley knows he could reduce service calls due to grub infestations if only he could use Oftanol[®], which is not registered for use in California. He says his service calls fall into two basic categories — stem rust in the winter and insects in the summer. The rust is treatable, but Meeley has not been able to find a legal insecticide that will control grub problems in his area.

"If we get grubs in a bluegrass lawn here in southern California, you might as well go after them with a hammer and an ice pick," exclaims Meeley. "If we could get something that would control grubs and sod webworms for the whole season, we would pay two or three times what we are paying for Dursban or diazinon." Meeley says it would mean the difference between

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SERVICE CALLS

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one successful service call and several unsuccessful service calls followed by a cancellation.

Spring Green. At Spring Green Lawn Care in Highland Park, IL, company President Ed Bunzol has more problems with spotted spurge and purslane in the heat of the summer than with insects. Other than a solution to some summer weed problems, Bunzol says a better pesticide really cannot reduce service calls. "If you get a service call, something was mixed wrong or the application was done wrong or the weather doesn't agree with you," says Bunzol.

Service calls are difficult to get under control because they often involve a customer's unrealistic expectations for a "perfect" lawn. "Most of the service calls we go on are weed touch ups, so



what are you going to do?" asks Bunzol. Customers often complain because their lawn is not as green as they would like. "How can you prevent that? You can't. There are very few of what I would call legitimate service calls where I could do something ahead of time," says Bunzol.

Bunzol has not consistently tracked his service calls, but he intends to start this year. He tackled the job briefly last year, but the immediate needs of the business soon took precedent over the service call paper work. Bunzol now has a computer that may eventually track service calls. "But until I am more comfortable with it in terms of routing, billing and accounts receivable, I'm not going to fool around and see what it can do for service calls," says Bunzol.

All American. Daryle Johnson, president of All American Turf Beauty, Inc. in Van Meter, IA, has his computer online and tracking service calls, but he says it is not programed for monthly reports. He says most of his service calls are of an informational nature.

CHARTING SERVICE CALLS

efore we called some of your lawn care peers on the phone for their opinions on the subtleties of service calls, we also mailed surveys on the subject to 300 of your peers. Of the 300 survey forms sent out, 75 completed forms were returned, for a decent 25 percent rate of return. We asked 10 questions, ranging from "What is your customer base?" to

"Who responds to the majority of your service calls?"

By tabulating the responses to the first question, we arrived at an average lawn service customer base of 3,100. The respondents said they made an average of 4.75 applications per year. The 4.75 figure reflects the wide range of geographical input on the survey. We received surveys from northern operators who do

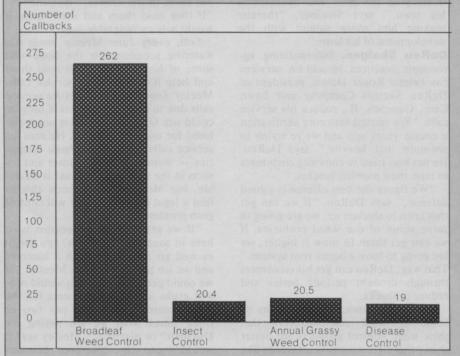
three applications per year and southern applicators who can squeeze in six applications per year.

Surveyed operators make an average of 741 service calls per year. Of that number, 11.7 percent were responses to property damage: 42.6 percent were diagnosis calls: 40.11 percent were product service complaints: and 5.59 percent were listed as "other." Operators were also asked to list the actual number of product service complaint callbacks they receive each year. The tabulated responses yielded an average of 262 broadleaf weed control callbacks, 20.4 insect control callbacks, 20.5 annual grassy weed control callbacks and 19 disease control callbacks. Obviously, broadleaf weeds are the most difficult pest problem facing lawn care operators and account for the vast majority of callbacks.

Next to a callback, one of the worst business setbacks a lawn care businessman can suffer is a cancellation. Respondents reported an average of 94.5 cancellations per year due to product service complaints. The average number of cancellations attributable to applicator error were 1.54 due to improper mixing and 19.02 due to improper applications.

The survey respondents spent an average estimated cost of \$17.77 per service call. They assigned an average of 1.18 company vehicles to service calls only, 5.41 to both service calls and applications and have a total of 9.15 company vehicles

SERVICE COMPLAINT CALLBACKS



"We try to inform people of what they should expect and give them all sorts of literature," says Johnson. By telling customers how to mow and water correctly, Johnson says he can reduce his service calls.

Nu-Lawn. Steve Fry, owner of Nu-Lawn, South Vienna, OH, says service calls are "just part of the business" and you had might as well get used to them. However, he tries to reduce service calls by asking customers if their problem can be solved during the next scheduled application. Of course, if the cus-



tomer feels the problem cannot wait, Fry promptly sends an applicator out on the service call.

Fry is satisfied with the performance of the pesticides he is currently using and does not believe better products are the answer to reduced service calls. "Most of our callbacks are new customers," says Fry. "We spray them early for crabgrass control and we get callbacks on that." He says it is just difficult to stop crabgrass from one germination period to the next.

Greenworld. Because of the effect changing environmental conditions have on lawn chemicals, Frederick Haskett, president of Greenworld Lawn Service, New Philadelphia, OH, also doubts that one product can be consistently better than another. Regardless of the product used, he has found that by putting down an insecticide in both the second and third round applications, he can significantly reduce insect

callbacks.

Besides expanding his insect control program, Haskett has also reduced service calls by reducing his nitrogen output, thereby solving some disease problems that thrive on high nitrogen fertility. "We also are selling a preventative disease program to reduce callbacks," says Haskett. "This is the first spring we have offered it and we already have 500,000 square feet of fungicide programs sold."

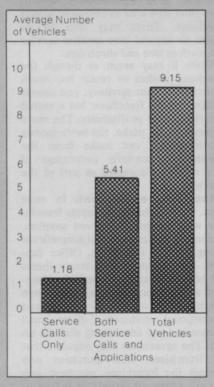
He hopes to turn disease callbacks into an add-on service, as he has done with grub control. "Grubs are now a cash-generating feature," says Haskett. "If you explain the realities of it to

Many times service calls are for problems not covered by a lawn care operator's basic program, such as grubs or disease problems. Often he'll find that these callbacks result in additional sales of service.

APPLICATOR ERROR CANCELLATIONS

Number of Cancellations 19.02 20 18 16 14 12 10 8 6 4 2 154 0 Improper Improper Applications Mixina

COMPANY VEHICLE USAGE



In the final question, operators were asked who responds to the majority of their company's service calls. The results are a little misleading because many respondents listed more than one type of company personnel as being responsible for responding to service calls. However,

the results do show who is called upon most often. Twenty five said the technician who serviced the account, 17 said a technician experienced in customer relations, 30 said the assistant manager or manager, two said a salesman/manager and 10 said the owner/president.

people they accept it."

Haskett tracks his service calls by issuing each applicator a series of report forms for regular applications, add-on services and service calls. "We transpose that into a weekly and monthly report," says Haskett. "We track types of service calls, square footage serviced and materials used." He is proud to say his company is reducing the number of service calls every year.

Conclusions. Even though most of the lawn care businessmen we contacted probably could not put a dollar figure on the cost of an average service call, it is important to note that they do keep track of them in one way or another. They know service calls are expensive and if they can identify the cause of the service calls, they can find a way to reduce them.

True, a certain number of service calls are inevitable. There will always be customers who will complain if a single dandelion crops up or if the lawn is a slightly lighter shade of green than they would like. However, even some of these "nuisance" service calls can be eliminated by customer education. Explain to homeowners exactly what they can and cannot expect from your lawn service. If you promise them more than you can deliver in your sales pitch and advertising literature, you had better brace yourself for service calls and even cancellations from dissatisfied customers. Just think of service calls as a disease with symptoms you can live with if you treat it before it can spread!

COMMON FRANCHISE AGREEMENT TERMS

BY TIM WEIDNER

ur February cover story on lawn care franchising generated more reader inquiries than any other article we have ever published. Because of your obvious interest in franchising, we thought you might like a little more information on the subject. We went back to the lawn care franchisors we interviewed for the February article and asked them to submit copies of their franchise agreements.

Although the agreements themselves are confidential, the franchisors have allowed us to present the stipulations of their franchise agreements as a composite example of a "typical" franchise agreement. By assembling franchise agreement form elements held in common by some of this industry's largest franchisors, we hope to give you a little better idea of what a lawn care franchisor might expect from you, the potential franchisee.

• **Definitions.** Franchise agreements often begin with a list of words and definitions, as they apply to their use in the franchise agreement. For example, the company's trade names are listed and explained, as well as materials used by the company. This is also the section of the agreement containing the "whereas" clauses which outline all things exclusive to the company, such as logos, methods of operation and uniform design.

•Territory. Depending upon the franchisor, this section will define the territory where the franchisee is granted exclusive and/or non-exclusive rights to sell his services. Some companies will grant only exclusive or non-exclusive franchise rights, while others will offer exclusive rights in one area and non-exclusive rights in another territory. Exclusive rights guarantee you that the franchisor will not sell franchise

rights in your territory to anyone else. Non-exclusive rights mean the franchisor has sold you a territory that may also be occupied by another franchisee of his company.

As in all sections of the agreement, you should read the fine print here because many agreements stipulate that the franchisor has the right to change an exclusive territory to a nonexclusive territory if the franchisor feels he can get a better return on his investment by installing another franchisee in a given territory. But it may also be noted in the agreement that the franchisor will consider a proposal from a franchisee in a non-exclusive area to reconsider that area as exclusive to said franchisee. There may also be an option to expand into another service line, such as tree and shrub care.

While it may seem as though the franchisor wishes to retain too much control over your territory, you should realize that the franchisor has a vested interest in your profitability. The more money you can make, the more money the franchisor can make from the monthly or quarterly percentage of your revenues assessed as part of the franchise fee.

• Materials, equipment. In most cases, the franchisor can supply franchisees with company-approved supplies, equipment and materials at a significant savings to the franchisee. Office supplies, such as stationery, route sheets and bookkeeping forms are often supplied at the franchisor's expense. Some franchisors will also supply personalized promotional materials, direct mail promotions and advertising slicks at no cost. The agreement may stipulate that the franchisee must purchase only through the franchisor, purchase only through approved outlets or is free to purchase materials from any source that can supply "quality" products.

In order to establish a favorable cash flow, at least one franchisor offers firstyear franchisees three supply deliveries over the first year, the first at no cost to the franchisee. The remaining two deliveries are made at the franchisor's discretion with 30-day, interest-free grace periods following each delivery. After the 30-day period, the franchisee pays interest on the unpaid balance of the supplies at a rate of .75 percent per month or at the legal rate, whichever is lower. You should be on the lookout for attractive arrangements like this when shopping for a franchise, especially since your first year in business will probably be the most difficult.

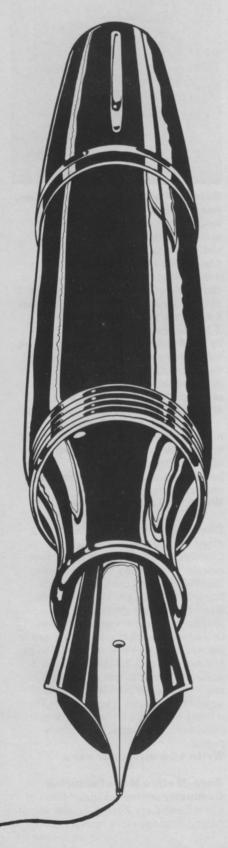
Equipment, machinery and vehicles may also come under control of the franchisor according to the terms of the agreement. Be sure to take note of your responsibilities for company-owned equipment. For instance, equipment owned by the franchisor and leased to the franchisee often must be repaired and paid for by the franchisee. Lost or damaged equipment often must be replaced or repaired at the franchisee's

•Fees. Franchisees agree to pay the franchisor, in most cases, a non-recurring and nonrefundable initial franchise fee. Half of this fee may be demanded up front, with the rest to be paid by a specified date. An initial promotional fee to cover advertising expenses may also be included in the agreement, payable under terms similar to the initial franchise fee. Depending upon company policy, there may then be subsequent monthly advertising fees. However, some franchisors leave the cost of advertising to the franchisee.

Royalty and/or service fees are levied by the franchisor on a given percentage of the franchisee's gross revenues each month or quarter. The fee is often adjusted according to the amount of gross revenue generated by the franchisee, often decreasing with increases in gross revenues, to provide incentive for the franchisee to bring in more and more revenue. The royalty fee is sometimes associated with the number of service agreements held with customers by the franchisee. In such a case, copies of the service agreements must be retained for a specified period of time and may be subject to inspection by the franchisor.

• Trademarks. The franchise agreement will list all items considered trademarks by the franchisor, such as the company name, logo and registered products. Franchisees must treat trademarks as property of the franchisor. Franchisees agree to use the company's trademarks as the sole identification of their operation, sometimes with allowances for identifying the operator of the franchise. Similarly, the franchisee is required to use the company trademarks on sales invoices, stationery and other materials visible to the public.

Under some franchise agreements, the franchisee is instructed to notify the franchisor of any infringements upon the company's trademarks. The franchisor may also agree to reimburse the franchisee for any "reasonable" costs incurred by the franchisee while defending his use of the company's trademarks. However, you should notice



that many franchise agreements assume no liability for the franchisor in the case of product claims brought against the franchisee by third parties. There may also be a clause which prohibits the franchisee from initiating a counter-suit against the franchisor to recoup product claim losses. The franchisee may also have to carry the burden of any court costs incurred during the defense of a claim against the franchisee.

Like the company trademarks, the franchisee also agrees to confine his use of the company's "trade secrets" and "know-how" to the functions of his lawn care business. By signing the franchise agreement, you agree to use the franchisor's "know-how" only during your term as a franchisee. You also agree to maintain the confidentiality of the "know-how" during and after your term as franchisee and you will not make unauthorized copies of the written "know-how" information.

• Training. Many franchisors provide training for their franchisees as outlined in the franchise agreement. For instance, one franchisor offers its franchisees the option of selecting any or all of three lawn care training phases, free of charge. Franchisees can choose from printed instruction; three day classroom instructions; and/or private, in-the-field, two-day tutelage by an experienced corporation representative, in the representative's home area, or where possible, in the franchisee's home area.

In addition to initial training sessions, most franchisors make provisions in their franchise agreements for ongoing assistance from the home office to the franchisees. The typical agreement might state that the franchisee may write, telephone or visit corporation headquarters at any time for advice and/or to discuss plans or policies relevant to his success. Some franchisors will offer to pay for the franchisee's visit to encourage you to keep abreast of current industry technology.

There may even be provisions in the agreement for aid to franchisees who wish to sell their franchise. Remember, the franchisor's chief concern is to maintain franchises that are as profitable as possible, and someone who would rather be doing something else probably is not as profit conscious as he could be.

• Terms. Most franchise agreements limit the length of time a franchisee can hold his franchise to a specific number of years. For example, one franchisor limits the franchise term to five years, while another limits the term to 10 years. However, most agreements have provisions for renewal of the franchise

terms and extension for a specified number of years. There may be an additional fee upon renewal to cover such costs as refurbishing company-leased equipment.

Upon termination of the franchise term, if the franchisee does not wish to renew his agreement, there is generally a non-competition clause in the agreement which prevents him from starting his own business within the franchisor's market area. Most franchise agreements also delineate the terms under which the franchisee or franchisor may terminate the franchise contract before it would otherwise expire. There is usually an explanation which states that if one of the parties fails to live up to the terms of the franchise agreement the other may terminate the agreement.

There is a great deal of similarity in lawn care franchise agreements, simply because all lawn care franchises serve a common function. However, there are subtle differences contained in each agreement and the smart prospective franchisee should examine the fine print. One franchise operation may not be inherently "better" than another, but you should shop for specific agreement terms that will make a difference in your particular business situation. Here are some franchisors you may want to contact:

Lawn Doctor, Inc.

Russell J. Frith, president P.O. Box 512 142 Highway 34 Matawan, NJ 07747 201/583-4700

Spring-Green Lawn Care Corp.

William R. Fischer, president 11927 Spaulding School Drive Plainfield, IL 60544 815/436-8777

ChemLawn Corporation

Jack Van Fossen, president 8275 North High Street Columbus, OH 43085 614/888-3572

Barefoot Grass Lawn Service

John Dunham, vice president of Franchising 1018 Proprietors Road Worthington, OH 43085 614/846-1800

Perf-A-Lawn Corporation

Ron Wilson, vice president of Franchising 85 Quick Road New Carlisle, OH 45344 513/845-3897

Lawn Medic, Inc.

Don Burton, president P.O. Box 468 10 Gates Street Bergen, NY 14416 716/494-1462

ALA PRODUCTS

Country Manufacturing, Inc.

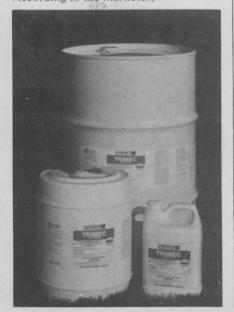
introduces a new Estate Pressure Sprayer for herbicide, insecticide and fertilizer applications on lawns, gardens, pastures, golf courses and commercial properties. The liquid



sprayer comes equipped with both a boom sprayer for use when pulling and a 10-foot hand wand for spot spraying. The adjustable boom arms provide a spray pattern up to 10 feet wide and can be folded up for storage and vertical spraying. The sprayer has a 15-gallon poly tank. The centrifugal pump is powered by a 12-volt DC motor that connects to the battery of a lawn and garden tractor or other available 12-volt power source.

Write 125 on reader card

The addition of Trimec ® Turf Ester to the **Gordon Professional Turf Products** line is said to give the professional turf manager a low volatile ester formulation that gets truly hard-to-kill weeds without repeated applications. Target species include spurge, oxalis and ground ivy as well as other broadleaf weeds noted for thick, waxy leaf surfaces or toughened leaf cuticle following "hardening off." According to the marketer,



PBI-Gordon Corporation, Trimec Turf Ester is the most effective and cost efficient post-emergent broadleaf herbicide developed specifically for 2,4-D tolerant cool season grasses, according to the manufacturer. A pint treats up to 22,000 square feet of lawn.

Control of the widest range of broadleaf weeds and particularly tough weeds is said to be achieved with a wide margin of safety to lawn grasses.

Because of the synergistic action of its components, Trimec's high degree of effectiveness with reduced amounts of chemicals also minimizes the hazard from root absorption of nearby flowers and ornamentals.

Write 108 on reader card

Excel Industries has manufactured a 72-inch, heavy-duty, Dual Trim rotary mower attachment for Hustler tractors. It delivers a high-quality cut



while eliminating nearly all hand-trim work, the company says. Designed for all Hustler models except the 261, the new rear discharge deck is center-mounted with 9.75-inch offset trim capability on both sides of the deck. The low profile design permits mowing beneath shrubbery and other overhanging obstacles, while affording visibility. According to the company, the mower is ideal for mowing next to buildings.

The unit's deck is constructed of 1/8-inch and 3/16-inch welded steel with 3/16-inch steel spindle supports and a 5/16-inch steel gear box mount. Gauge wheels on the deck are of ductile iron construction. Each features two sealed ball bearings.

Cutting height adjustments from 1 inch to 5 inches are made easily via front gauge wheels that have 1/4-inch increments. The rear deck is easily adjustable, too, for a level cut. The deck's three 24-inch, high-lift blades counter-rotate to produce a fine, high-quality cut while eliminating the windrowing effect normally associated with rear-discharge decks. Blade tip speed reaches 11,825 feet-per-minute.

Write 143 on reader card



Salsco Welding and Fabrication,

Inc. of Milldale, CT introduces the newest addition to its line of core aerators - the Model 30-12 Greens and Tees Aerifier. The same engineering and attention to industry needs reflected in all of our products is carried over into our 30-12. This unit covers 13,900 square feet per hour, has a minimum penetration depth of 2-3/4-inches, a hole pattern of 2-1/4by 2-3/4-inches, four grease fittings, all sealed roller bearings, oil impregnated bushings and can be completely disassembled in 45 minutes. While aerating, the 30-12 will turn in under a 40-inch radius without damage to turf.

We feel this unit's speed, maneuverability, simplicity and ease of maintenance will warrant the interest of the quality-conscious turf professional. Salsco offers a standard one year warranty.

Write 145 on reader card

Cintas Corporation, announces a major breakthrough with its new Comfort Shirt 8. Designed to improve morale, productivity and appearance, the shirt is 22 percent lighter, much smoother feeling and far cooler than standard uniform shirts. This new product was wear-tested in Houston, Orlando, Philadelphia and Cincinnati in hot weather. All workers found it to be just as strong and durable as standard uniform shirts, but less ridgid and much more comfortable under hot weather conditions. The Comfort Shirt is being made by a leading textile mill exclusively for Cintas, the uniform

Write 106 on reader card

Aero-Motive Manufacturing Company announces the addition of a new Lawn Care Reel to its long line of rugged hose and cable reels for lawn

(continued on page 56)



JUNE 1985

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Another Breakthrough From Agri-Plex® Technology



Introducing Agri-Plex Fe (8%), the most highly concentrated chelated iron product available in liquid form.

Now you can correct iron deficiency — restore the deep green to lawns, shrubs and trees — without adding nitrogen. Fe (8%) also supplies phosphorous and potash. What's more, it's totally nitrogen free.

The secret is in our patented* iron phosphatecitrate chelate. Being fully chelated means the iron stays soluble even in water at pH as high as 9.5. And unlike other iron products, Fe (8%) won't settle in your tank and cause staining.

In addition, you can add Fe (8%) to any nitrogen formula — giving you the flexibility to formulate the best fertility program for your customers.

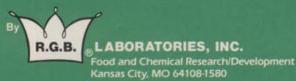
Best of all, it's so cost effective that Fe (8%) can add more green to your bottom line.

Contact Your Agri-Plex® Distributor or R.G.B. Laboratories Today for More Information.

- Available as a liquid concentrate for easy storage and handling. Non-caustic and safe to handle with normal care.
- Excellent water solubility and extremely low phytotoxicity make it ideal for spray application during the heat of day.
- Well suited for use with insecticides, herbicides and fungicides. Prevents the alkaline destruction of the pesticides by buffering the tank mix at pH 7.0.
- The Nutrient composition of Fe (8%) enhances the resistance to disease.

Guaranteed Analysis

Iron (Fe), chelated 8.1	0%
Available Phosphoric Acid (P2O5)5.	0%
Soluble Potash (K ₂ O) 8.1	0%



(816) 474-3342

U.S. Patent Nos: 4,214,996 & 4,351,735

Write 13 on reader service card

PRODUCTS

(continued from page 52)

maintenance vehicles. The new reel will handle up to 400 feet of 1/2-inch I.D. hose. The new design features are

AERO-MOTIVE

A SUBSIDIARY OF DANIEL WOODHEAD, INC

external-mounted, V-belt drive; external swing joint with one-inch standard "O" ring; hand-operated clutch; and special gear box. Other quality aero-motive features include, 12-volt DC motor; 57 rpm operating speed; all steel welded construction; formal steel frame; nickel, iron and stainless steel fluid path; one-inch pc outlet elbow; and belt guard.

Write 101 on reader card

Walker Manufacturing says several improvements to the Walker Mower makes the unit's performance and capacity better than ever. The large 6.7 bushel grass catcher has a "Powerfil" delivery spout which packs the catcher full even when mowing long-wet grass. A new 42-inch rear discharge deck is now available with the grass catching system, making a complete line of 36-inch and 42-inch rear or side discharge decks to fit on the basic tractor. Also, the Walker is now powered by the Honda G400 industrial engine, featuring long-life construction and reliable performance for commercial application.

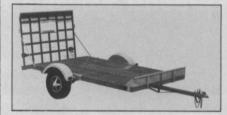
The compact design of the overall tractor and mower deck with a zero turning radius makes manueverability easy, especially for mowing and trimming landscaped areas. The mower's manueverability is also aided by the unit's independent drive wheel steering using dual hydrostatic

transmissions and lever controls (forward/reverse, turns and braking) which are accomplished without shifting, clutching or applying any foot-pedal operations. The forward speed control sets ground speed for hands-off, straight ahead ground travel, eliminating the operator's tedious job of holding control levers forward.

The mower uses flexible cutting deck suspension with spring counter-weighting and front-mounted gauge wheels for smooth cut on uneven ground (without scalping or skipping), and timed gear drive/PTO drive shaft for blade drive to provide compact deck (blades overlapped instead of staggered), easy deck removal and low maintenance.

Write 117 on reader card

Snowco has announced the addition of the 20-030 ramp loading trailer to its utility trailer line. This heavy duty, single-axle trailer has a capacity of 2,500 pounds and is ideally suited for transporting mowers and other turf care equipment and construction equipment such as ditchers or small loaders. Trailer features include a perforated steel deck measuring 76-by-133-inches, rectangular steel tube frame, 7-3/4-inch front splash shield, baked enamel finish,



demountable wheels, two-inch ball hitch and lighting which meets current federal requirements.

This trailer also features a 22-1/2-inch deck height, 88-inch tread width, wheel covers, tie-down loops

and handles for easier raising and lowering of the ramp. Wheels and tires are F78 x 14C. A number of optional accessories are available for the 20-030 including tongue-mounted winch kit, brakes, tongue stands and jacks and wheel chocks.

Write 105 on reader card



Yard-Man Company's newest entry into the grounds maintenance products category is its model 24630 lawn thatcher, complete with a hard plastic catcher that meets an extra-wide opening in the deck, similar to a rear discharge rotary, to collect thatch and eliminate raking and clean-up time. It is easy to lift and dump.

The Yard-Man thatcher has 12 free-floating flail knives that spin quietly within an all-steel, fully-baffled deck to loosen, take up and throw the thatch efficiently into the catcher within a 15-inch wide path. The unit features a three hp engine with rewind start and remote throttle. It has a folding steel handle for compact storage and five-position quick external height adjustors.

Write 137 on reader card

Flow-Trak * from Micro-Trak

Systems, Inc. puts the full range of essential spraying information at the operator's fingertips: speed in mph, distance in feet, acres worked, gallons of solution applied per acre and total gallons applied. A run/hold selector allows the operator to stop the counting functions on turns or while moving from one area to the next. The run/hold also activates a built-in relay which can be used to automatically open and close electric solenoid valves, thus reducing the number of switches the operator must control.

Flow-Trak's companion flowmeter provides a highly accurate measurement of the actual flow of liquid through the system. It has been specially designed by Micro-Trak to

(continued on page 58)



Before you buy any other machine that fertilizes, seeds, coreaerates and spikes,

READ THIS AD!

Now there are **three** tough machines built to handle the grueling punishment dished out by today's lawn professional! If you need a machine to perform the functions of seeding, fertilizing, coreaerating and spiking, we offer three great solutions: the Seed-Air, for seeding, fertilizing, spiking or coreaerating. Also, two sizes of self-propelled coring machines. There's just not enough room in this ad to tell you the whole story, but here are a few facts:



SALSCO'S SEED-AIR

The all-in-one seeder/fertilizer/coreaerator for riding operation. Welded construction/Weight, 625 lbs./Seeds, fertilizes and aerates 4,000 sq. ft. in only 9 minutes/11 hp Briggs and Stratton electric start motor/Easy to transport/Variety of attachments/1-year warranty.



SEE THIS MACHINE RUN FOR \$18.95*

COREAERATORS.

Self-propelled walk-behind units coring up to 30,000 sq. ft. per hour. This unit comes in two sizes, 36- and 30-inch width, both machines give penetration of 2-3/4-inches using 5/8- or 3/4-inch tines. Five horsepower Briggs and Stratton standard or IC engines available.



NEW! TRANSPORT RAMP.

SALSCO INTRODUCES its new transport ramp for loading lawn care equipment onto trailers or truck beds. Each ramp weighs approximately 35 pounds and will hold in excess of 1,000 pounds. Each ramp can be positioned to accommodate the wheel base of any piece of equipment. We will sell the ramps for \$225 per set and immediate delivery is available.

Due to tremendous nationwide response, dealer inquiries now invited.

VCR TAPES AVAILABLE F.O.B. SALSCO

ALL PRICES F.O.B. SALSCO SALSCO
Welding & Fabrication Inc.

Welding & Fabrication, Inc. 196 Clark Street, Milldale, CT 06467 SALSCO NOW OFFERS IMMEDIATE DELIVERY ON BOTH MODELS OF CORE-AERATORS

Made-to-spec loading ramps available for all models.

To find out more about how you can turn a greater profit in seeding and aeration, call us collect today - 203-621-6764.

Write 29 on reader service card

PRODUCTS

(continued from page 56)

meet the exacting needs of chemical application. Its stainless steel housing and polypropylene turbine assure long life.

Also from Micro-Trak Systems, the Flo-Pro Monitor [®] is the perfect system for keeping track of gun-applied chemicals, root injected solutions, or any other operation which simply requires an accurate measurement of pumped liquids. The monitor features multiple inputs which make it possible to measure the flow from one, two, even three separate tanks all at the same time. Each input is equipped with two gallon counters - one for recording the liquid used on an individual job and a second for keeping a running total of liquid applied over several days or jobs.

Each counter can be reset independently of the others. The individual inputs also feature a set key which makes it possible to program in a predetermined application volume. This is particularly useful in root feeding operations. When the set liquid volume is reached, a relay is activated which in turn can be used to sound the carrier vehicle's horn or other device to notify the operator to move to the next location.

Write 100 on reader card

Echo, Inc. is now offering a cultivator attachment, the SRAC-200, which turns the Echo models SRM-200BE and SRM-250E into cultivators. This makes the Echo grass trimmers/brushcutters ideal for weeding, preparing garden seed beds and mulching applications. A debris shield and six reversible tines add extra value to the SRAC-200 cultivator attachment.

The SRM-250E is a heavy-duty, durable trimmer designed for homeowner and commercial use. The unit has a 24.4 cc air-cooled.

two-stroke engine and a Walbro diaphragm carburetor. It features a heavy-duty, tap-to-advance nylon head with a plastic shield and is equipped with a shoulder harness and a metal debris shield with an optional steel blade.

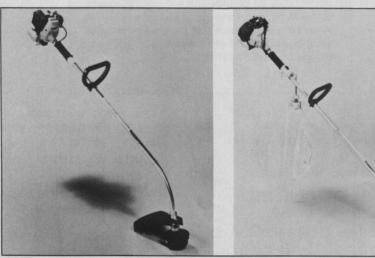
The GT-1000 comes with a 16cc air-cooled, two-stroke engine and a tap-to-advance cutting head. It weighs only 9.7 pounds, has an 8.5 ounce gasoline tank and features electronic ignition.

Write 107 on reader card

The Broyhill Company introduces its new 5000 Series Lawn Care Sprayers. The units have four pumping system options which include centrifugal, diaphragm, piston and roller. Gallonages from 150 to 400 gallon and hose reel mounting with numerous hose lengths are available. These affordable models start at \$1,088 — just right for the new or expanding turf care professional.

Broyhill also has a sprayer designed for use with ATV vehicles which features rust and corrosion resistant poly tanks in a choice of five to 55 gallons. Pumping systems include ground-driven squeeze pumps, 12-volt









electric diaphragm pumps, roller or piston pumps. Boom assemblies for 80-to 120-inch coverage or a deluxe 21-foot, three section boom assembly provides 23 feet of coverage. Available spray guns can also help to make these units portable, self-contained and easy to operate.

Write 104 on reader card

The Lambert Corporation

recently introduced a new line of LawnHouses. The Lambert LawnHouse is available in three models; the Catalina, the largest in the new product line; the Biloxi, available in two sizes to meet a variety of storage needs; and the Auburn, ideal for smaller storage needs.

These buildings are constructed entirely of Neverust *aluminum. They are strong, long-lasting, maintenance free, anti-corrosive and will never red rust. The LawnHouses have easy to follow step-by-step instructions with numbered frame parts to help make assembly a snap and perfect for display.

Write 102 on reader card

In addition to the regular four ounce and 16 ounce size bottle, **Technu Enterprises** offers Poison Oak-n-Ivy Cleanser ® is the best way to prevent the misery of poison oak, ivy and sumac. Tecnu is 100 percent effective in removing the poison oils from the skin as well as equipment and clothing.

When used as directed, no reaction will occur. Even used after a rash has started, the product can help the dermatitis reach its natural solution much more quickly, according to the manufacturer. Proved time and again in the field by foresters, road crews, linemen, surveyors, utilities and others. Workmen's compensation claims reduced to practically zero in many lines of work.

Write 103 on reader card

Easy access rear door. Debris retainer screen. 4 floating louvers* indicate fill level at a glance. Optional containers No need to shut down engine. can be bag-lined for easy debris disposal. Removable canopy allows easy conversion to a Quick disconnect. utility cart. Heavy 18 gauge steel Easy release dumping latch. construction. Powerful 5 hp engine. Wide stance flotation tires provide high stability. Quick disconnect, large capacity 8" hoses reduce clogging. Optional 4" & 6" pick-up hoses attach in seconds for spot clean-up. Steel-lined blower housing for reduced noise Dolly-mounted and added strength. engine and blower may be easily It's in removed for storage and cart conversion." the bag. Hi-strength. telescoping tongue. Turf clean-up made easy with the Conestoga Trail Vac Hitch your tractor or mower to a Conestoga Trail Vac and mow, vacuum and collect in one easy step. Exclusive floating louvers tell at a glance how full the cart is, and optional containers allow easy bagging and removal of clippings Universal boot* and debris. fits almost any mowing deck, For large area turf maintenance, you can't Quick disconnect.

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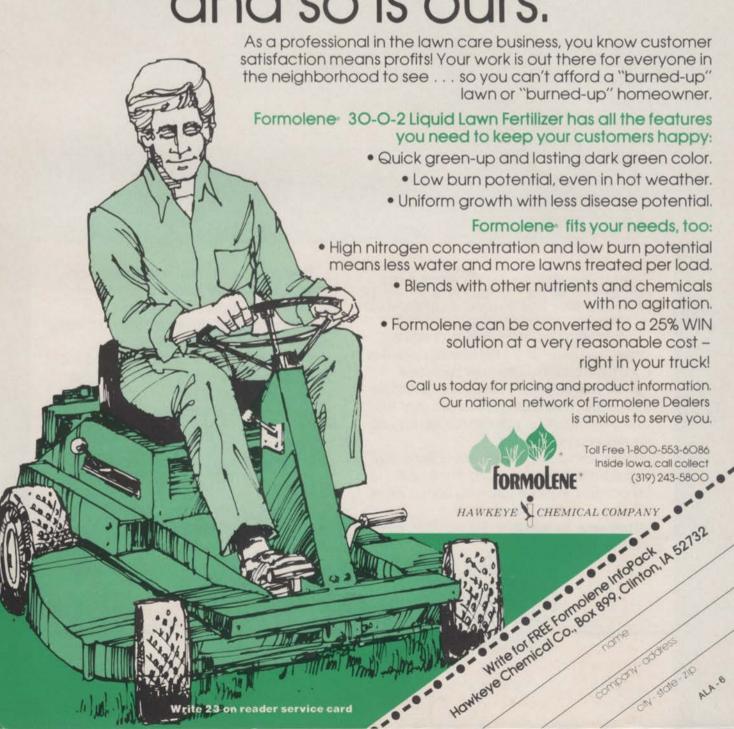
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