

# Customer guidelines shared

In the debate over whether to contract a lawn care company to treat their lawns or do it themselves, many homeowners who choose the latter option do so because of a growing perception that lawn care companies are killing their lawns.

"But," according to Dr. A. J. Powell, extension turf specialist at the University of Kentucky, "lawn care companies do not kill lawns.

Rather, their high maintenance programs make lawns more susceptible to weather and pests."

Dr. Powell wrote the following advice to Kentucky homeowners, titled "Living With Commercial Lawn Care," in a circular sent out by the Extension Service. The editors of LAWN CARE INDUSTRY thought it would be a good idea to share this information with their readers, to give them an idea

of how they are perceived by the Extension Service and homeowners, at least in Kentucky.

Lawn care cycles follow a typical pattern in which lawn care companies greatly improve the lawn for the first two to four years and then, as the high maintenance program causes other problems over the next two to three years, the lawn tends to degenerate. High

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Dr. A. J. Powell

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\$2.00

Volume 6, Number 12

DECEMBER 1982

# LAWN CARE INDUSTRY

Serving lawn maintenance and chemical lawn care professionals

## OFF-SEASON BLUES

## When business is slow ...

One necessary evil of the lawn care business is cutting back during the winter months. Putting this time to productive use remains one of the industry's biggest problems. Warns Allen Wagner of A. Wagner Lawn Care in North Versailles, PA, "If you're going to get into the business, you better understand it's a seasonal one."

Many companies fill the gap by plowing snow, cutting firewood, or supplying home heating oil; but few of those interviewed seemed especially committed to the alternatives they've chosen.

There are three reasons why

snow plowing has become less attractive: dependence on the weather, increased competition, and damage to equipment.

Understandably, a businessman whose livelihood is dependent on the good graces of the climate during spring, summer, and fall is not eager to subject himself to the same capricious situation in the winter.

Don Dondoneau of Don's Sodding and Landscape in Grand Forks, ND, told LAWN CARE INDUSTRY that there has not been enough snow during the past few seasons to make plowing

economically feasible. Many snow plowing moonlighters observed that this puts them in the contradictory position of hoping for more severe weather while also counting on an early spring to help cash flow in the early part of the lawn care season.

Rising unemployment has also deterred many lawn care businessmen from considering snow removal.

"The field is just getting more competitive," said Dale Wagatha of Perf-A-Lawn in Orchard Park, NY. "I'm getting underbid and just

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## THREE CATEGORIES

## Dr. Hall notes restraints on lawn business

Most lawn care industry analysts agree that as competition in the field becomes more intense, those businesses who have the greatest success keeping customers will be those who provide quality service. "But," according to Dr. John R. Hall, III, an Extension Turf Specialist at Virginia Tech, "there are several restraints which prevent the majority of lawn care companies from meeting the customers demands for quality service." These restraints fall into three main categories: economics, people, and technology.

First, the 45 to 60 day treatment time most companies require to apply any single treatment to all contracted lawns, does create problems in the timing of agronomic practices. This time frame is influenced by the economic requirement that a company maintain a certain number of lawns per application unit to make an adequate profit. Some agronomic practices are very time specific and 45 to 60 day time periods between applications can mean that for certain insect, disease and weed problems, only 25 to 50% of the customers are receiving pesticide applications at the appropriate time.

### Critical decision

According to Dr. Hall, "The critical decision to be made by any new lawn maintenance company is the determination of how many treatments are going to be provided by the company each year."

According to the results of this study, three treatments per year leaves some gaps in a thorough lawn maintenance program. The

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## PESTICIDES, PEOPLE, POLITICS

## IPAA Experts Spell Out Major Problems

Pesticides, People, Politics. That "terrible trio" was the main theme of the 1982 International Pesticide Applicators Annual Convention held in Seattle, Washington this Sept. 29 through Oct. 1.

Lawn care managers and many others involved in pest control heard top experts spelling out the problems — and suggesting some solutions — of the stormy national pesticide debate during this well-attended I.P.A.A. meeting.

Guest speaker Dr. J. Gordon Edwards, entomologist at San Jose

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Jim Ely, right, responds to statement by Dr. J. Gordon Edwards, left, that "certain scientists make claims about (pests) that are not justified by facts." Dr. Roy Goss, center, looks on during IPAA convention in Seattle. The three were on hand to discuss key issues confronting Lawn Care Industry professionals & others in dealing with Pest Control.

## Next month's PLCAA show report

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## UPFRONT

## LCI'S changing 'face'



What happened to the picture of the guy with the beard?

That may be what you are asking yourself right now, upon noting the absence of Bob Earley's picture, the one that usually accompanies this column.

As many of you know by now — especially those of you who attended the annual Professional Lawn Care Association of American convention last month in Indianapolis — Bob is no longer editor of this magazine. He remains its publisher, but has also been promoted to group publisher for what Harcourt Brace Jovanovich calls its "green group" of magazines: LAWN CARE INDUSTRY; WEEDS, TREES AND TURF; and PEST CONTROL.

Upon selection as LCI's new editor two months ago, I first

learned that Bob is highly respected and liked within the lawn care industry, and is as knowledgeable as anyone can expect a magazine editor to be.

So how does a former sports writer, whose last big assignment was covering Super Bowl XVI, follow that act? The first thing he does is get out and talk with you, the lawn care professional; and that's what's been happening the last couple of months. The job has proven a considerable challenge — but a bit of fun, too.

The philosophy behind LAWN CARE INDUSTRY will remain the same: to bring you timely news, to publish helpful hints about running successful businesses, to present features on interesting people and events within the industry and to present the usual mish-mash of what Bob calls "departments."

The major point I wish to stress, though, is that this is still your magazine. When you see something you like or dislike, don't be afraid to drop us a line or give us a call. Because, for us to stay in touch with you, you've got to stay in touch with us.

As an addendum to the announcement of an editorial staff change, it might also be of interest to you that the LCI editorial offices have been moved from New York City, in the heart of skyscraper heaven, to the great Midwest: Middleburg Heights, Ohio, a suburb of Cleveland.

A Midwesterner most of his life, your new editor welcomes the change.

Our new address is 7500 Old Oak Blvd., Middleburg Heights, OH 44130. The phone number here is (201) 243-8100.

As you may have noted, this is not a very big issue, and for good reason. For all intents and purposes, a large percentage of lawn care specialists close up shop for the winter. That situation led us to a basis for one of our cover stories: what lawn care experts do in the off-season.

Staff writer Chris Murray contacted quite a few of you to solicit suggestions and comments about the slow season. I think you'll find some of the responses amusing, some depressing, most truthful, and some suggestive. We hope that you're not only entertained by this article, but that those of you who practice in the colder sections of the country might try some of the ideas offered by your cohorts.

Also included in this issue is the LAWN CARE INDUSTRY marketplace, a list of companies which supply the industry with everything from seeds to fertilizer to mowers. This is published as a public service to lawn care professionals, and we hope you will save it as a year-round ready reference.

Elsewhere this month, Dr. A. J. Powell, extension turf specialist at

the University of Kentucky, provides lawn care pros with a look at how they are perceived by possible clients in an article titled, "How are you viewed by the homeowner?" It will provide you with a different slant on lawn care, and may give you some suggestions pertaining to what steps you can take to improve your service — and maybe even what to expect from clients in the way of an attitude toward you.

"Ask the salesman or applicator how much training they have received," is one of Dr. Powell's suggestions to homeowners. Another is that "more is not always better."

Finally, another article that might be of interest came from Dr. John R. Hall III, an extension turf specialist at Virginia Tech. In the article derived from a study conducted by Dr. Hall, restraints that prevent lawn care companies from meeting customer demands for quality are addressed. Specifically: economics, people and technology.

Next month, we plan to bring you coverage of this year's PLCAA Convention and Trade Show. LCI staffers were on hand to cover all the speeches and other news emanating from the three-day get-together, which was the biggest ever.

A number of speeches, dialogues, round-table discussions and informal talks were held, most of them newsworthy. There was also election of officers and directors as the PLCAA torch passed hands.

If you missed the convention, you'll not want to miss our January issue. As a matter of fact, even if you attended the convention in person — as more than 1000 of you did — the January LCI will still be helpful. It promises to provide you with information that you might have missed or forgotten. Plenty of photos will accompany the written text.

The past two months have been enlightening to this new inductee into the lawn care industry. Did you ever get the feeling that your brain was about to burst with new, valuable information? That's about the way I've felt — but it's been a pleasant experience. In the future, we hope to get out and personally meet many of you, and to continue to improve upon our product.

Until then . . . keep reading.

*Jerry Roche*

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LAWN CARE INDUSTRY (USPS 397250) is published monthly by Harcourt Brace Jovanovich Publications Corporate and Editorial offices: 7500 Old Oak Boulevard, Middleburg Heights, Ohio 44130. Advertising Offices: 7500 Old Oak Boulevard, Middleburg Heights, Ohio 44130, 111 East Wacker Drive, Chicago, Illinois 60601 and 3091 Maple Drive, Atlanta, Georgia 30305. Accounting, Advertising Production and Circulation offices: 1 East First Street, Duluth, Minnesota 55802. Subscription rates: one year, \$15 in the United States, \$18 per year in Canada. All other countries: \$40 per year. Single copies (prepaid only): \$2 in the U.S.; elsewhere \$4.50; add \$3.00 for shipping and handling per order. Second class postage paid at Duluth, Minnesota 55806. Copyright © 1982 by Harcourt Brace Jovanovich, Inc. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher.

POSTMASTER: Send address changes to LAWN CARE INDUSTRY, P.O. Box 6200, Duluth, Minnesota 55806-9900.



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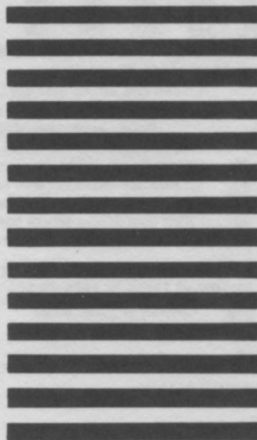
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# Winter-hardiness of transition zone bermudagrass: It's not just the cold

The most critical problem in using bermudagrass for turf in the transition zone is winter survival. From studies conducted by Dr. R. E. Schmidt and his colleagues at Virginia Tech, it was concluded that the spring recovery of bermudagrass is contingent upon the degree of multiple stresses the grass encounters during dormancy.

In addition to low temperatures, other aspects contribute to the injury of bermudagrass during this time. Certain management practices may lessen the impact of these stresses or increase bermudagrass tolerance to them. Maintaining a high-level of available potassium so that the N:K nutrition ratio is small, avoiding excess traffic and using herbicides judiciously also promotes post-dormancy regrowth of bermudagrass.

Prompting the study was the perception among Dr. Schmidt's colleagues that when bermudagrass fails to regrow in the spring, the tendency is to blame cold weather conditions exclusively. "I do not want to infer that low temperature is not a contributory factor, or even, in some cases, the prime factor in the demise of bermudagrass during the winter. But the fact of the matter is that bermudagrass often survives the coldest of temperatures that may occur where these species are generally known," he said.

Dr. Schmidt cited evidence where bermudagrass survived on experimental plots in Blacksburg while areas in Virginia east of the Blue Ridge Mountains, which are significantly warmer, reported bermudagrass loss.

## Varieties vary

Although bermudagrass varieties vary in the degree they tolerate cold temperatures, all varieties develop some resistance to low temperatures through acclimation (hardening) processes. Maximum cold hardiness generally occurs in bermudagrass during early winter and declines during late winter.

Day length, maturity, moisture content, mineral nutrition, physiological age and imposed stresses such as traffic, mowing height and pesticides influence bermudagrass cold hardiness levels. The studies conducted at Virginia Tech examine the effect of these factors, in conjunction with low temperatures, on bermudagrass' post-dormancy regrowth.

Virginia Tech's Dr. Dave Chalmers studied the influence of deacclimation, dormancy duration, and low temperatures on bermudagrass survival. In a controlled laboratory test, he found that dormant 'Tifgreen' bermudagrass rhizomes (below ground

stems) and stolons (above ground stems) did not survive when frozen to  $-4^{\circ}\text{C}$  or lower. Temperatures at or above freezing had a significantly higher percent of survival than when exposed to  $-2^{\circ}\text{C}$ , indicating that temperatures below freezing do indeed cause injury to bermudagrass.

When he deacclimated the dormant bermudagrass by placing it in a greenhouse from two to eight days before freezing, he found that

stolon bud survival was reduced only after eight days deacclimation. On the eighth day, some new green shoot growth was observed indicating some plants had broken dormancy. Deacclimation up to and including the eighth day actually enhanced the survival of the rhizome buds. Considering the fact that rhizomes are insulated by the soil in which they grow, they are less likely to be subjected to

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Dr. R. E. Schmidt

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can't afford to do it." Following the same trend that is occurring in the lawn care market, Wagatha has shifted his attention from residential plowing to commercial plowing.

On the positive side, what enabled Wagatha to take up snow removal was his decision soon after he started his Perf-A-Lawn franchise to purchase the truck he was leasing. "It cost me \$350 a month to lease my truck. It just became too expensive, especially during the off-season when it just sat under a tarp. The advantage to plowing," he added, "is that both truck and employee are kept active."

Paul Hairston of Vitalawn in Jeffersonton, KY, also has a

problem with winter carrying costs. "I'd like to figure out a way of using our trucks full time," he reports, adding that he has minimized the problem by convincing his insurance company to take off collision insurance on the trucks during the dormant winter months.

#### Cutting firewood

Another special service many lawn care businesses have tried to supplement their income in the off-season is cutting firewood. But the consensus is that it is just too hard to make a profit. Commented John Cruse, Jr. of Easy Lawn Corp. in Piqua, OH, "The customer is just paying for the wood. There is no real justification for a service markup." Some have allayed this problem by also offering stump removal service.

To say that the home heating oil business is a popular alternative is somewhat misleading. All the lawn care companies contacted in this telephone survey who are involved in it consider lawn care their alternative off-season business. The attraction to both fields, according to the survey, is the potential for overlap.

Explained Bill Wampler of Perf-A-Lawn of Michiana in LaPorte, IN, "You have trucks, the drivers, and the warehouse space." There are also tremendous advantages in following established efficient customer routes because it is conceivable that both businesses would have many of the same customers. This also helps in cutting overhead.

Virtually all the lawn care businesses contacted use the early

part of winter to repair and renovate equipment. This "preventative maintenance" is a vital part of the business, but most lawn care companies agreed that it generally takes no longer than a month, "which still leaves us with two months of useless time," added Cruse.

One Midwestern lawn care entrepreneur has put his repair time to profitable use. "While repairing my own spray equipment, I realized there was a need for this service in our market," he noted. "So I decided to start building and selling equipment. Now, it accounts for 50 percent of my business."

Wagner is considering opening a Christmas store which would sell trees and ornaments. The obvious drawback is that it, too, is seasonal.

#### Greenhousing

One of the most attractive alternatives was suggested by John Saul of Saul's Landscape and Greenhouse in Chesterfield, MO. He started a greenhouse in the off-season, and it has helped his lawn care business.

"Usually, at the beginning of the lawn care season, there is a cash flow problem," Saul said. "Money from work done in March and April doesn't normally arrive until May. The greenhouse business gave me good cash flow early in the spring. But I've had to cut back on the area being heated because fuel costs are so high."

From a professional standpoint, the advantage of these latter two alternatives is that customers would be less likely to question business background.

Some less-common ideas that have been tried include chimney sweeping and dethatching. While answering a need, dethatching suffers from the obvious restriction of being impossible as soon as the ground freezes.

#### Upgrading knowledge

Many lawn care businessmen use the off-season to upgrade their knowledge of the business. Saul, whose background is in business administration, has registered to take horticulture courses at a local agricultural school. He wants to learn how to produce more plants in his greenhouse in less space.

Lawn care employers typically use this time to train employees. Wagner insists on taking as many employees as possible on a tour of industry conventions and seminars.

"If you're going to develop as a professional lawn care company with professional employees, one thing you must do is send employees to the shows. Other than improving their knowledge, it shows that you're interested in their development and that you trust them," he said.

The difficulty in finding a lucrative alternative in the off-season finally led Richard Miller to rely on a philosophy which he now believes he should have followed since the beginning.

"I'm better off accepting a smaller profit now and devoting

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### Twin cylinder for chain saw revived

Echo, Inc. of Northbrook, Ill. has revived the twin cylinder engine for use in its CST-600 EVL chain

saw. Double cylinder engines in chainsaws were replaced by the single cylinder variety because they were too heavy and bulky. Echo's new design offers all the advantages of a double cylinder engine including increased torque while only adding a few ounces of weight.

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An oversized, wave-interference, spark-arresting muffler fits underneath the crankcase area for reduced engine noise.

The deluxe version has an electric digital display which provides (1) a tachometer to measure engine

rpm's; (2) a time meter, indicating the total number of operating hours on the saw; (3) an oil warning indicator which flashes when the saw is low on bar and chain oil; and (4) an electronic fuel gauge.

Echo has kept a single ignition system and single carburetor for easy maintenance.

Echo expects the CST-69% CST-6000EVL price to be within 15% of current high-quality saws in the 60-65cc range.

Circle no. 151 on Reader Inquiry Card

### Label extension has been approved



Label extension has been approved for Buctril herbicide, a product of Rhone-Poulenc Inc. It can now be applied on established bentgrasses, Kentucky bluegrass, fescues, ryegrass, Bermudagrass and St. Augustinegrass to control seedling broadleaf weeds.

Buctril herbicide may be tank mixed with MCPP, dicamba, MCPP and dicamba, or 2,4-D and MCPP to control a wider spectrum of weeds in established turf (except bentgrass greens).

Circle no. 152 on Reader Inquiry Card

### Compact series of tractors marketed

Mitsubishi Agricultural Machinery Co., Ltd. will be marketing a new series of compact and mid-sized tractors designed "with the American body in mind." The MT180, MT210 and MT250 series features slimmed-down hood designs for better visibility and enlarged foot space. In addition, all models have easy-to-view instrument panels complete with warning lights and safety devices.

Technical innovations on the compact (18½-hp) MT180 model include hydrostatic transmission and a ring-and-gear steering system which eliminates steering column shock while on turns.

The larger MT210 (21 hp) and MT250 (25 hp) tractors come equipped with synchromesh transmissions which allow the operator to shift through gears (nine forward and three reverse) without the feeling or sound of "gear touch."

A conveniently-located lever allows shifting to PTO (power-take-off) for added power. Other features are the water-cooled diesel engines, independent brake pedals, differential locks, silent vertical exhausts, and optional two- or four-wheel drive.

Circle no. 153 on Reader Inquiry Card

# FUNGICIDE CHIPCO® 26019 OPENS THE DOOR TO A WHOLE NEW SIDE OF YOUR BUSINESS.

To your lawn care customer, turf disease is an unsightly problem. But for you, it's business.

Unfortunately, disease control is unfinished business—unexploited profit potential—for most lawn care companies.

### THE PROBLEM WITH OTHER FUNGICIDES.

Most turf fungicides aren't up to the job. They either fail to work on the disease you're treating, or stop working long before it's time for the next scheduled spray.

So you have to choose between making extra fungicide treatments, or running the risk of call-backs.

Now, you have a better choice: CHIPCO 26019 turf fungicide.

### CHIPCO 26019 LASTS LONG ENOUGH TO FIT INTO YOUR EXISTING SCHEDULE.

Now you can effectively control a customer's lawn disease problem for a whole season with CHIPCO® 26019 fungicide. Just add it to your spring feeding application and summer weed sprays. CHIPCO 26019 fits into your busy schedule. And because of its long-lasting effects you won't have to worry about disease-related call-backs, either.

### CHIPCO 26019 PUTS AN END TO LEAF SPOT, FUSARIUM BLIGHT AND OTHER DISEASES.

CHIPCO 26019 fungicide gives outstanding performance against the three diseases you're most likely to encounter—Helminthosporium Leaf Spot, Fusarium Blight and Brown Patch—as well as



on Dollar Spot and Helminthosporium Melting Out. And a fall application will also take care of the winter diseases—Fusarium Patch, and Grey and Pink Snow Mold—allowing the lawn to get off to a healthy start in the spring.

### CHIPCO 26019 IS EASY TO WORK WITH.

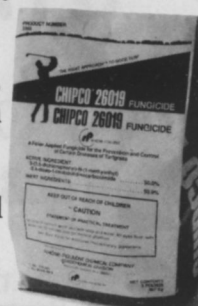
CHIPCO 26019 offers other features a lawn care business needs. Low toxicity. No phytotoxicity. And no mixing problems with most turf pesticides and fertilizers.

### BUILD YOUR BUSINESS WITH CHIPCO 26019.

There's money to be made in disease control, and CHIPCO 26019 makes it practical for you to turn that extra profit with control that fits

into your existing program. And when you buy CHIPCO products, you get to choose from a selection of business aids to help make the job easier.

For details on how to open this whole new side of your business, see your CHIPCO distributor, where you'll find the complete line of CHIPCO turf care products, or fill in and return the reply card. Rhône-Poulenc Inc., Agrochemical Division, Monmouth Junction, NJ 08852.



### CHIPCO® 26019 TAKING CARE OF BUSINESS.

Circle No. 115 on Reader Inquiry Card



# TOOLS, TIPS, TECHNIQUES

## Time to protect underground systems

With the cold weather of winter ready to set in, protection of underground turf irrigation systems is a major priority. The best defense against damage due to freezing is taking precautionary preventive steps before the thermometer plummets, according to Burton B. Ross, Extension agricultural engineer who wrote about the subject in Virginia Tech's "Turf Topics."

The first step toward winterization, according to Ross, is locating the irrigation drawing or blueprint.

There are two basic approaches to drainage, depending on the type of sprinkler system.

to page 29

## OFF-SEASON from page 10

more time to professionalizing my lawn care business," he says. For Miller this means putting employees through a comprehensive training program now so that "we'll be able to provide the best service when the season starts."

For Clarence Davids, Jr., who runs Clarence Davids and Son, Inc. with his father in Blue Island, IL, the off-season is the "most valuable time we have. We look at where we've been and plan on where we should go."

One thing Davids has done is to go back and check the company's field worksheets to determine if spray volume estimates actually matched applications. He found out that they were consistently

overspraying and reasoned, after talking with employees, that it was because of the wind. "We were spraying too low to the ground and wasting chemicals," he added.

## Color brochure

Another improvement Davids made in the off-season was printing a full-color brochure. "We re-evaluated our promotions and decided on a bolder brochure. It really did the trick," said Davids, who also uses the time to target mailings and do extensive comparison shopping.

One residential landscaper uses the time to visit all his customers' lawns to check out problems firsthand.

Robert Ottley of One Step Lawn care in Rochester, NY, plans to use the off-season this year to target his direct mail advertising with the help of a new computer system, but the computer has not been cooperating. "We were supposed to be on this thing last February," he complained. "Now we are beginning to make progress though."

Lawn care businesses typically use this time doing phone solicitations for new business, many beginning as early as the day after New Year's.

## Types of employees

One of the more controversial outgrowths of the off-season problem is the type of employee lawn care companies attract (see last month's LCI). While lawn care employers like to develop devoted professionals, the only kind of people who'll accept seasonal work tend to be poorly motivated and uneducated. Contributing to the problem is a desire on the part of some businessmen to exploit the situation. One lawn care employer contacted for this survey admitted that he tries to keep employee "esprit de corps" down to keep wages and expectations low.

Economic necessity, however, is hard to overcome. Wagatha explained that he would not be able to do snow removal in the off-season if he had to hire somebody.

Wagner, however, believes that he has solved the profit versus professionalism debate.

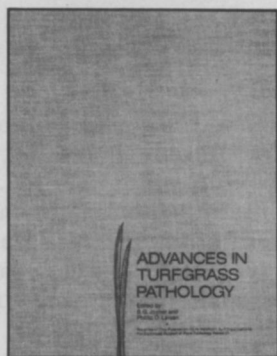
"Employers in this business are looking in the wrong place for their employees," Wagner said. "We generally hire kids in the high school-college age range who have an interest in the business. They offer the advantage of working for low wages and accepting winter unemployment while also being motivated to return consecutive years to develop professionally. Many of them attend agricultural schools at Penn State and West Virginia."

"We also hire older people in their fifties who have been given sweeteners by local steel mills to retire early. They take a strong interest in the business and bring stability."

On the subject of unemployment compensation, one lawn care employer feels that the benefits outweigh the costs. "It's a way of having the government subsidize our business," he confided. — Chris Murray

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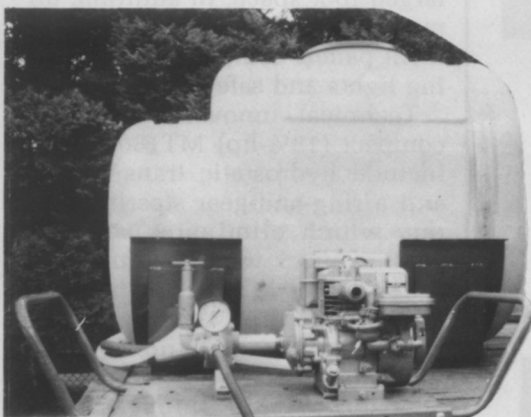
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LCI 122

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maintenance lawns generally develop a serious thatch problem within four to six years. Thatch is an organic layer that develops between the soil surface and the green vegetation. The development of this thatch along with high nitrogen fertilization causes very shallow root systems. With short root systems, the turf is less hardy during the summer heat and drought periods.

Aggravating this delicate trade-off is the fact that lawn care programs are designed to eliminate weeds and insects. Unfortunately, reducing these problems promotes thatch buildup. Adds Dr. Powell, "The more maintenance that is applied to a lawn, the more is required."

In light of this dilemma, Dr. Powell believes the success of the lawn service company's program almost always depends upon the homeowner's reaction to these problems. To alleviate them, Powell recommends some maintenance tips:

- (1) If the homeowner mows his lawn at a height below two inches during the summer, scalps the lawn during the summer or continuously mows his lawn with a dull mower blade, the lawn will never be high quality.
- (2) If the homeowner doesn't water the lawn during a hot, dry period, then the lawn will degenerate much faster than if it had never been maintained by chemicals or fertilizers.
- (3) If a 1/2-inch to 3/4-inch thatch layer develops, then the homeowner must dethatch the lawn or the lawn will degenerate over a period of two to three years.
- (4) If the lawn service company applies an insecticide for grub control for that material to be active, the homeowner must irrigate the lawn to move the insecticide to the grub problem. Without watering the lawn the grubs will never be controlled.
- (5) Since the lawn service company does not generally see your lawn for one or two months between each application, it is important for the homeowner to call the company and report any unusual disease or insect pattern that may be developing.

When selecting a lawn care company, Dr. Powell has the following advice:

- **Find out the company's** reputation within your community. The reputable companies are interested in repeat business.
- **Ask the salesman** or applicator how much training they have received. Some companies have been known to initiate business or hire people with no previous experience or educational background in lawn care, pesticide application, agronomy or horticulture.
- **Be careful of oversale.** Be-

cause Kentucky is located in the transitional climatic zone where it is too hot for cool season grasses and too cold for warm-season grasses, a typical lawn has mixed grasses and attendant weed problems. *There is no such thing as a weed-free, trouble-free lawn in Kentucky.*

- **Cheapest is not always best.** The companies that have no previous experience or education in lawn care can charge less than those who are continuously trying to upgrade their employees and hire professional people. Almost anyone can drive a truck and apply pesticides, but most people should not want "just" a pesticide application. You want the correct pesticide

applied at the correct rate for a specific pest problem.

- **Seek a company** that offers consultation to the homeowner. This consultation may involve a telephone conversation or visit by the lawn applicator or agronomist. Since the summer period is a very critical time for Kentucky lawns, we have continuously encouraged lawn companies to offer consultation services to their customers and offer spot treatments rather than general summer treatments.
- **More is not always better.** Increasing the number and rate of pesticide applications does not necessarily improve insect control. If a serious insect problem is not present,

then an insecticide application may only kill predators to future insect populations.

- **Observe the lawn care company.** If you see a company in your neighborhood spraying a broadleaf weed herbicide on lawns when the wind is blowing 25 mph or it is raining, or if you see a company fertilizing a lawn and the temperature is between 90 and 100 degrees, then you should certainly question their professionalism.
- **Remember that a lawn** maintenance program is a JOINT PROGRAM between you and the company. If you do not intend to water and mow your lawn correctly, then you are better off without professional service.

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# INSIDE THE INDUSTRY

## Lawn care supplier marketplace

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Manhasset, NY 11030  
212-739-0701  
Seed

Ag Instruments  
2154 N. Fine Ave.  
Fresno, CA 93727  
209-251-5563  
Injectors

Agri-Zyme, Inc.  
P.O. Box 43  
Larned, KS 67550  
316-285-2125  
Soil activator

Agro-Chem, Inc.  
11150 W. Addison  
Franklin Park, IL 60131  
312-455-6900  
Equipment, chemicals

**Agro-K Corp.**  
5750 Main St., N.E.  
Minneapolis, MN 55432  
612-571-6555  
Anti-transpirants

**Agrotec Services, Inc.**  
Box 215  
Salisbury, MD 21801  
301-749-8496  
Spray equipment

Alden Enterprises  
9852 E. Triangle St.  
S. El Monte, CA 91733  
Tree ties

Ametek, Plymouth Products Div.  
502 Indiana Ave.  
Sheboygan, WI 53081  
414-457-9435  
Irrigation equipment

American Fluoride Corp.  
17 Huntington Place  
New Rochelle, NY 10801  
914-633-7005  
Chemicals

American Honda Motor Co., Inc.  
100 W. Alondra Blvd.  
Gardena, CA 90247  
213-321-8680  
Mowers

American Pelletizing Corp.  
P.O. Box 3628  
Des Moines, IA 50322  
515-278-5900  
Limestone

Amerind MacKissic, Inc.  
Box 111  
Parker Ford, PA 19457  
215-495-7181  
Sprayers

**The Andersons**  
P.O. Box 119  
Maumee, OH 43537  
419-893-5050  
Fertilizers

**Aquatrols Corp. of America**  
1432 Union Ave.  
Pennsauken, NJ 08110  
609-665-1130  
Wetting agents

Ariens Co.  
655 W. Ryan St.  
Brillion, WI 54110  
414-756-2141  
Mowers

Arts-Way Mfg. Co.  
Armstrong, IA 50514  
712-864-3131  
Mowers

B & G Equipment Co.  
Applebutter Road  
Plumsteadville, PA 18949  
215-766-8811  
Sprayers

**Balcom Special Products**  
P.O. Box 1287  
Greeley, CO 80632  
303-356-4400  
Chemicals

**BASF Wyandotte Corp.**  
100 Cherry Hill Rd.  
Parsippany, NJ 07054  
201-263-3907  
Herbicides

Batrow, Inc.  
P.O. Box 276  
Short Beach, CT 06405  
203-488-2578  
Irrigation Equipment

Baytech, Inc.  
4480 126th Ave., N.  
Clearwater, FL 33520  
813-576-3444  
Tanks

Bermuda King Co.  
Rt. 2, Box 20  
Okarche, OK 73762  
405-263-7389  
Bermuda spriggers

Best Products  
P.O. Box 198  
Lathrop, CA 95330  
209-858-2511  
Fertilizers

**BFC Chemicals, Inc.**  
P.O. Box 2867  
Wilmington, DE 19805  
302-575-7867  
Fertilizers

Bock Products, Inc.  
P.O. Box 1208  
Elkhart, IN 46515  
Trailers

Bluebird International  
2778 S. Tejon  
Englewood, CO 80110  
303-781-4458  
Aerators

**Bouldin & Lawson, Inc.**  
Route 10, Box 208  
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615-668-4090  
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**Bowie Industries**  
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817-872-1106  
Hydromulchers

**Briggs & Stratton Corp.**  
Milwaukee, WI 53201  
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Brinly-Hardy Co.  
P.O. Box 1116  
Louisville, KY 40201  
Aerators

Brouwer Turf Equipment, Ltd.  
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Mowers

**Broyhill Co.**  
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Dakota City, NE 68731  
402-987-3412  
Sprayers

**Bulkem, Inc.**  
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Normal, IL 61761  
309-454-2469  
Chemicals

Bunton Co.  
4303 Poplar Level Rd.  
Louisville, KY 40232  
502-459-3810  
Mowers

**E. F. Burlingham & Sons**  
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Canada L8G 3Z1  
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Fertilizers, chemicals

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Fertilizers, chemicals

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914-428-2517  
Fertilizers

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Tree insecticides

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219-774-3339  
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Crown Chemicals  
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Chemicals

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213-349-8367  
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Moline, IL 61265  
309-752-4459  
Tractors, mowers

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515-274-1561  
Nozzles

Desco Chemicals, Inc.  
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Nappanee, IN 46550  
219-773-7781  
Fertilizers, chemicals

**Diamond Shamrock Corp.**  
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Cleveland, OH 44114  
216-694-5000  
Chemicals

Dice Decal Corp.  
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Middlebranch, OH 66452

Dixon Industries, Inc.  
Box 494  
Coffeyville, KS 67337  
316-251-2000  
Mowers



Doggett Corp.  
Cherry Street  
Lebanon, NJ 08833  
201-236-6335  
Fertilizers

**Dow Chemical, U.S.A.**  
P.O. Box 1706  
Midland, MI 48640  
517-636-0968  
Chemicals

Du Maurier Co., Inc.  
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804-627-2255  
Pocket microscopes

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302-774-8895  
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Samuel Moore Operations  
Synflex Division  
Mantua, OH 44255  
216-274-3171  
Hose

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Northbrook, IL 60062  
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Edison Hydro Control Chemicals, Inc.  
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Soil additives

**Elanco Products Co.**  
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317-261-3000  
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Emerald Isle, Ltd.  
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Ann Arbor, MI 48103  
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**Encap Products Co.**  
P.O. Box 378  
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312-593-6464  
Guns, hoses

Environmental Stabilizers International, Inc.  
P.O. Box 1962  
Tacoma, WA 98402  
206-383-4971  
Soil conditioners

Estech, Inc.  
P.O. Box 1996  
Winter Haven, FL 33880  
813-294-7793  
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**Excel Industries, Inc.**  
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316-327-4911  
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Lebanon, IN 46052  
Sprayers, vacuums

**Feldmann Engineering & Mfg. Co., Inc.**  
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414-467-6167  
Aerators

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Watertown, SD 57201  
605-886-5137  
Tanks

Finn Co.  
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513-871-2529  
Spray trucks

Flexitube International Corp.  
P.O. Box 292  
Willow Grove, PA 19090  
215-674-8036  
Hose

FMC Corp.  
Agricultural Machinery Division  
5601 E. Highland Dr.  
Jonesboro, Ark. 72401  
501-935-1970  
Spray trucks, mowers

FMC Corp.  
Outdoor Power Equipment Div.  
215 S. Park St.  
Port Washington, WI 53074  
414-284-5521  
Mowers, tractors

Ford Tractor Operations  
2500 E. Maple Rd.  
Troy, MI 58084  
313-643-2553  
Tractors, mowers

Forshaw Chemical Co.  
650 State St.  
Charlotte, NC 28208  
704-372-6790  
Chemicals

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2810 Morris Ave.  
Union, NJ 07083  
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Gilson Brothers Co.  
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414-893-1011  
Mowers

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LCI 122



IPAA from page 29  
of biology's newest "in thing,"  
Integrated Pest Management.

Collman was careful to delineate the consequences of non-pesticide types of pest management: tolerance of an inevitable level of pest damage, recognition that plantings "in the back forty" can be allowed to sustain more pest infestation than foreground plantings, increased need for pest-discouraging cultural practices and associated costs, and the increased likelihood of occasional pest population increases that will require chemical pesticide use to prevent extensive damage from spreading.

"Some IPM programs are touted by enthusiasts," Collman said, "and many are seen as more successful than they really are, but I think that a well-designed program could be carried out if people would start reading the literature and look into IPM in a scientific way."

The final IPM panelist, Mike Greene of Sohner Tree Service of San Anselmo, CA, is a specialist who has looked into IPM in a scientific way and helped develop a commercially successful program that may represent the wave of the future for lawn care and ornamental shrub protection in densely populated urban areas.

Green described how Sohner Tree Service, in business for 50 years, went from a straight private tree spray service, usually visiting clients once a year and providing yard inspection, consultation and costs estimates without charge, to a fully integrated pest management service for homeowners.

"In 1979, the company's vice-president took stock of the business and decided that we needed to establish a more professional image," Sohner said. "We were already the largest tree service in the country, but some of our crews were more efficient than others, and we recognized that pest control needs changed from year to year with insect populations. So we began a program of Saturday training sessions bringing in various experts to tell us how to improve our service."

#### Expert advice

One of the experts came from the environmentalist John Muir Institute and recommended a no-pesticide program. Sohner rejected that idea, but was interested in some of the Institute's Integrated Pest Management techniques, and signed a contract to implement the program, hiring-on two new specialists, one of whom was Greene. After exploring the possibilities, Sohner converted its private practice from an automatic spray program to an automatic monitoring-and-spray-if-necessary program. Monitoring has become the backbone of Sohner's new and vastly successful program.

After learning the life cycles of all the pests in their service area, Sohner offered this program: technicians annually appear on the client's property, inspect for pests, environmental and cultural practices, prioritize the problems and

make recommendations to the client.

#### Three factors

Sohner treats three factors: nuisance problems from the pest itself, aesthetic injury such as leaf damage resulting in an unsightly tree, and actual tree damage due to any cause.

If clients are willing to tolerate some pests in trees, minimal or narrow-spectrum spraying might be done. If the client wanted no pests, or during severe outbreaks that brought their kids home from school with a hundred caterpillars on their shoulders (and cars could not get up hills from slipping on smashed caterpillar masses) then broad-spectrum pesticides are applied. Careful targeting, selective pesticide use, and proper

cultural practices are hallmarks of this program, pointing up one definition of Integrated Pest Management: the right control on the right pest in the right amount at the right time in the right place.

Sohner's IPM program has also yielded an unexpected political benefit: when antipesticide activists gather at public hearings to press for total chemical bans, Sohner spokesmen can get up and say, "We're using pesticides in the most judicious way consistent with effectiveness. Don't tie our hands with simplistic solutions," and they can say it with complete credibility.

Sohner's practical and commercially successful operation casts some light on pesticide applicators' concerns about self-policing as a strategy to avoid

over-regulation by government. One veteran applicator left at the end of the I.P.A.A.'s "Pesticides, People, Politics" Convention grinning mischievously. When asked how he could grin after such a serious gathering, he replied:

"Blame it on Greene. I kind of like the idea of being paid for all those hours I've spent giving advice." — Ron Arnold

Ron Arnold is a communication consultant and writer whose eight-part series, "The Environmental Battle," won the American Business Press Jesse H. Neal Editorial Achievement Award in 1980. His new book, "At the Eye of the Storm: James Watt and the Environmentalists," has just been released.

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**MARKETPLACE** from page 20

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**WINTER-HARDINESS** from page 7

drastic fluctuations in temperature than the stolons.

"Based on these data," said Dr. Schmidt, "it appears that short warming periods during the winter will not likely cause an increase in winter injury. On the other hand," he added, "Dave found that the longer the bermudagrass remained dormant after freezing, the lower the viability of both rhizome and stolon buds."

**Regrowth patterns**

A complete kill of the stolon buds was achieved when the grass was frozen at  $-2^{\circ}\text{C}$  and, subsequently, kept dormant for 90 days. Survival rates increased with shorter dormancy periods or lower temperature treatments. "Therefore," concluded Dr. Schmidt, "it may be assumed that cold springs, or other conditions that may delay bermudagrass spring regrowth may be as detrimental as exposure to low temperatures."

In the debate over whether or not nitrogen fertilization shortly before bermudagrass becomes dormant will reduce chances for survival over the winter, the study concluded that high nitrogen nutrition will indeed reduce early spring growth, but, with ample potassium nutrition, spring growth with nitrogen fertilization was enhanced.

The necessity that nitrogen and potassium nutrition be balanced prior to bermudagrass dormancy was demonstrated in a field study. In this study, the interaction of traffic and nitrogen and potassium nutrition on spring regrowth of 'Midiron' bermudagrass was tested. The results showed that the best spring recovery was obtained with heavy potassium fertility regardless of the rate of nitrogen treatments. Little difference was observed between the higher and lower rates of nitrogen. "However," claimed Schmidt, "under heaviest traffic stress, the best spring recovery was obtained with the lowest nitrogen and high potassium nutrition, indicating that when bermudagrass is placed under severe stress during the winter, a smaller ratio of N:K is beneficial."

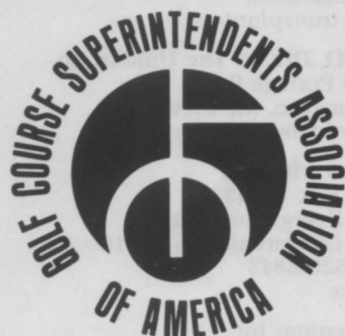
**Better density**

During this part of the study, some agronomists expressed the concern that a late summer or early fall application of nitrogen may increase *Poa annua* infestation. Commented Dr. Schmidt, "We found that *Poa annua* populations were largest in bermudagrass fertilized with the lowest rate of nitrogen. With heavy nitrogen fertility, the bermudagrass had better density which inhibited the disease's germination."

Traffic applied before dormancy, when the bermudagrass was able to partially recover from the injury, produced better post-dormancy regrowth than when the traffic was applied after the turf became dormant. As might be

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expected with heavier traffic, less post-dormancy regrowth was obtained. In all cases, injury imposed by the traffic was off-set to a degree with the potassium fertilization.

To test the theory that certain preemergence herbicides reduce bermudagrass post-dormancy regrowth, Virginia Tech initiated a field experiment in the fall of 1978. The experiment tried to determine if fertility management could negate the detrimental effects of preemergence herbicides on 'Midiron' bermudagrass. "Unfortunately," said Schmidt, "the subsequent winter was mild and we were not able to obtain the stress of low temperatures. But we were able to achieve a decrease in spring regrowth when Dacthal was applied."

Neither nitrogen nor potassium fertilization in this experiment affected post-dormancy regrowth. However, phosphorus fertilization produced the best post-dormancy regrowth for the control as well as the turf treated with Dacthal.

#### 37% fewer roots

Another aspect of the preemergent herbicide testing was determining if they reduce bermudagrass resistance to low temperatures or if the injury occurs when the new post-dormant roots come in contact with the chemical. In a greenhouse experiment, 'Tifway' bermudagrass was treated with herbicides six weeks before the grass was acclimated to cold, and subjected to below freezing temperatures. He found an average of 37% less roots than the control when washed free of soil after freezing and transplanted to non-treated soil.

When the bermudagrass was treated similarly but transplanted to soil treated with the herbicide six weeks before freezing, a 73 percent reduction in roots was obtained. Plants treated one week after freezing yielded 84 percent less roots than the control. These results indicate that preemergence herbicides absorbed by bermudagrass prior to dormancy contributed to viability reduction when subjected to low temperatures.

However, more injury occurred when the new post-dormancy roots were permitted to come into contact with the herbicide. The severest injury occurred when the herbicides were applied immediately prior to the bermudagrass breaking dormancy.

#### Separate experiment

In a separate experiment, more post-dormancy growth was obtained when herbicidal dosages were reduced to 1/2 the recommended rate or when the plants were cooled to +2 C rather than frozen at -3 C. These data confirmed that preemergence herbicidal applications reduced the bermudagrass cold temperature tolerance and are more phytotoxic when applications are made immediately prior to dormancy break.

There is some evidence that dosage recommendations of cer-

tain preemergence herbicides are larger than required to control the target plants, but are made to insure herbicidal effectiveness for a long period of time. "To reduce the effect that these chemicals have on bermudagrass subjected to low temperatures," advised Schmidt, "it may be possible to apply the herbicides at lower rates in split applications." He added, "Another aspect that may be considered is to delay the spring application until after the bermudagrass has broken dormancy and the new root system has grown several centimeters below the soil surface."

The degree of influence that preemergence herbicides have on bermudagrass cold tolerance varies between varieties. This is well demonstrated in a study in which

two cold resistant bermudagrasses were used. 'Midirons' cold resistance was reduced less than a Virginia Tech experimental selection when preemergence herbicide was applied either before dormancy or immediately prior to dormancy break.

In addition to implementing certain management practices previously stated, R. E. Schmidt suggests an early spring vertical mowing to off-set cold temperature stress. "It will reduce the competitive effect of overseeded grass and permit solar radiation to warm the soil more rapidly," he added. Also, early fertilization with a complete fertilizer will stimulate post-dormancy bermudagrass photosynthate and root development.

## DATES

**Southeast Pennsylvania Turf School and Trade Show**, January 11-12, 1983, Westover Country Club, Jeffersonville, PA. Contact: Keith Zanzinger, Chester County Extension Service, 235 West Market St., West Chester, PA 19380. (215) 696-3500.

**Northeastern Pennsylvania Turf and Grounds Maintenance School**, February 22-23, 1983, Luzerne County Community College, Conference Center, Nanticoke, PA. Contact: E. V. Chadwick, Luzerne County Extension Service, Court House Annex, 5 Water St., Wilkes-Barre, PA 18702. (717) 825-1701.

**Pennsylvania Turfgrass Conference and Trade Show**, February 28-March 3, 1983, Hershey Lodge and Convention Center, West Chocolate Avenue & University Drive, Hershey, PA. Contact: Christine E. King, executive secretary-treasurer, Pennsylvania Turfgrass Council, 412 Blanchard St., Bellefonte, PA 16823. (814) 355-8010.

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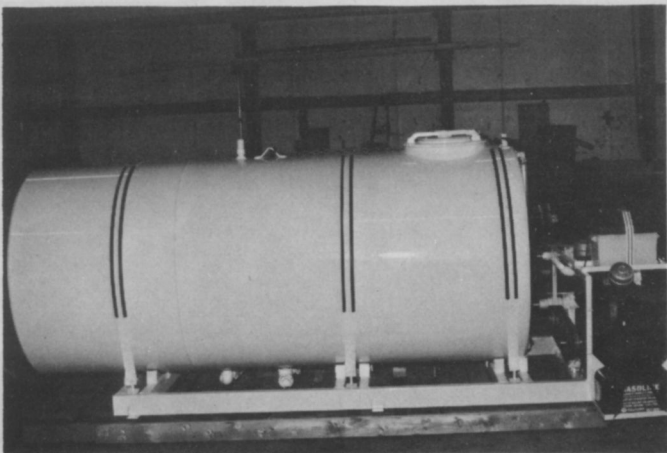
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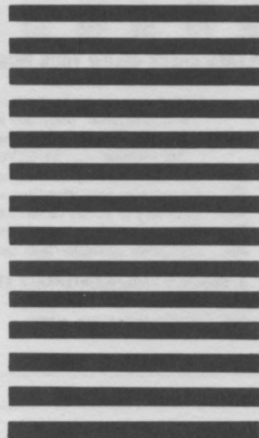
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three best periods for an annual three treatment program are March-April, September-October, and November-December. However, this leaves May through August without any treatments. Crabgrass, insect and disease are likely to show up during this period, creating a great deal of consumer concern. Moreover, conventional insecticide applications in March-April are not effective.

The study also shows that May and June are too late for preemergence herbicide. Therefore, treatment is necessary in March and April. Dr. Hall adds it is possible for the early spring application to straddle from mid-March to mid-May.

Fertilization during the March-April time period in Virginia is not advisable unless a slow-release product is used. "Urea formaldehyde, Isobutylidenediurea, or a very slow sulfur-coated urea might delay long enough to not promote spring growth," warned Dr. Hall.

#### Four, five treatments

The four treatment program raises the question of when the insecticide should be applied for best results. Obviously, this will depend on when insects are most active in the area under consideration. Broadleaf herbicide applications may most effectively straddle the April-May time frame. "Again," advises Dr. Hall, "any fertilizer applied in March and April should be extremely slow release to avoid overstimulation of the turf." A half rate application of preemergence herbicide is desirable in May-June to provide season long crabgrass control.

The five treatment annual program does provide for fairly adequate management of most lawns. Preemergence herbicides can be applied in March and April because a half rate application can be applied in July and August to provide full-season crabgrass control. "The repeat insecticide in July and August should be based upon need," concluded Dr. Hall.

In many instances the consumer desires an instant result from the application he has paid the lawn maintenance company to make. Added Dr. Hall, "This forces the lawn company into using perennial ryegrasses or other quick germinating turfgrasses that do not have the highest potential for long term turf quality."

The desire for instant results also often leads to the excessive application of soluble nitrogen fertilizer in the spring to keep customers happy. In the transition zone this increases the probability of poor summer turf quality.

"Another common misconception occurs when the homeowner is faced with a pest problem," observed Dr. Hall. "He often expects the insecticide will not only control the insect but magically make the affected area green again."

Since the homeowner has control over factors such as height and

frequency of mowing, water application, leaf raking, and clipping removal, the effectiveness of any lawn care maintenance company's program is dependent on the homeowner's input. Added Dr. Hall, "If he doesn't cooperate, the best lawn service programs are likely to fail." His advice is for all lawn care companies to develop strong educational programs convincing homeowners of their importance in helping produce quality turfgrass.

#### On chemicals . . .

On preemergent herbicides, he believes the best ones available still leave the likelihood of crabgrass escapes.

On fungicides and pesticides, the 45 to 60 day time period required for application of any single treatment means that, in most instances, their appropriate use is ruled out. He added, "There is an extreme need for long term and effective residual fungicide and insecticide materials." Dr. Hall hopes for the development of engineering or chemical technology that will allow for the use of low volume concentrate because it would "reduce total volume application requirements and costs."

#### One problem

One pervasive problem in the lawn maintenance industry is excessive thatch buildup. Dr. Hall

thinks of it as "the cancer of the lawn maintenance industry." In those areas where preventive thatch management is not incorporated in lawn maintenance programs, thatch will build up and eventually lead to a decline of the turf through either increased insect or disease activity.

Referring to the poor genetic potential for quality turfgrass development in the transition zone of the United States, Dr. Hall recommends new fine-bladed tall fescue varieties and heat-tolerant Kentucky bluegrasses.

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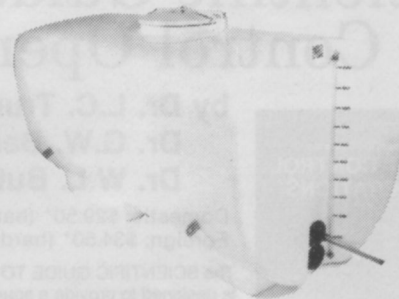
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## TOOLS, TIPS & TECHNIQUES from page 14

For quick-coupling systems, the principle of gravity should be used. You should open all drains at the low points of the system. (Leave them open all winter.) Then, beginning at the pumphouse, insert sprinklers at the high points to open the quick-coupling valves. After the unit is drained, the quick-coupling valves must be closed properly.

Automatic control systems should be blown out with an air compressor. For each branch of the mainline, sprinkler outlets should be opened, beginning at the pumphouse, until all water is purged. The mainline and laterals can then be cleared by beginning back at the pumphouse and opening drain valves slowly, checking to see the air and no water escapes.

All drains on the discharge side of the pump should then be opened. The volute casing should also be drained by removing the bottom plug or opening the drain cock. All bearings which normally require lubrication should be greased and any exposed metal parts should be protected with a lubricant to prevent corrosion.

The suction line and foot valve must then be protected.

## IPAA from page 1

State University in California, set the tone for the convention during a press conference when he told why he became an outspoken participant in today's "chemical wars." "I'm an entomologist by training, but I became interested in pesticides because of the lack of credibility of certain scientists who make claims about them that are not justified by facts. It's been like a Sherlock Holmes detective story trying to track down the truth."

Edwards recited a litany of distortion that most in the pesticide industry will recognize: studies of DDT claiming to show that the insecticide causes eggshell thinning in birds, when the scientists conducting the test knew that the

calcium content — vital to eggshell formation — had been reduced in the birds' diet at the same time DDT was added. And that other DDT tests using normal calcium level in birds diets show eggshells actually thickening.

Yet scientists including Rachel Carson in her "Silent Spring" chose to ignore those facts and raise the public alarm over possible extinction of all birds that led to the 1972 ban on DDT in the U.S.

Edwards also noted that even 10 years after that ban, we are still seeing articles denouncing DDT and perpetuating misinformation. He feels this is part of an environmental campaign to stop the export of DDT to developing nations where it is used to control malaria and increase food production.

"This comes down to trying to regulate the population in other nations," Edwards asserted, "by withholding vital disease-control and food-production technology." He went on to give similar examples of distortion involving endrin, malathion, 2,4,5-T and other pesticides.

## Misinformation

Jim Ely, President of the Washington State Pest Management Alliance, described the impact such misinformation can have in the political arena.

"While the 6,600 pesticide applicators in New Jersey were quibbling over whether they should organize to defend pesticide use," Ely said, "the Oregon-based Northwest Coalition for Alternatives to Pesticides (NCAP) slipped in, helped establish a New Jersey Coalition for Alternatives to Pesticides (NJCAP), which quietly lobbied a devastating law through the legislature. Elaborate and expensive pre-notifications of all restricted-use pesticide applications, whether for lawn care, ornamental tree and shrub protection or crop pest control, are now required."

"Applicators must mount a publicity campaign to let the public know of the program, and then respond to all who want details of every spray job, by mail and in person. The new law is estimated to add \$24.50 to the cost of each home yard application, which now runs an average of \$40 to \$60. With half a million such jobs annually, the economic impact on homeowners and the industry will be astronomical."

Ely suggested that industry-citizen alliances such as his are a key answer to the antipesticide movement. Ten such state-wide organizations recently met in Denver for the first time, he said, to get acquainted and attempt to coordinate national strategy.

## 'In' thing

Sharon Collman, Washington State University Co-op Extension entomologist, expanded the focus with her slide presentation, "IPM Across the Nation." Collman's travels to New York's Cornell University at Ithaca, to San Diego, Dallas and elsewhere served as the base for an in-depth examination

to page 19

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