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MOWING

A Profile of Industry Buying Habits Plus Marketing Tips

ALSO IN THIS ISSUE:
STRIPE SMUT CONTROL
WHAT'S HAPPENING IN NEW YORK?
POSTING/PRE-NOTIFICATION UPDATE



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ALA

MAY 1988
VOLUME 9, NUMBER 5

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COVER

Mike McFrederick, a foreman from Grounds Work Maintenance Co., Westlake, Ohio, operates a Hustler 25 mower with an 18 horsepower, twin-cylinder engine at Old Orchard Condominiums. Turn to page 26 for the results of ALA's 1988 mower survey and a report on the buying habits of mowing professionals.

(Cover photo by Barney Taxel)

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INSIDE STORY

A four-person pesticide bureau in New York's Department of Environmental Conservation is gradually changing the lawn maintenance industry as we know it today.

A slew of rules and regulations, apparently designed to protect the environment and the public, are just months from being implemented. The proposed regulations constitute the most strict pesticide regulations ever written by a state agency, and may be just the tip of the iceberg for LCOs in that state.

The situation only becomes more difficult when it is apparent that the problem will not contain itself to New York. As Director Marilyn DuBois and the rest of the DEC pesticide bureau sit in their offices and write tough laws without any regard for the industry, the rest of the country is watching.

There are 32,000 certified applicators in New York — 17,000 commercial and 15,000 private applicators, yet rules to regulate the lawn care industry are being written by a few.

DuBois admits she has received a number of inquiries from other states concerning



New York's regulations, but said she's first concerned with protecting the citizens of New York. "We don't run our program on the basis of being a role model. We run our program on the basis of what we see is the need to protect the people of New York and the environment of New York."

There have been questions, however, over the amount of protection the public needs

or desires.

LCOs who work daily with the public say they haven't had much of an opportunity to state their concerns or their opinions over what is needed to better regulate the industry. Most LCOs possess a willingness to comply, but are at a loss because they've been kept in the dark.

One member of the DEC, who's questioned how the more strict regulations will be enforced, said that it's only a small number of firms that are making the situation difficult for the rest — a situation which won't change once new rules and regulations are set in place.

The situation is a difficult one for the industry. To see how LCOs are tackling it, turn to page 30.

There's plenty more to read in this issue including our 1988 mower survey and marketing tips, as well as the second of our three-part series on thatch.

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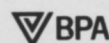
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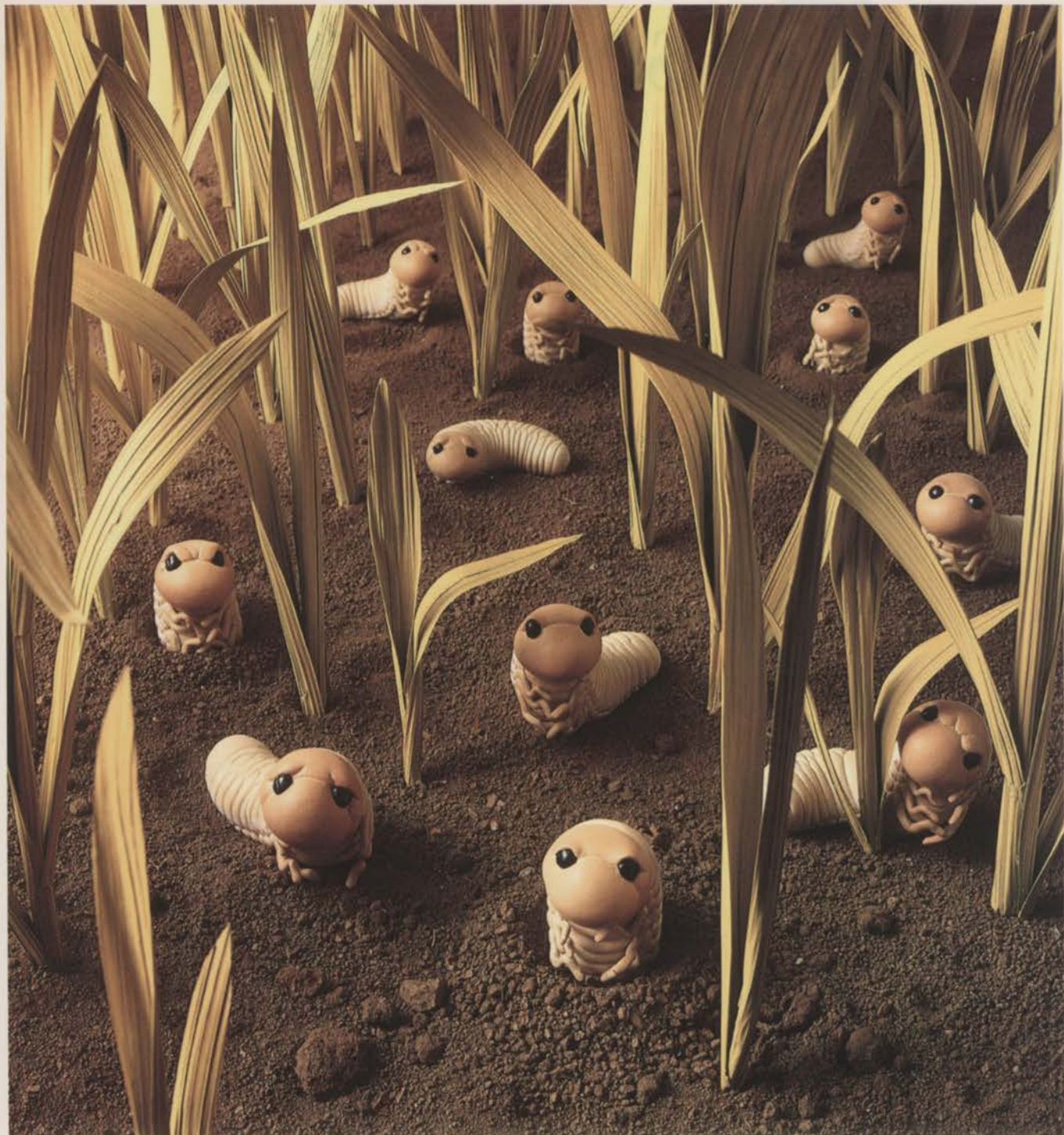
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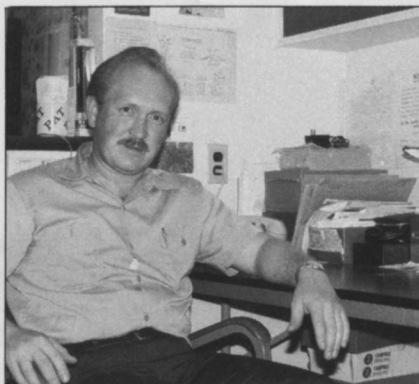
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VIEWS ACROSS THE INDUSTRY

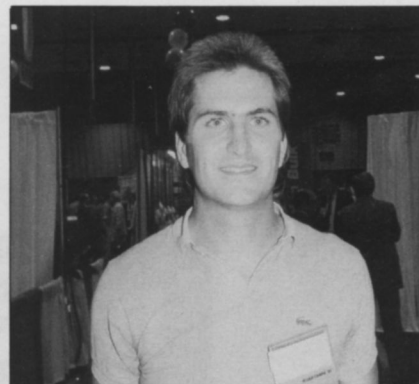
DO YOU OFFER DETHATCHING SERVICES?



"Yes, we do offer dethatching services. We started with it mainly because of customer demand, along with doing some supplemental work to help out when we opened our business. This will be the fifth year now that we've offered dethatching services. It's not necessarily a big percentage of our business. I would say it would probably be about 25 percent." — *Glen Greene, owner/operator, Greene's LawnCare Service, Harrison, Ohio*



"We've always aerated but we never really got into dethatching because of the labor involved. If somebody's interested, we give them a landscaper's name in their area. We aerate lawns on a regular basis and apply lime. Most of the lawns probably don't have to be thatched. Probably only about 5 percent of our customers know the difference between aeration and thatching." — *Edmund Banghart, president, Lawn Partners, Rahway, New Jersey*



"We don't offer power raking or dethatching as such anymore. We'll still do it if the customer requests it and there's a real need. We've got a thatching machine but we've found over the years that too much dethatching or power raking tends to do more damage than good. We try to use our biological controls before we resort to mechanical control." — *James Zapushek, lawn & landscape care manager, Getz's Edgemor Nurseries, Morton, Illinois*

CALENDAR

May 18

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

July 10-12

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

July 11

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

July 12

Sports Turf Seminar and Field Day, co-sponsored by the Professional Grounds Management Society and the Sports Turf Managers Association, College of the Holy Cross, Worcester, Mass. Contact:

PGMS, 12 Galloway Ave., Ste. 1E, Cockeysville, Md. 21030; 301/667-1833.

July 25-27

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

July 26-28

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

Aug. 12-15

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

Oct. 22-24

Third Annual Landscape Exposition, Nashville Convention Center, Nashville, Tenn. Contact: Becky Lerew, show

manager or Mary Sue Christoffers, sales manager at 203/853-0400; or write to Landscape Exposition, 50 Washington St., Norwalk, Conn. 06854.

Oct. 23-26

Interior Plantscape Division Conference & Trade Show, Los Angeles Airport Hilton Hotel, Los Angeles, Calif. Contact: Martha Lindauer, Associated Landscape Contractors of America, 405 N. Washington St., Falls Church, Va. 22046; 703/241-4004.

Nov. 6-9

1988 International Irrigation Exposition & Technical Conference, Las Vegas, Nev. Contact: Mark Williams, Irrigation Association, 1911 N. Fort Myer Dr., Ste. 1009, Arlington, Va. 22209; 703/524-1200.

Nov. 7-10

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

NEWS IN BRIEF

NO SPECIAL REVIEW PLANNED FOR 2,4-D

The federal Environmental Protection Agency recently announced that it will not conduct a special review of 2,4-D based on carcinogenicity.

The EPA's decision results from a consensus that existing epidemiologic data are inadequate to assess the carcinogenic potential of 2,4-D. The consensus comes from EPA scientists, national experts on epidemiology and the Federal Insecticide, Fungicide, Rodenticide Act Scientific Advisory Panel.

The proposed decision, however, does not eliminate future special reviews should they become necessary, said Lavarre Uhlken, a representative of the EPA's pesticide section in the Chicago regional office.

In addition, the EPA has concluded that existing laboratory data provide insufficient evidence of carcinogenicity. Because of this, the EPA has determined that a special review is not appropriate at this time, Uhlken said.

2,4-D, first registered in 1948, is a popular systemic herbicide widely used for controlling broadleaf weeds on a large number of food and non-food crops.

The EPA will accept written comments on its decision not to hold a special review, but they must be received by May 23, 1988.

Before making its decision, the EPA re-evaluated the concerns raised in the Sept. 22, 1986 and Dec. 3, 1986 preliminary notifications to registrants and applicants in light of other relevant information that, in part, has become available since issuance of the preliminary notifications.

Despite this announcement, ChemLawn Services Corp. has said that it will continue its ongoing medical study of employees who worked at the company between 1969 and 1980. The study is being conducted by the National Cancer Institute with ChemLawn.

"We suspended use of 2,4-D after the National Cancer Institute's study in Kansas. We did that independently of the EPA or anybody else," said Stephen Hardyman, ChemLawn director of public and environmental affairs. "We are not lifting that suspension until the study on our employee base is complete. Our concern has always been for the employees. That original study stated specifically that home and garden use was never an area of concern, it's only for those people who use that material more than 20 times a year."

The study is not expected to be finished until 1989 or 1990. The study covers 2,4-D and any other materials ChemLawn

employees used during that time period.

ChemLawn was one of the first to suspend use of the product last year following results from the National Cancer Institute which reported incidence of certain types of cancer in Kansas farmers using phenoxy herbicides. Researchers concluded that hu-

man exposure to phenoxyacetic acid herbicides increases the risk of non-Hodgkin's lymphoma.

Before its recent ruling, the EPA requested that four national experts on epidemiology review the findings of the NCI epidemiologic study reporting an association

"MUCH ADO ABOUT NOTHING?"

Remember the "Danger in the Grass" reports broadcast by "20/20" nearly two years ago? Well, a recent "20/20" broadcast had an entirely different ring to it.

On March 18, the ABC-TV news show broadcast a report entitled "Much Ado About Nothing?" And yes, according to at least one researcher, there has been too much made over a popular assumption that man-made chemicals are much more carcinogenic than natural substances.

"The types of tests that we're looking at have been around a long time and there isn't any evidence that the chemicals in the modern world are causing all this," said Dr. Bruce Ames, a cancer researcher from the University of California at Berkeley. "We're the healthiest people in human history and everybody's worrying, worrying, worrying."

After more than a decade of media reports where experts warn of links between all kinds of pollutants and cancer, this "20/20" broadcast made a case that many of the warnings people hear are unnecessary.

Ames is probably best known for a test he invented — one which gives scientists a cheaper and faster way to see if a chemical causes mutations and, therefore, probably cancers. Today, the Ames test is used as a standard worldwide to see if chemicals cause mutations.

After discovering the test, Ames first used it to help ban certain chemicals, but after continued testing, he began to question those bans, according to the "20/20" report.

"There's a whole movement of people who are committed to the idea that man-made chemicals are causing a lot of cancer," Ames said. "I don't think there's much science behind it. In fact, the science is all going the other way."

He uses cancer rates for proof, saying thousands of new chemicals have been introduced over the past 40 years. If they were giving people cancer, there would be a cancer epidemic in the United

States, he said. Lung and skin cancer have increased — largely due to smoking and sunbathing — but other forms of cancer have on average stayed fairly level, according to the American Cancer Society.

"20/20" reporter John Stossel at first questioned whether Ames was promoting a far-out viewpoint, but concluded that Ames' views were indeed shared by other scientists. Stossel was the same reporter who covered the two-year-old "20/20" report on "Danger in the Grass" — a broadcast which shocked the industry with its report on the alleged hazards of lawn care chemicals.



Ames

Even the Environmental Protection Agency, which is currently revising its cancer risk assessments, generally agrees that Ames has an important message.

Stossel reported he was astounded to find how much agreement there was with Ames, and wondered if media people have been irresponsible in reporting these issues.

"We consumer reporters especially often report on a scientist's accusation that this substance causes cancer and make a big scare story out of it without really checking to see how good the research was," he said. "Ames isn't telling us not to worry, he's just saying we should make rational decisions about this."

between exposure to 2,4-D and human cancer.

The experts concluded independently that the study did not implicate 2,4-D alone as the causative factor for the Non-Hodgkin's lymphoma observed in this study, but rather indicated an association with phenox herbicide use in general.

In addition, the FIFRA Scientific Advisory Panel reviewed this study, as well as the entire oncogenicity data base and concluded that 2,4-D should not be classified as a carcinogen or noncarcinogen at this time.

The panel recommended, and the EPA agreed, that 2,4-D be classified in Category D, which means it's not classifiable as to human carcinogenicity. The EPA agreed based on the inadequate evidence of cancer in humans and laboratory animals.

NEW NON-SELECTIVE HERBICIDE TO BE OFFERED BY HOECHST-ROUSSEL

A new non-selective herbicide is expected on the turf and ornamentals market by 1989.

Currently holding an experimental use permit for the product Ignite,® Hoechst-Roussel Agri-Vet Co. expects to receive a label for at least the non-crop portion of

the product by next year, according to Philip Robinson, product manager for the Somerville, N.J.-based company. The product will eventually be available for industrial uses as well.

The non-selective herbicide is comparable to Monsanto's Roundup® herbicide, Robinson said.

According to Robinson, Ignite was designed to kill targeted weeds in a shorter time period. "Ignite is very effective on above ground weeds. It will take about three to five days, maybe a little longer, to burn weeds. Below ground, we've seen some regrowth occurring and it may require a second treatment," he said.

If a second treatment is required, it's generally applied six to 10 weeks after the first, Robinson said.

Ignite kills weeds by interrupting the life cycle of the plant. Ammonia builds up in the plant, blocking the enzyme pathway. When the ammonia can't be converted into amino acid, the plant dies, he said. The product doesn't translocate, so what it comes in contact with is the area it will control.

Hoechst-Roussel has been developing and testing the product since the late 1970s. The product is 20 percent aqueous and can be tank-mixed with almost every residual

herbicide available. Robinson said the product hasn't experienced any compatibility problems.

Ignite will be available initially in a water soluble formulation, but other formulations will be marketed sometime in the future.

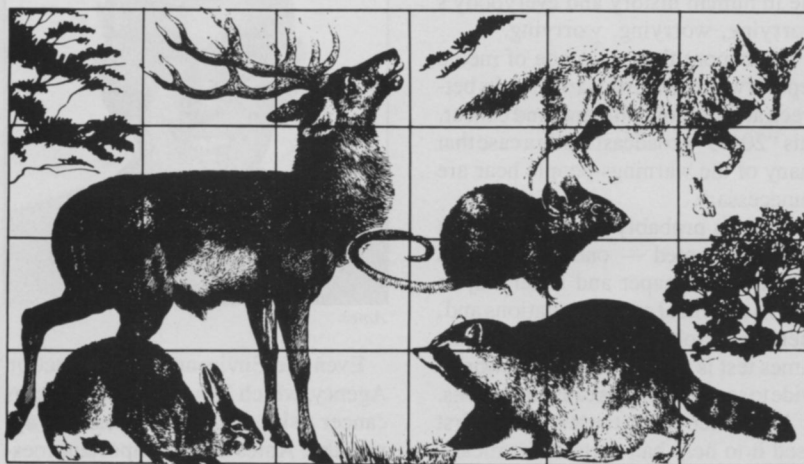
Robinson said Ignite will benefit the market in a variety of ways including offering an alternative to Roundup, reducing concern over hurting off-target plants, it's easy to handle, fast and mixes better with other products.

Robinson said all of the Ignite data has been submitted to the Environmental Protection Agency and he doesn't expect any problems in labeling.

TURF DISEASE DETECTION KITS AVAILABLE NATIONALLY BY 1989

By 1989, turf disease detection kits from Agri-Diagnostics Associates will be available nationally.

The detection kits are primarily used to check for diseases on golf courses before symptoms occur, but are receiving more widespread use by LCOs and landscapers, according to Vonnie Estes, market development manager for Agri-Diagnostics of Cin-



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The disease detection kits, now available only in the Northeast and parts of the Midwest, have been on the market for one year. Separate kits are available for the detection of brown patch, dollar spot and Pythium blight, however, the company is researching possible detection kits for other patch diseases and anthracnose, Estes said.

Each kit contains all the materials needed to complete a test including dipsticks, testing solution, test tubes and a sampling pack. Each test takes about three hours.

Agri-Diagnostics recommends that the kits be used on areas with a prior history of disease, such as shaded areas or low spots. These hot spots should be considered key areas in a regular sampling program. In addition, areas where disease is suspected and areas with distinct symptoms should be tested.

LCOs, however, should not use the test kits pre-symptomatically, but only on areas where a disease spot is present, Estes said. The test can tell an LCO what the disease



is, but is not ready to be used for early detection on turf since the kinds of grass and symptoms can differ dramatically between golf courses and lawns.

The sampling pack contains materials for collecting turf samples. The sampling techniques should be specifically followed since the results of a test are directly dependent on the quality of the sample.

Although specific detection kits for LCOs won't be available in the near future, Estes said, distributors are selling the kits to LCOs and tracking the interest for future development of a more specialized kit for LCOs and landscapers.

The five years' development research for the Agri-Diagnostics kits was based on the same technology used in the medical field for the diagnosis of a variety of diseases, Estes said.

University researchers conducting tests with the detection kits have found them to be effective in early diagnosis. Some of the most detailed research is under way at The Ohio State University by Bill Shane, assistant professor of turf pathology.

Shane's results indicate that it's necessary to sample the tests in areas with a history of disease or disease symptoms. He's also

conducting tests to measure how well they can detect an epidemic before symptoms appear.

Houston Couch, a plant pathologist at Virginia Tech, recommends using the kits on a continuing basis until it's determined how they fit into a particular system, making a better diagnostic program.

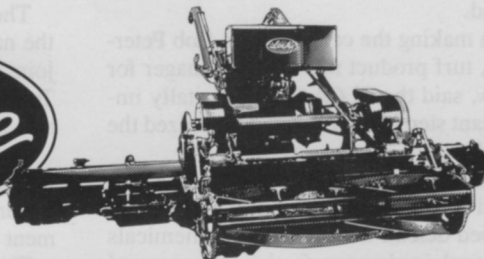
OSHA REGULATIONS TAKE EFFECT MAY 23

Don't forget, beginning May 23, millions of employers across the country will be required to inform workers who are exposed, or face possible exposure, to hazardous

substances.

Under the jurisdiction of the Occupational Safety and Health Administration, the expanded hazard communication standard will apply to 18.4 million non-manufacturing employees and is expected to reduce chemical-related injuries, illnesses and deaths by 20 percent in non-manufacturing workplaces. An estimated 14 million manufacturing workers already are covered.

The hazard communication requirements for non-manufacturers, such as pesticide end users, differ from those from manufacturers in a number of ways. For instance, non-manufacturers must maintain material safety data sheets and labels, obtain material safety data sheets if the manufacturer has

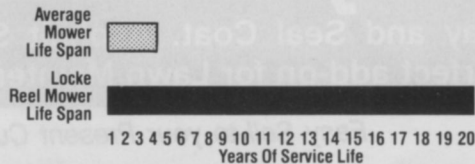


THE ULTIMATE MOWING MACHINE

Locke builds machines to out-cut, out-perform, and outlast every other mower on the market. Locke reel mowers provide the finest cut you can get, for a truly manicured lawn that is uniformly greener and lusher. Locke's unique scissor action actually "cuts" each blade of grass cleanly. And because the reels float individually over land contours and in front of the rollers, all the grass is cut to a smooth uniform height never scalping the turf. The hand crafted cutting assemblies are spring loaded to protect the blades from damage and the operator from flying debris.

Locke reel mowers are made by hand with forged steel frames, machined cast iron components and precision carbon steel blades. Powered by durable cast iron engines, Locke mowers are built to last fifteen to twenty years and more.

SERVICE LIFE: LOCKE VS. OTHER MOWERS



THE LOCKE CUT VS. A TYPICAL MOWER CUT



Each blade of grass is cut cleanly and at a uniform height, which means healthier, greener turf.



Other mowers shatter the blades of grass, leaving uneven ragged ends which turn brown and expose the turf to disease.

Locke mowers are available in three basic models. *The Locke Single* is ideal for smaller grounds where maneuverability is essential. *The Locke Triplex* has set the standard for lawn care at prestigious grounds around the world. *The Locke Professional* is a riding Triplex, making it ideal for larger grounds and golf courses.

We encourage you to test our mowers. Call your local Locke dealer to arrange for a demonstration and experience the ultimate mowing machine.

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If an employer is in a state which already has a state right-to-know law that differs from the hazard communication standard, the hazard communication standard pre-empt provisions inconsistent with the state law. In other words, employers who have business in more than one state will only have one set of standards to comply with.

DOW CHEMICAL DONATES \$10,000 TO PLCAA

The Dow Chemical Co. recently contributed \$10,000 to the Professional Lawn Care Association of America's Industry Defense Fund.

In making the contribution, Rob Peterson, turf product marketing manager for Dow, said the PLCAA took a vitally important step in 1987 when it organized the fund.

"The association's well-planned and extensive public relations campaign last year helped defend the use of lawn chemicals and explained our profession to the general public," he said. "But we must continue our efforts to counter the actions of those

who are hurting our industry's image and calling for unnecessary regulatory activity."

He added that industry efforts such as this need funding, and Dow is proud to again contribute money to the program. Peterson encouraged industry members to know and understand the issues and to contribute their money, time and energy to fight the negative publicity that has been plaguing the industry.

MICHIGAN STATE OFFERS NEW LAWN CARE PROGRAM

A new program dedicated solely to the academic and on-the-job training of lawn care professionals will be offered at Michigan State University in the fall.

The program — the first of its kind in the nation — will be offered through the joint effort of the Institute of Agricultural Technology and the Department of Crop and Soil Sciences at Michigan State.

Running 18 months, the program includes four quarters of on-campus academic training and two quarters of industry employment — namely placement training.

The placement training period provides six months of work experience from late March to early September which coincides

with the most active work period of most lawn care professionals. Students receive an appropriate wage during placement training and receive excellent hands-on experience.

The academic portion of the program includes a comprehensive offering of courses in turfgrass management, pest control and soil management as well as horticultural courses in landscape and nursery maintenance. Specialized courses pertinent to lawn care include application technology and pesticide safety and toxicology. Emphasis will also be placed on courses in communication skills and business administration.

Students with some work experience in the turfgrass/lawn care field will be given priority consideration. The main criteria for selection, however, is a desire to prepare for a career in the lawn care and maintenance industry.

Persons interested in the program should have a high school diploma or equivalent. Some scholarship opportunities and transfer credits are available.

For an application or more information contact: Dr. Roch Gaussoin, Department of Crop & Soil Sciences, Michigan State University, East Lansing, Mich. 48824-1039. 517/353-9022. ■

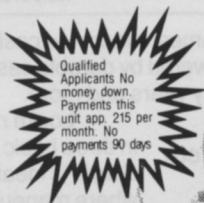
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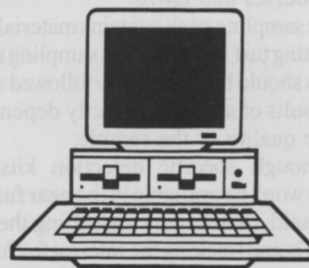
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PLCAA UPDATE

Barry C. Troutman, 43, was recently named the new director of education for the Professional Lawn Care Association of America. Formerly of ChemLawn Services Corporation, Troutman began working for PLCAA March 15.

Troutman replaces Gary Clayton who left PLCAA March 1 to become vice president of operations for Perma-Green Lawn Company, Boise, Idaho.

Clayton officially served as PLCAA's director of technical services, but the new education position was created to include expanded responsibilities, according to James Brooks, PLCAA executive vice president.

"We are extremely fortunate to have someone of Barry's (Troutman) expertise and reputation joining the headquarters' staff," he said. "Education is a primary mission of PLCAA, and I'm confident in Barry's (Troutman) abilities to manage our growing number of educational programs for the membership, and give us leadership in charting future needs. He certainly knows the lawn care industry."



Troutman

Troutman will be based at PLCAA's administrative office in Marietta, Ga.

Brooks said the new position will fit well with PLCAA's increasing educational mission and be more far-reaching than the previous post. PLCAA is also in the process of developing an educational foundation in memory of James Marria and William Fischer. Both were past presidents of the PLCAA.

Troutman spent 10 years with ChemLawn Services Corp. as research weed scientist and southern zone technical service manager. He holds a bachelor's degree from The Ohio State University, a master's degree from the University of Rhode Island and

a doctorate degree from the University of Arkansas.

In other news, the PLCAA has redesigned its "Turf Talks" newsletter into a larger, more newsy publication called "Pro-Source."

The 12-page publication (soon to be 16 pages) features new graphics and articles targeted toward three distinct audiences:

owners, middle managers and technicians.

A management centerfold featuring articles on finance and business management is targeted to the owner; middle managers will find articles on employee relations, hiring tips and motivational topics; and technicians will find a pullout section directed toward the applicator/technician — suitable for distribution within the company. The pullout section is called "The Lawn Technician." ■

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PROPERTIES OF THATCH

A thick thatch layer may eventually serve as the principal growing medium for the turfgrass plant rather than the soil below.

This is the second of three technical features written by Dr. John Street of the Ohio State University on the subject of thatch. The last installment can be found in an upcoming issue of ALA.

Thatch was defined in Part I of this series (April ALA) as a tightly intermingled layer of living and dead stems, leaves and roots of turfgrass that develops between the layer of green vegetation and the soil surface. It was further described as a biologically active zone.

Thatch formation results in the elevation of turfgrass crowns above the soil surface into the thatch layer. Subsequent root, rhizome and/or stolon development from these elevated crowns occurs within the thatch rather than developing into the underlying soil.

This orientation of the basal organs of the turfgrass plant in the thatch becomes more apparent as the thatch layer increases in thickness. A thick thatch layer may eventually serve as the principal growing medium for the turfgrass plant rather than the soil below. Thus, an understanding of the physical and chemical properties of thatch is important for long-term success in turfgrass management.

PHYSICAL PROPERTIES OF THATCH. Porosity is the degree to which a soil or medium is permeated with pores or openings. It is typically expressed as the percentage of the whole volume of the soil or medium which is unoccupied by solid particles. Porosity provides the openings or spaces necessary for water retention, soil aeration (exchange of oxygen and other gases between the soil and atmosphere above) and growth of plant parts (i.e. roots and rhizomes).

Pore space is the size of openings between solid particles. Pores differ in size and are typically categorized as micropores (small) and macropores (large). The relative proportion of micropores and macropores in a soil is just as important as the total porosity of a soil. Micropores usually tend to be filled with water (high water-holding capacity) and are commonly called capillary pores. Macropores are usually filled with air (poor water-holding capacity) and consequently are called aeration pores. Thus, a blend of micropores and macropores is preferred in an ideal soil for water retention and aeration, respectively. Coarse sand, for example, consists predominantly of macropores and is a droughty medium.

Thatch typically has a higher total porosity than most soils. Thatch exhibited one and a half to two times more total porosity than soil on a Kentucky bluegrass turf. (Hurt, Turgeon and Spomer, 1980). Total porosity of Kentucky bluegrass thatch ranged from 64 percent to 68 percent.

Pore size distribution between thatch and soil has also been reported to differ. In moisture retention studies, thatch

has been found to retain water much less readily than soil. A high percentage of water (75 percent to 80 percent) was removed or extracted from thatch at a very low suction or tension compared to soil. The rapid movement of water through thatch at low suction or tension indicates that a major portion of the thatch pore space is large pores or macropores.

Macropores, as pointed out previously, do not hold water readily and serve predominantly as aeration pores. Hurto et al. (1980) characterized thatch as being physically analogous to sand in that it has predominantly large pore space. Thatch then, like sand, is a potentially droughty medium.

A common misconception is that thatch functions like a sponge and retains water readily. Careful examination of thatch cores during dry periods will reveal its droughty nature relative to soil. The droughty nature of thatch imposes a significant stress on turfgrasses during the summer months. This is most likely why stress-related diseases are more common on thatchy turf sites. Thatchy turfs will typically require more irrigation or more light, frequent irrigation to compensate for its low water retention.

Water movement in soils following drainage occurs by capillary flow (wick action) of water in all directions (i.e. upward and downward). Water moves upward in soils by capillarity from wet zones below, and replenishes moisture in the surface soil as it dries by evapotranspiration.

Capillary flow of water is dependent on a continuity among pores. Layers of differing pore size disrupt capillarity and interfere with capillary water movement. Thatch (with predominantly large pore space) atop soil results in a disruption in the continuity of capillary pores at the thatch-soil interface. This stops significant water movement into the thatch layer from the soil below, further aggravating moisture availability in the thatch zone.

Water percolates readily through thatch due to its predominance of large pore space. However, dry thatch has a tendency to develop a hydrophobic character and repel water. The hydrophobic phenomenon is similar to that observed in the resistance of dry peat moss to wet up. Water from irrigation or rain will not readily penetrate a hydrophobic thatch resulting in a dry thatch and soil below. The hydrophobic phenomenon occurs randomly across a turf creating isolated dry spots (i.e. dormant or dead turf). These isolated dry spots are frequently confused or misdiagnosed as other turf ailments.

Bulk density is the mass or weight per unit bulk volume of a soil or medium. The bulk density of thatch has been reported to be significantly less than soil. The low bulk density of thatch reflects its high content of plant/organic matter and its high total porosity. Thatch is a resilient medium because of these latter characteristics. The resiliency of

thatch provides a cushioning effect that enhances turfgrass wear tolerance and safety from impact on sports facilities.

CHEMICAL PROPERTIES OF THATCH.

Cation-exchange capacity (CEC) is defined as the sum total of exchangeable cations (i.e. Ca^{++} , Mg^{++} , K^+ , etc.) absorbed by a soil. These cations (positively charged ions) are adsorbed or held in the soil by the negative charges of clay and soil organic matter. Cation-exchange capacity reflects the nutrient retention capability of a soil or medium. The CEC, expressed in milliequivalents per 100 grams of soil, for various soil components is:

- Clay 5-120 CEC units
(varies with clay type)
- Organic matter 150-500 CEC units
(decomposed)
- Silt minimal
- Sand minimal

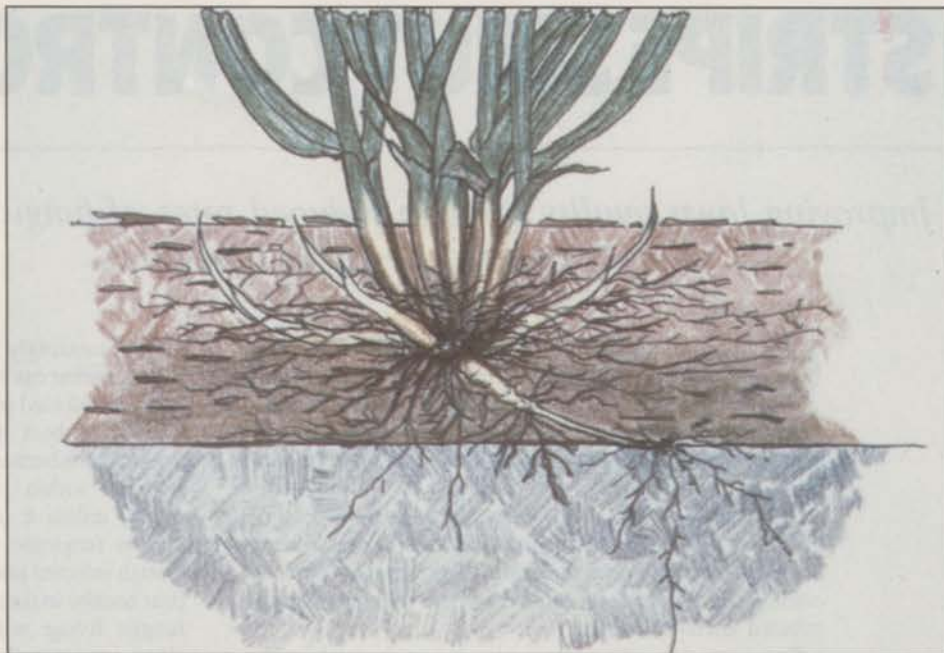
Soils with a higher CEC have a higher nutrient retention capability and are considered to be fertile. A higher CEC results in a greater retention of cations or nutrients. Sands do not retain cations/nutrients very well because of their low CEC. A key reason for amending sands with some clay and organic matter is to improve nutrient and water retention.

The cation-exchange capacity of thatch has been reported to be low. CEC values of thatch ranged from three to seven CEC units (Danneberger et al., 1984). Grinding of thatch samples prior to analysis in an attempt to expose new cation-exchange sites did not increase the CEC. Thatch, then appears to be significantly less chemically inert than soil organic matter and most soils due to its low CEC. Many misconceptions regarding thatch are due to thatch and organic matter being considered synonymous. Chemically and physically they are very different materials.

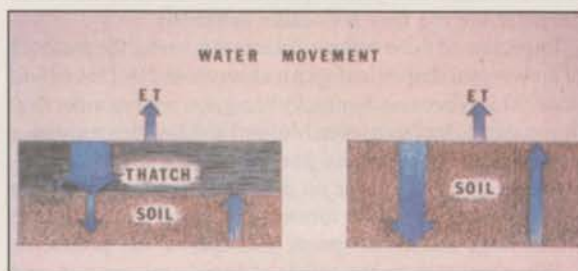
LEACHING AND VOLATILIZATION OF NITROGEN. Leaching is the loss of nutrients through the soil by percolation. Nitrogen leaching from urea was 2.5 times greater from a thatchy Kentucky bluegrass turf than a thatch-free Kentucky bluegrass turf (Nelson, Turgeon and Street, 1980). Nitrogen leaching from urea and IBDU in a thatchy turf was 81 percent and 5 percent, respectively, of the total nitrogen applied.

Nelson et al. (1980) concluded that the porous nature of thatch and low CEC favor the leaching and loss of nitrogen through thatch. Nitrogen retention in thatch, then, is poor, especially with more water-soluble nitrogen sources. In situations where turfgrass rooting is largely confined to the thatch, a slowly-available nitrogen source should enhance nitrogen fertilizer efficiency.

Volatilization is the loss of fertilizer nitrogen from the soil or thatch surface as a gas (ammonia). Volatilization losses were also found to be greater from thatchy Kentucky bluegrass turf than a thatch-free Kentucky bluegrass turf (Nelson, Turgeon and Street, 1980). Nitrogen losses from urea were 39 percent of the applied nitrogen from thatchy



Thatch can become the principal growing medium for the turfgrass plant as crowns, roots, rhizomes and stolons orient themselves in the thatch rather than the underlying soil. (Photo credit: A.J. Turgeon and K.A. Hurto.)



The disruption in continuity of capillary pores at the thatch soil interface (left) restricts water flow upward from a wet soil below. (Photo credit: A. J. Turgeon and K. A. Hurto)

turf compared to only 5 percent for a thatch-free turf. Thatch, therefore, significantly reduces nitrogen fertilizer efficiency by increasing both leaching and volatilization.

SUMMARY. Thatch is a relatively undesirable medium compared to soil for growth and development of turfgrasses. Its major desirable attribute is high aeration porosity. This is far outweighed, however, by the poor nutrient and moisture retaining characteristics of thatch compared to most soils. It is a hostile medium creating a stress-related environment for the turfgrass plant. ■

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STRIPE SMUT CONTROL

Improving lawn quality through reduced rates of fungicides in severely smutted Kentucky bluegrass.

Stripe smut is a common disease of older lawns and is caused by the fungus *Ustilago striiformis*. This disease occurs primarily in mature, Kentucky bluegrass lawns and occasionally on bentgrass putting greens. The disease rarely occurs in perennial ryegrass or other turfgrass species.

Stripe smut is not as widespread today because most of the Kentucky bluegrass cultivars released in the past 10 years are resistant to the disease. However, the disease remains common in older neighborhoods where numerous smut-infected lawns still exist.

Symptoms are most conspicuous during the cool, moist periods of spring and fall. Infected plants are often stunted and pale green or yellow in color. From a standing position, small, circular and yellow patches two to three inches in diameter are the first noticeable symptom.

Inspection of these yellowed plants may reveal the presence of brown-oval shaped leaf spot lesions caused by *Drechslera poae*. This is because Kentucky bluegrass cultivars that may be resistant to leaf spot (even Merion) will lose this resistance if infected by *U. striiformis*. In time, narrow, silvery or gray-black streaks will appear on the leaves. These streaks are fruiting structures (sori) forming below the leaf surface in which large masses of spores (teliospores) are produced.

When sori mature, the cuticle and epidermis rupture, and the leaves shred and curl releasing the black and dusty teliospores (Figure 1). Severely affected stands may develop a uniform, chlorotic (i.e. yellow) appearance. Following spore release in late fall, infected stands develop a gray to tan desiccated appearance (Figures 2 and 3). During the rest of the year, however, properly maintained, infected plants may

appear amazingly healthy.

Stripe smut can be very damaging to infected plants during periods of heat and drought stress. This is because the fungus remains within plants year-round, unless it is controlled with a fungicide. Hence, although infected plants may appear healthy in the summer, the fungus living within tissues places a stress on plants that cannot be visually observed. If properly irrigated and fertilized, however, badly smutted stands generally survive, exhibiting only a decrease in turf quality and some thinning during stressful summer months.

Stripe smut disease most commonly occurs in mature (2-4 years and older) lawns that have been managed with high levels of nitrogen fertilizer. "Merion" Kentucky bluegrass is the most susceptible bluegrass cultivar and its widespread use over the past 30 years has contributed to the increase in smut diseases. Other susceptible cultivars include Arboretum, Baron, Flying, Newport, Sydsport and Windsor.

UNIVERSITY RESEARCH. Researchers at the University of Rhode Island reported that stripe smut disease is most damaging when nitrogen fertilizer is applied either alone, or with low rates of phosphorus or potassium. Applications of balanced ratios of N:P:K: (for example 6:1:2) will, however, help to reduce the severity of the disease. Commercial lawn applicators frequently apply nitrogen fertilizer without phosphorus and potassium during spring and summer, and this practice may overstimulate turf and result in enhanced stripe smut damage.

Prior to the advent of systemic fungicides, effective stripe smut control was not possible. In the late 1960's, researchers in New Jersey and Rhode Island reported that multiple applications of Tersan 1991 effectively controlled stripe smut. In 1974, Jackson and Fenstermacher observed that a single, November application of Tersan 1991 (8 ounces/1,000 ft²) plus Terraclor (8 ounces/1,000 ft²) provided the best combination of stripe smut and melting-out control the following spring.

Further testing in Rhode Island revealed that late fall applications of Tersan 1991 (8 ounces/1,000 ft²), Bayleton (8 ounces/1,000 ft²) and Rubigan (8 ounces/1,000 ft²) in 1975 and 1976 provided effective residual control of stripe smut



(Above) Figure 1. Leaf yellowing and appearance will persist until spring



Figure 2. A December photo which shows the contrast between an untreated plot (on left) and a stripe smut effective fungicide treatment (on right).



tip dieback of Kentucky bluegrass leaves during the spore release period. (Above right) Figure 3. A close-up of a plant injured by stripe smut in the fall. The gray-tan green-up. Following spring green-up, the spore release cycle will again occur if cool and wet weather conditions prevail.

when plots were evaluated as late as June 1979. While these fungicides were effective, the rates of Bayleton and Rubigan evaluated could be considered cost prohibitive for most commercial lawn applicators.

The objectives of the studies described in this article were to determine if lower rates of systemic fungicides would provide the same level of effective, residual stripe smut control as observed in the Rhode Island investigations.

APPLICATION RATES. Two separate studies were conducted on a badly smutted stand of Merion Kentucky bluegrass. The fungicides were applied in 2.5 gallons of water per 1,000 ft² and the fungicides were not watered-in. During the test year, the site was fertilized with moderate rates (3.0 lb N/1,000 ft²) of nitrogen from urea during the fall. The turf was allowed to enter drought induced dormancy for a 10 to 14 day period once each summer in either late July or August. The mean annual maximum high temperatures for the area were 88 and 90 degrees Fahrenheit for July and August, respectively. At other times, the site was only irrigated to prevent severe drought stress.

In the first study, fungicides were applied twice in June 1985. Stripe smut injury was slight in the fall of 1985 due to dry and sunny weather. The disease, however, was very active in May 1986. Data collected May 6, 11 months after fungicides were last applied, showed that only Bayleton and Banner had provided excellent control (0 percent damage) and plots exhibited acceptable quality (>8.0). While Rubigan

had greatly reduced damage, the overall quality rating (7.7) was only marginal. Chipco 26019 and Tersan 1991 did not provide acceptable control at the tested rates. Following active leaf shredding and spore release on July 7, all plots except those treated with Tersan 1991 (at the test rate) or the untreated control exhibited improved Kentucky bluegrass cover ratings (94-97 percent cover).

When plots were again rated for stripe smut control on April 29, 1987 (almost two years after fungicides were applied), only Bayleton treated plots were uninjured and exhibited acceptable quality. Kentucky bluegrass cover ratings recorded June 26 and Nov. 19 showed that badly smutted plots recovered rapidly from spring smut injury as well as severe drought stress in summer.

In the second study, rates were further reduced and fungicides were only applied once on May 21, 1986. Bayleton and Banner were again evaluated and Spotless was added to the study. Spotless, however, is not yet commercially available. Chipco 26019, Tersan 1991 and Rubigan were not evaluated in the second study because of their levels of residual stripe smut control. It is important to note, however, that the total rates of the aforementioned fungicides were lower than those used in the Rhode Island study.

Data collected April 29, 1987, about one year after application, showed that rates as low as 2.0 ounces of formulated product per 1,000 ft² of all three fungicides had provided excellent control and also acceptable overall quality.

(Continued on page 24)

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STRIPE SMUT

(continued from page 21)

The Kentucky bluegrass cover ratings obtained after disease had subsided on June 26 were excellent where a fungicide had been applied.

Smooth crabgrass seed germinates primarily during April, May and June in Maryland and this germination period overlaps the time when stripe smut injury reduces stand density. The crabgrass levels were particularly low in Spotless-treated plots. These very low crabgrass cover percentages (9 to 11 percent), as compared to untreated plots (91 percent), suggested that Spotless may have preemergence herbicide properties. This is unlikely, however, because the fungicides had been applied in 1986, one year prior to the time that the crabgrass seed germinated in 1987.

Following frost-kill of the crabgrass, data recorded Nov. 19 again revealed how badly smutted, untreated turf was able to recover from severe drought stress. The data, however, also showed that only Bayleton and especially Spotless-treated turf possessed acceptable quality at the tested levels. Stripe smut was somewhat active and injurious in late fall and data recorded on Dec. 11 indicated that the residual effectiveness of Banner (9 to 11 percent plot area damaged at the tested rate) had broken-down; whereas, Spotless (1 to 2 percent damage) and Bayleton (3 to 4 percent damage) treated turf were only slightly damaged.

CONCLUSIONS. These studies have demonstrated several important aspects of managing badly smutted Kentucky bluegrass. First and foremost is that despite severe heat and drought stress, badly smutted stands will recover if fertilized in the fall with even moderate (3.0 lb N/1,000 ft²) amounts of nitrogen. These data therefore do not support the widely believed premise that stripe smut can be controlled or reduced merely by allowing smutted plants in a turf to be killed by drought induced dormancy.

These tests also showed that although smutted turf can recover by early summer, crabgrass invasion can be more severe in smut affected Kentucky bluegrass. Data also demonstrated that relatively low rates of Bayleton and Spotless will not only provide excellent residual stripe smut control (at least 18 months control), but their use improves the overall quality of turf.

Furthermore, in addition to stripe smut control, a spring application of Bayleton or Banner may help to control or reduce the severity of other diseases such as dollar spot, red thread and summer patch. Hence, commercial lawn care applicators can economically provide stripe smut control thereby achieving significant improvement in lawn quality with some fungicides. —

Dr. Peter H. Dernoeden

The author is an associate professor in the Department of Agronomy at the University of Maryland.

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MOWERS

Here's a look at the mowing industry based on the results of our 1988 mower survey. Included is a summary of our respondents' purchasing habits.

ALA recently sent a survey to a portion of its readers to try and gauge the buying habits of those involved in mowing service. After mailing out 300 of these questionnaires to a random sampling of our readers, we received roughly a 10 percent return. In the following report, we've compiled the data submitted from the respondents highlighting the types of accounts they service and their annual sales volume, as well as specifics about the machinery they use to service these lawns, the life span of these items and what it costs to replace them. We've also queried our readers about what time of year they make their major purchases and whether or not they've considered leasing as an option for obtaining a new mower. We hope you enjoy the results.

RESPONDENT PROFILE. The collective length of time these LCOs have been involved in the lawn maintenance industry

totaled 363.5 years. This was the sum of responses from operators throughout the United States. But to make sense of that figure, the average period per firm was 13.5 years. The range includes individuals who've entered the market within the past three years, to a veteran in Tacoma, Wash., who's been cutting grass for 37 years.

We also asked the operators to tell us how many years they've been offering mowing services. Since there has been some diversifying in recent years, we wanted to discover whether these LCOs have added on this specialty since setting up shop. Our data indicates they've offered mowing for an average of 12 years. As a whole, the firms have been in the maintenance business for about 1.5 years longer than they've provided mowing. Individually, the operators have offered the service for anywhere from three to 35 years.

Collectively, the mowing professionals who responded to our survey grossed about \$2.6 million in sales volume

MOWING TIPS FROM THE PROS

Thinking about expanding your business by adding on mowing services? If you're an applicator, you've probably got a jump on other start-up operations by already serving the residential or commercial market. After acquiring some basic machinery, you could enter this segment of the industry with relative ease. Here's a few pointers from managers of some of the larger lawn maintenance companies.

Greg Odhner is landscape maintenance district manager of Brickman Industries, a Langhorne, Pa.-based company which services mainly commercial sites and multi-family residences. Odhner recommends starting a mowing business with a push mower and 48-inch walk-behind mower. He also suggests purchasing a spin trimmer and a blower for cleaning up grass clippings.

Though self-propelled walk-behind mowers are available in a variety of widths, the 48-inch is the norm, said Odhner. This type of mower is probably the best buy for somebody just getting into mowing, he said. "It's easy to run, will give you a good mowing pattern and a nice cut and it lasts a long time."

The next step up is a 72-inch riding mower, a bigger investment which requires a trailer for transportation.

Marketing your new service shouldn't be difficult, said Odhner, because mowing is usually the most noticeable activity on the job site. It must also be done continually throughout the growing season. "If a lawn isn't mowed properly, it doesn't matter if it's green. It doesn't matter if there aren't any weeds or if the shrubs are pruned right."

And though the turf should never be left to grow too tall, no more than one-third of the grass blade should be removed.

MARKETING TIPS. Word-of-mouth is always important, but you can also build up your commercial clientele by displaying photographs of your work at trade shows where developers scout out potential vendors. You might also consider giving presentations to property owners or management associations.

Richard Wilbert, manager of landscape management, Lied's Nursery, Sussex, Wis., pointed out that the type of machinery you purchase will depend on your customer base. If you're already in lawn service, your accounts are probably mainly residential, with less square footage area than is considered the norm with commercial endeavors.

In this situation, Wilbert recommends beginning with 21-inch mowers and trimmers for areas under 10,000 square feet. As footage increases, you may want to consider walk-behind mowers which are available from 36- to 60-inches, he said.

Eventually, you may want to obtain a flail mower if you're cutting tall grass or meadows. But to be competitive in the beginning, you won't need blowers instead of brooms, said Wilbert. "These things aren't a necessity to get started. Having good equipment that's running properly and is tuned properly is really the key. Making sure your blades are sharpened daily is probably just as important as having some of those extras."

If you're now serving homeowners who generally mow their own lawn, it might be difficult to break into mowing, said Wilbert.

during 1987. The average volume totaled \$116,174, while individual LCOs reported revenues ranging from \$8,000 to \$630,000.

CUSTOMER BASE. Our respondents collectively service 1,892 lawns. In the survey, we asked them to differentiate between the number of customers they service in the residential and commercial area, as well as those in the govern-

Marketing your new business shouldn't be difficult, Odhner said, because mowing is usually the most noticeable activity on the job site. It must also be done continually throughout the growing season.

mental or industrial sector. We found that the overall customer base leans heavily toward residential (73 percent), with commercial work in second place (24 percent) and a small amount in the area we termed, *other* (3 percent). The following is a breakdown of this response.

As a group, the LCOs service 1,381 residential customers, with an average of 51 customers per operator in this category. Although four respondents reported they had no residential customers, one operator from Lincoln, Neb., had as many as 200 clients.

The time commitment the homeowner is interested in making has a bearing on how they're going to approach lawn care, he said.

Lied's Nursery promotes the advantage a full-service company has in being in total control of the lawn. "Mowing is just as important as fertilizing, which is just as important as a watering regime. All of these things play an important part in the care of the turf," Wilbert said.

MORE TIPS

Old standbys. If you're seeking residential work, target the market with door-to-door mailings and ads in community newspapers.

Announcements. Distribute a company newsletter or flyer to let your customers know you're now offering mowing. You might also mention it in your billings.

Cold calls. To be competitive in the commercial realm, target directly through a sales effort.

Jim Malaney, manager of the landscape maintenance division, Laflamme Services, Bridgeport, Conn., described his "typical truck" as being a 9 1/2-foot flat bed dump. The equipment it hauls includes a variety of items. Below is a listing of these items and their approximate cost.

STANDARD GEAR

Riding mower (\$1,950-\$8,195)

Walk-behind reel mower (\$3,500-\$4,800)

Trim mowers (\$250-\$350)

A total of 463 accounts fell under the commercial category. The range went from zero to 60 customers, but the average number of customers was 17.

The survey revealed that a total of 48 other lawns (industrial and governmental) are serviced by five individual firms.

ACREAGE. Those who responded to the survey service a total of 379 acres of turf. In the residential realm, a total of 154 acres are cared for by these professionals. The average number of acres each operator mowed at a single family dwelling was 3.2. And though these LCOs service fewer commercial lawns than they do residential, these areas are naturally larger in square footage. Here, a collective total of 225 acres is mowed, averaging about 6.25 per operator.

MOWERS. We also asked our readers to tell us how many walk-behind and riding mowers they currently use. As a group, there are 135 walk-behinds being operated. Individually, the respondents own anywhere from zero to 22, with an average of five each. The life span of these mowers averages four years.

In the riding category, there was a total of 48 mowers. This average was two per operator. The units tend to last about five years each.

When asking our readers how much they spend annually, we broke the question down into the areas of new mower purchases as well as replacement of engines and parts. The respondents reported that they spend an average of \$4,048 on new mowers each year (\$101,200 collectively).



Walk-behind rotary mower	(\$2,500)
String trimmers	(\$250-\$325)
Backpack blower	(\$375-\$425)
Hand blower	(\$140)
Barrels, rakes and brooms	(\$10-\$15)
Fuel cans	(\$10-\$15)
Bag for rotary mower	(\$100-\$250)

Laflamme employs both rotary and reel mowers for commercial jobs. The reel mower has a cylinder-type blade which slices with a shearing motion similar to a pair of scissors. It provides a good quality cut for fine turf and is useful on inclines. Another advantage to the reel is that it pulverizes clippings fine enough so that they decompose and return to the lawn.

Reel cuts are also safer, according to Malaney, because the blades are positioned up front, providing the operator with less risk. Reels are available in both walk-behind and riding units from a 25- to 90-inch cut.

Rotary mowers are available from 19- to 90-inches. Rotaries have horizontal blades, which provide a spinning action that "whacks" the grass. They are beneficial on rough areas.

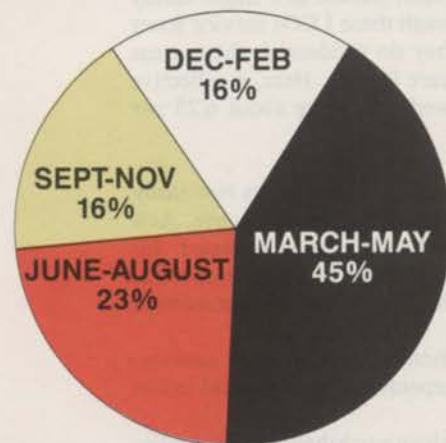
An advantage to rotaries is that they don't require the fine tuning or costly sharpening that reel mowers demand.

Malaney advocates having access to both types of mowers. "I would suggest both. The piece of equipment you use would be dependent on the property."

For engine parts, the group spends \$15,300 yearly, with an average of \$588 per firm.

A total of \$37,900 is spent on parts each year, but individually, respondents average \$1,457 annually.

WHEN THEY PURCHASE. When do LCOs make these purchases? It seems to make perfect sense that the majority take the plunge during the spring and summer months when revenues are traditionally the highest. Forty-five percent of the respondents reported that they prefer to buy



Months during which the LCOs purchase mowing equipment.

RIDING MOWERS
(2)



WALK BEHIND MOWERS
(5)



Average number of mowers owned by respondents.

their mowers from March through May. Another 23 percent, pick up these items from June through August. The remaining 32 percent was split equally between the months of September through November, and December through February. Perhaps these individuals prefer to shop during the off-season, when they've got more time on their hands.

Additionally, we asked LCOs if they already have or plan to purchase mowing equipment in 1987-88. Sixty-seven percent reported yes, they will or already did purchase items during that period. Thirty-three

percent answered no. The items listed (in order of demand) as new or expected purchases were walk-behind mowers, riding mowers, push mowers, blowers and trimmers.

Finally, we asked whether they intended to buy or lease these new equipment purchases. Of those who planned new purchases, 100 percent reported they would buy the equipment outright. — *Julie November*

The author is Assistant Editor of ALA magazine

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WHAT'S HAPPENING IN NEW YORK?

A slew of rules and regulations are in the forefront of this state's Department of Environmental Conservation, forcing lawn care operators to adjust their business practices. Find out how this could be important to you.

Lawn care operators in New York are scrambling to prevent stringent rules and regulations — being proposed by the state's Department of Environmental Conservation — from taking effect as they now stand.

Lawnmark OH, Inc., was fined by New York's DEC for failing to water-in a diazinon/fertilizer-based product at the home of a Guilderland, N.Y., resident.

Following the DEC action, James Wilkinson, executive director of the Pesticide Public Policy Foundation, called representatives of industry manufacturers, formulators and distributors to a meeting in Washington, D.C., to discuss possible label changes regarding watering-in requirements.

ChemLawn Services Corp. is being sued by New York Attorney General Robert Abrams for "fraudulent, deceptive and illegal" advertising regarding pesticide safety. He called for a halt to the ads and a fine for false advertising.

What's going on in New York? Are these measures being implemented to protect the environment, or is this an attempt to destroy the lawn care industry in the state of New York?

Obviously, each side of this issue — the lawn care industry and state officials — could tell its own side to this story. In recent years, state officials have called for strict regulations to be placed on the application of pesticides by commercial applicators ranging from label notification to posting. All come at a significant cost to lawn care applicators.

Although state officials say they aren't interested in eliminating the lawn care industry, a paper trail of regulations is leading LCOs to that conclusion.

Lawn care professionals have tried to comply with rules and regulations, but are often kept in the dark about the intentions of the state. The most recent example of this came March 23 when lawn care operators from New York were called to a meeting to review proposed regulations — rules which constitute the most strict pesticide regulations ever written by a state agency — originally scheduled to be enacted April 25.

However, before the meeting, operators received only a summary of the regulations — not the actual regulations — and spent most of the meeting having the proposed rules read to them rather than discussed.

In addition to current regulation discussions, the industry is now facing an additional problem — who's responsible for the watering-in of pesticides after they have been applied to the turf? Is it the applicator or the homeowner?

Traditionally, applicators have passed the responsibility of watering-in pesticides to the homeowner. However, an attorney for the DEC is now saying that that practice is no longer acceptable, and the applicator should bear this responsibility.

While the industry struggles to find answers to these seemingly insurmountable problems, New York is moving quickly to see new regulations put in place.

Final regulations have yet to be made, but the law governing certified pesticide applications went into effect April 25. Despite the effective date of the law, the regulations probably won't be in place for another two months, according to Marilyn DuBois, director of the DEC Bureau of Pesticides.

"We're working on final regulations right now. The law took effect April 25, however, we have determined that we are not likely to begin enforcement on that date, but will wait until the regulations are in place," she said. "Although we certainly have the authority to begin enforcement on April 25, we are not going to. We have made the decision not to, at this time, until the regulations are finally promulgated."

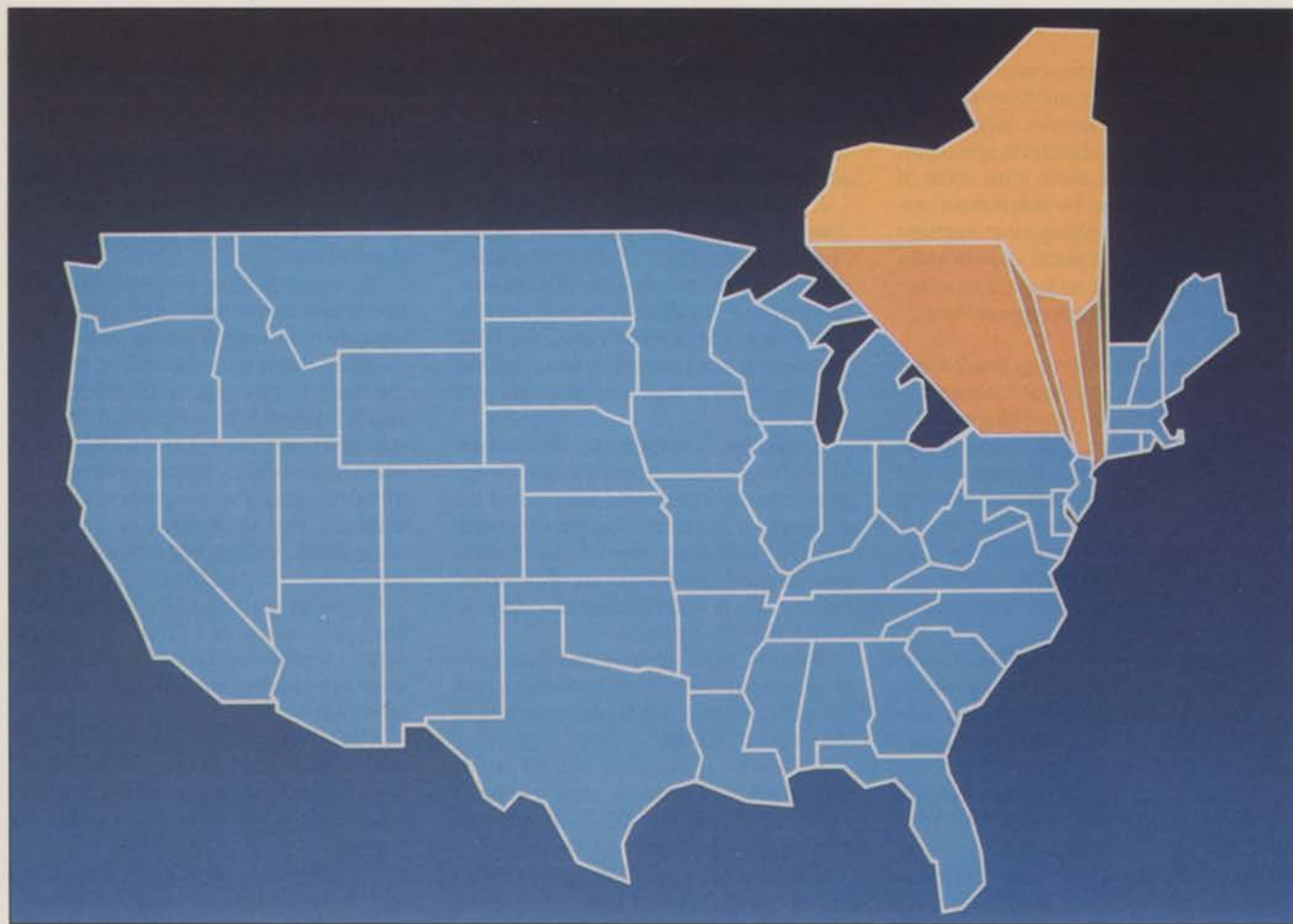
DuBois recommended, however, that it is in the best interests of LCOs to comply with the law so they get some experience in dealing with the new rules.

"People have to have some time to understand what the requirements are — to prepare themselves to implement those requirements. We want to work with everybody to be sure they both understand and are prepared to comply with the regulations," she said.

Among other things, LCOs must place signs around the total perimeter of a lawn after an application, must have written contracts signed by customers listing the approximate dates of applications for the whole year, alternative application dates must be accompanied by written acceptance 48 hours in advance of application and contracts must include warnings that appear on pesticide labels.

Holding up the final state regulations are two issues: determining the intervals that signs must be placed and the size of the posting signs.

"The requirements for commercial lawn contracts and what the signs must say are pretty clear. What we're trying



LCOs in New York are involved in a hotbed of legislative activity surrounding their business practices.

to do is make sure we have signs that really give the message that we believe the legislature wanted to give, and also to have them at reasonable posting intervals and of the size that is recognizable as posting."

One particularly harsh regulation which could prove costly to LCOs deals with verification of notification. Dave Sek of Monroe Tree and Lawntender, Rochester, N.Y., said one option for verification is through registered mail. Sek said he could end up spending an additional \$25,000 a year if he were to confirm notification through registered mail. A homeowner's signature can also be obtained through home delivery or through return mail.

"Instead of reducing notification requirements, they're increasing them," Sek said. "Previously we had label notification, now we have any number of things."

In addition to label notification, LCOs will probably be required to include a listing for homeowners identifying the pesticides to be applied, location, the type of equipment to be used, the symptoms of pesticide poisonings, telephone number of the EPA hotline, the name of the certified applicator and the local DEC number.

"It's bound to have a major impact on us and end up costing us more money. Subsequently, it will end up costing the consumer," Sek said.

The biggest complaint of LCOs is not the regulations, but the manner in which they're being imposed. The regulations are being written by a four-person board at the DEC's

pesticide bureau.

"There's a group in Albany writing these things and they're not taking input on anything," said James Brooks, executive vice president of the PLCAA. "Too bad we've got that sort of an attitude in a key state."

Even field representatives from the DEC are not too fond of the proposed regulations. Brian Metcalf, a DEC representative in charge of the pesticide program in Schenectady, said the proposed regulations cannot be uniformly enforced. And even if they could, not all homeowners want the extra protection.

"They can't be uniformly enforced in a fair manner because we just don't have enough people to do it," he said. "Who are they (regulations) protecting? I don't know. Homeowners may not desire all this information or all this protection."

"Most firms I have dealt with will provide notification at the homeowner's request. There's only a small number that won't, and they will continue to do that," he said.

"Field personnel made their desires known — we had input into it last year. I guess they (opinions) were assessed, but not taken into consideration."

The DEC's pesticide bureau employs 57 people in nine regional offices, according to DuBois. Certified applicators in New York total 32,000 — 17,000 commercial and 15,000 private applicators.

WATERING-IN. When Lawnmark was cited by the DEC for failing to water-in a diazinon/fertilizer combination, the industry immediately went to work to prevent similar situations from occurring elsewhere.

Wilkinson called representatives from a number of different manufacturers, formulators and distributors together in Washington, D.C., to discuss the problem.

"We began to talk about what some of the solutions might be. We talked about how they could possibly change the language on their labels so that it would allow or make it OK for applicators to leave a message for homeowners and these types of things," he said.

As a result of the meeting, a task force has been formed to continue looking into the problem. Wilkinson is serving as chairman of the task force. Others on the task force include Dr. Doug Houseworth of Ciba-Geigy Corporation, Dr. Richard Bing of Elanco, Jerry Faulring from Hydro Lawn, representatives from the Environmental Protection Agency and George Rambo from the National Pest Control Association.

"We hope to work with the EPA in terms of beginning to take a look at this problem in particular and how label language can be changed to accommodate the professional applicator," Wilkinson said.

Wilkinson said most pesticide labels are clearly written with the do-it-yourselfer in mind and there's very little on those labels to accommodate the professional applicator.

The watering-in incident in question took place last August, when a Guilderland, N.Y., homeowner filed a complaint with the DEC because her lawn couldn't be watered-in after the pesticide application.

According to DEC attorney Charles Sarris, the pesticide was applied to the homeowner's lawn on Aug. 3, 1987, but the homeowner could not water her lawn because the town of Guilderland had im-

posed a water restriction. Guilderland is just outside Albany County. Under the restriction, only those with even number addresses could water on even days and those with odd number addresses could water on odd days.

The pesticide remained on the grass until the next day resulting in two bird kills, Sarris said. The two Blue Jays were found with a residual of diazinon in their systems, according to Metcalf.

J. Martin Erbaugh, president of the company whose headquarters are in Akron, Ohio, said the DEC could find nothing wrong with the way in which the application had been handled. However, after investigating label requirements, the DEC determined that Lawnmark was responsible for making sure the pesticide was watered-in.

Lawnmark contends the homeowner knew the application was going to be applied that day and should have called the company to reschedule the appointment. The DEC maintains, however, that the lawn care company should be aware of municipal rules — such as water restrictions — in areas which they do business.

The DEC has not determined the amount of the fine it will charge Lawnmark, but Sarris indicated it would be somewhere in the range of \$3,000.

To avoid litigation, Sarris said, Lawnmark will probably sign a consent order in which the DEC alleges that Lawnmark was at fault for the misuse of a pesticide, but it won't indicate whether the company admitted guilt.

Once the DEC made its determination, Telisport Putsavage, general counsel for the DEC, interpreted a pesticide label as a legal document making an LCO ultimately responsible for the watering-in of a product. His interpretation didn't give an LCO the option of delegating the watering-in responsibility to the homeowner.

Putsavage was unavailable for comment, but DuBois agreed that it is up to the LCO

to take responsibility.

"It would seem to me that if an applicator is applying a pesticide and the instructions, as part of the application of the pesticide, is to apply the pesticide and water it in, it would certainly be a concern to the applicator to see that it was done," she said. "And to simply leave it to a homeowner, I would think would put them in jeopardy."

However, LCOs maintain they've traditionally passed the watering-in responsibility to homeowners because time and labor costs make it an impossible task to assume themselves.

"It's been that way for years. You leave instructions or put them on the invoice telling them (customer) how long to wait before watering and for what length of time per area to do the watering," said Jerry Rubenstein of Lawn-A-Mat, Syracuse, N.Y. "The state is trying to turn it around and put all of the responsibility on the applicator. I'm afraid that unless we can get labels that are directed to the applicators and the homeowner, we're going to keep running into problems like efficacy.

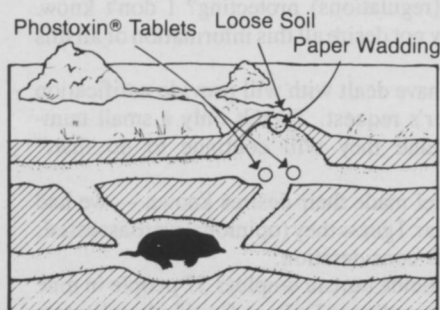
"If you've got yourself a preemergence crabgrass control or a surface insecticide or grub control or liquid fertilizer, all of these call for watering. How are you going to do this?"

Although the watering-in situation has taken a back seat to the rules and regulations currently under discussion, the issue could multiply in other states across the country.

"Initially, it's a local issue, but I think that it could very easily spread to other states," Wilkinson said. "I know there's been some concern expressed by other states by saying that they recognize this as an issue and that it's something they've got to take a look at, but we haven't reached the level of concern anywhere else other than New York at the moment."

OVERCOLLECTION OF FEES? Another concern, just beginning to brew in New York

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concerns the overcollection of certification fees. According to Beth Seme, executive director of the New York State Turfgrass Association, more than \$1 million has been overcollected by the state since 1983.

The overcollection was discovered because of a discrepancy between a New York State law and DEC regulation. According to Seme, the certification fees are due upon recertification which comes every six years. However in DEC regulations, the fee is to be collected annually.

A letter showing the overcollection figure was sent to Putsavage on March 11 for explanation. When she received no response, Seme sent a second letter to Putsavage, indicating she would begin litigation if a response wasn't received.

Although Seme and others are poised to file a lawsuit over the matter, she said she is still hoping the DEC will respond before litigation begins. No response had been received at the time this article went to press.

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

The average fee per applicator is \$15, however, most applicators provide services

which fall into more than one category, making certification fees higher, according to Seme.

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

"I'm fighting for them, but I'm not offering positive encouragement. There is no rosy picture to paint," Seme said. "Regulations are changing daily. It's a mess. When you don't have people that are looking at pesticides in a scientific manner, you end up with a situation like we're in right now."

As LCO's struggle to face more stringent regulations being thrown their way, they have matured and grown closer together.

"One thing we've learned is we now have to be active in the legislative and regulatory arena. No sitting back anymore and waiting for laws to be passed on us, not knowing and not having input on them, which is where we were for years," Seme said. "Now, we're starting to ask questions. It's brought the industry much closer together."

Seme said LCOs can help the situation by trying to comply with regulations and by joining an association. "Everybody's working as hard as they possibly can and

in as many areas as possible, but we could always use more help."

Sek agrees. Instead of fragmented sections trying to solve individual problems, New York LCOs have become united in their effort to respond to the current situation.

In addition, the PLCAA is trying to stay on top of the situation to keep its members informed and to prevent the situation from exploding.

"I commend the manufacturers and others for their interest in the problem and their willingness to see what can be done," Brooks said.

Doug Houseworth, senior technical support manager for Ciba-Geigy Corporation's turf and ornamental division, said he already has plans to do research on product labels to see if they can be made more reasonable.

"We've got to make labels as flexible as we can. We're going to have to change, and make the labels specifically with the user in mind," Houseworth said.

"It's going to be a while, but I think we'll get out of this one eventually," Seme said. "Things will start to straighten out, but it will be some time before business can act in a normal manner." — *Cindy Code* ■

The author is Editor of ALA magazine



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POSTING & PRE-NOTIFICATION

With this type of legislation being proposed fast and furiously lately, here's an update on what's going on around the country.

Rhode Island and Massachusetts have had laws requiring LCOs to flag their customers' treated lawns since the spring of 1987. This year, the list is growing. Now the states of Maine, Maryland, New York and Pennsylvania also have such laws in effect. In addition, Connecticut has a bill that's been introduced into the legislature which is likely to pass.

Though other states may shortly follow, Jim Wilkinson, executive director of the Pesticide Public Policy Foundation, said that within the past few months, posting has been beaten back successfully in Vermont, New Hampshire, Missouri, Indiana and Manitoba, Canada. "It was put on the back burner for now because of opposition from lawn care people."

Generally, the lawn maintenance industry is still very opposed to posting laws, he said. However, more operators have begun to find it acceptable as long as the regulations are "fairly reasonable and not tremendously involved."

In the area of pre-notification, many states now have requirements where the LCO must provide fact sheets describing the product that will be applied and the safety precautions the customer should take after the application has been made.

In both Rhode Island and Massachusetts, the customer now has the right to request pre-notification. But the applicator need provide this type of information only to those who seek it. In a recent development, Pennsylvania has come out with a central registry system designed specifically for notifying individuals who are medically hypersensitive to pesticides.

Here are updates on the 10 states cur-



Several states now require sign posting following outdoor applications.

rently dealing with posting and pre-notification laws. If your state isn't listed, you'll want to keep your eyes open anyway. There may not be any existing law or proposed legislation on the state level, but that doesn't rule out the possibility of local ordinances.

COLORADO. There are no state laws requiring posting. However, the city of Boulder has passed two local ordinances pertaining to outdoor spraying. In this municipality, it is the responsibility of the property owner to post a small sign for a 72-hour period following a professional application. The sign must indicate that pesticides have been applied, with a warning to keep off for at least 24 hours.

Also, a pre-notification ordinance for structural and outdoor applications is now on hold pending the outcome of a suit filed by the Colorado Pesticide Applicators for Responsible Regulation (COPARR). The hearing is not expected to take place at least until fall.

According to Ken Hostetler, president

of COPARR and staff manager for Swingle Tree Company, Denver, Colo., the regulations came about because of the concerns of a few private citizens, who gained the support of environmental groups, and lobbied through the city council. "It wasn't misuse that instituted it. There was some fear and that's how it got started."

CONNECTICUT. A bill called the "Act Concerning Notification of the Application of Pesticides and Integrated Pest Management" was introduced at the beginning of the legislative session by a coalition of environmental groups and the Professional Pesticide Users of Connecticut.

If passed, homeowners would place their names on a registry established by the Department of Environmental Protection if they wish to be notified when a professional applicator applies pesticides within 100 feet of their property line.

Basically, posting would be required at a conspicuous point of entry. The bill covers posting at ponds, but rights-of-way, like roadsides, are exempt.

The legislation also promotes use of Integrated Pest Management (IPM) for state agencies.

IOWA. Iowa is the fifth state (and the first outside the East Coast) to require lawn posting. It also requires operators to pay license fees for materials based on yearly sales related to pesticide use. In this state, pesticide applicators must also be certified.

Under the Ground Water Pollution bill, the 24-hour post-notification law applies only to applications made by certified pesticide applicators.

The law is not yet enforced because the Department of Agriculture and Land Stewardship has not determined standards for the sign. However, LCOs have been requested to make a reasonable attempt to comply.

MAINE. Drift regulations apply to *anyone* using powered equipment to apply liquid pesticides. Signs must be posted within view of people entering the area. After a 48-hour period, it's up to the homeowner to remove the sign.

Under Chapter 22 of the state's Board of Pesticide Control Regulation, the sign must be 4 x 5 inches and made of sturdy, weather-resistant material. Light-colored with dark bold letters bearing the words "Caution" in 72-point type and "Pesticide Application" in 30-point type, it must include the action prohibited symbol indicating no people or pets are allowed on the lawn.

Additionally, the sign must be posted one foot from the turf and include the name and phone number of the applicator's business.

According to the law, any lawns which have another regularly used building within 150 feet of them must be marked.

There is no mandatory pre-notification. However, at sensitive areas, such as residences and commercial buildings

within 500 feet of a target site, property owners may request prior notification.

MARYLAND. There are no specific regulations yet, but turf and ornamental applicators must post signs for at least 48 hours following application. Signs can then be removed by the customer.

Under the law, pre-notification is required only if the customer requests it. Product information *must* be provided either at the time of application or upon entering the contract. However, the operator need provide advance notice of the actual application date only if the customer requests it.

LCOs are being asked to comply with the sign posting law until it is enforced July 1, following a 30 to 60 day comment period. The state is distributing signs so that applicators can voluntarily post this season.

MASSACHUSETTS. It's the second year that posting has been in effect in this state. Here the sign must be posted on the lawn and include the telephone number and name of the company that did the application.

In addition, customers must be provided with a consumer fact sheet at the time of entering a contract, which advises how long the sign should remain posted. The consumer then removes the marker after the appropriate time, usually within 24 hours.

The fact sheet also informs consumers of what chemicals are being applied and how they can minimize exposure. In this state, applicators leave a tag on the homeowner's door indicating their visit and what product has been applied.

NEW JERSEY. There is no sign posting regulation in the state code, but the Bureau of Pesticide Control proposed extensive changes in the March 21st New Jersey Register. Public hearings were held throughout April.

If passed, the law would require posting by commercial applicators only. Residential, commercial and recreational lawns treated for the control of turf or ornamental pests would be marked for 24 hours or longer, if required by the reentry directions on the label.

In addition, the applicator would be responsible for removing the sign, but could delegate that job to the customer, in writing, at the time of the agreement.

Here it would be mandatory for LCOs to inform the consumer of the proposed dates of application and what products are to be used (brand name and the active ingredient). Label instructions pertaining to safety are also necessary.

Notices given to the contracting party

(Continued on page 44)

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CLIPPINGS

Hurray for Hollywood. Milwaukee-based small engine manufacturer Briggs & Stratton Corporation recently "went Hollywood" to give Director John Hughes a fantasy dance sequence that rivals the Rockettes.

The film, "She's Having a Baby," which stars Kevin Bacon and Elizabeth McGovern, recently played in movie theaters nationwide.

Featuring 25 lawn mowers, the dance routine is presented as a fantasy of the lead character, Jefferson "Jake" Briggs (played by Bacon) — a frustrated novelist coming to grips with marriage, adulthood and life in America.

Picture, if you will, a typical summer Sunday morning in suburbia. Briggs is tinkering with his lawn mower in the driveway, while everyone on the block seems to be cutting their lawn. As he surveys the scene, his neighbors suddenly begin to dance.

What follows is approximately two minutes of high-kicking, precision dancing complete with lawn sprinklers that gush on cue.

When Briggs comes out of his daydream, the neighbors are back at their yard work



Briggs & Stratton played a major role in this dance number from the new John Hughes movie, "She's Having a Baby."

— without the big production number.

The idea for the lawn mower fantasy came from one of the director's production people, according to George Thompson III, Briggs & Stratton manager of corporate communications.

"He was fascinated by a lawn mower drill team, believe it or not, he had watched some time ago," Thompson said. "The drill team's lawn mower engines were all manufactured by Briggs & Stratton, so Hughes called us with his idea."

Briggs & Stratton sent 25 Max Series 4

horsepower engines to Hughes, and worked with three of its customers: True Value, Lawn Chief and General Power to have the mower decks specially built for the dance number.

"Because of Briggs & Stratton's stature in the outdoor power equipment industry (the company is the world's largest manufacturer of small air-cooled gasoline engines), we often receive requests for technical support from the entertainment industry," Thompson said.

Immortal trees. Is it possible that trees can live forever? An item in the April issue of *Science Digest* indicated that some biologists seem to think so. Scientists say that trees may become more susceptible to disease with age because the aging process tends to sap their strength. They also point out, however, that in many cases trees seem to be immune to the passage of time. Apparently these trees manage to live for thousands of years by escaping such common causes of death as fire, lightning, floods, drought, devouring insects and the chain saw. ■

You are in the fight of your life, and you can't win alone.

A powerful coalition of self-appointed "public interest" groups are using fear and misinformation to bring about the virtual elimination of pesticides. If they succeed, the result will be a disaster for our health and our economy. And if pesticides or herbicides are part of your business, you just might be out of business.

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EPA BANS DIAZINON, CIBA-GEIGY MAY APPEAL

Diazinon will be banned from use on golf courses and sod farms unless a last chance appeal is attempted by Ciba-Geigy Corporation — the product's major manufacturer.

The Environmental Protection Agency's chief judicial officer ruled March 30 that the product should be banned from golf courses and sod farms because of bird kills. The decision reverses an earlier opinion by an EPA administrative law judge which would have permitted use of diazinon following extensive label modification.

The insecticide has been registered for use for more than 30 years, and has been used on turf for about 20 years. The ruling has no effect on turf use of the product.

Skip Ragland, public relations manager for Ciba-Geigy's agricultural division, said the company has not yet decided if it will appeal the EPA's latest decision.

"A lot has to be taken into consideration," he said. "We've fought with the EPA for quite a while. The question is, do we continue to fight and what are our chances? We still totally disagree with the EPA's decision. We feel strongly about the product and feel the use restrictions are sufficient."

Ciba-Geigy has about 60 days from the EPA's ruling in which to file an appeal. A grace period follows the EPA's decision to ban the product and the time it takes Ciba-Geigy to decide whether an appeal will be made.

Since August 1987, Ciba-Geigy has spent lengthy court hours battling to keep diazinon alive. Although the controversy began several years ago, the issue did not go before the EPA's administrative law judge until late last summer.

At that time, the EPA proposed to cancel the use of diazinon on sod farms and golf courses because of potential hazards to birds. However, an administrative law judge hearing the case decided the product was safe for use under proposed modification of the label, which included labeling diazinon a restricted use product for certified applicators only.

Ciba-Geigy proposed most of the label revisions to which the judge agreed. Previously, all attempts by Ciba-Geigy to modify the label had been rejected by the EPA, according to Caroline Bussey, a regulatory specialist for Ciba-Geigy.

Diazinon was used legally on sod farms

and golf courses throughout the hearings by companies which participated in the court case. Companies which didn't participate in the hearings were required to put a statement on their label saying the product couldn't be used on sod farms and golf courses.

Although other organophosphates can be used as alternatives to diazinon, Ragland said, their characteristics vary widely from diazinon, making alternatives less appealing.

"We've asked for (an EPA) decision to be made purely and simply on science. We have data to show that it's not a reasonable risk to birds," he said.

If the ban holds up, Ciba-Geigy will lose about 7 percent of its diazinon sales, Ragland said. The company would continue to manufacture the product for other uses.

Although the lawn portion of the label has not been challenged, Ciba-Geigy is expected to recommend that its customers reduce rates of diazinon on home lawns. That recommendation is pending the outcome of the case. —Cindy Code ■

The author is Editor of ALA magazine.

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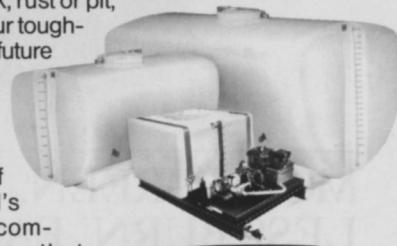
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ALA / MAY 1988 39

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LETTERS

CRABGRASS DISCREPANCIES

This letter concerns inaccuracies in the crabgrass article in the March 1988 issue of *ALA* magazine. Specifically I am referring to the list of preemergence herbicides on page 40 of the related text.

To put it bluntly, that list is five to 10 years out-of-date and does not reflect the current preemergence herbicide usage in today's lawn care industry. Most notably missing from the list is pendimethalin, which dominates the sprayable preemergence market and commands a significant portion of the granular applied market. Also grossly missing from the list is Team (Balan + Surflan) which dominates the granular market. When pendimethalin and Team treated acres are combined, the herbicides on your list are relegated to very minor also-rans in today's national lawn care industry.

Also conspicuously absent from the text is the use of Acclaim® for postemergence control of crabgrass. Acclaim is widely used.

One of the major reasons for the development of the lawn care industry in the United

States was the ability to control crabgrass. Preemergent weed control is still one of the most widely discussed issues in today's industry.

Your lack of sensitivity to the current operations in the lawn care industry was very evident in the article. While The Lawn Institute should be held accountable for continuing to promulgate their erroneous information, you have an editorial responsibility to present fair and accurate information to your readers. I hope your readers are astute enough not to be influenced by the herbicide omissions.

I hope you recognize that you have done your major advertisers a disservice.

Bruce J. Augustin, Ph.D.
Director of Technical Support
LESCO Inc.
Rocky River, Ohio

The crabgrass article to which you are referring detailed the crabgrass problem of 1987 as seen by university researchers and industry experts across the country.

Because of hotter than usual tempera-

tures, erratic rainfall and other environmental issues, crabgrass was more of a problem to lawn care professionals last year than in previous years. That was the purpose of our story—to discuss the crabgrass problem, and to see if those in-the-know in our industry could recommend solutions.

Although the article itself was not on preemergent herbicides, we did choose to list a few preemergents that have been known to provide good control of crabgrass infestations. Although newer preemergent herbicides such as pendimethalin and Acclaim were discussed in the issue, they were unintentionally left out of our listing.

The list, provided by The Lawn Institute, was based on the institute's "best estimate of safe use," according to Executive Director Eliot Roberts. Roberts said pendimethalin will be included on a future list of preemergent herbicides for crabgrass control, but had not yet been added at the time of our article.

We apologize for the exclusion of pendimethalin, Acclaim, Team and any other commonly used preemergent herbicides from the chart. Ed. ■



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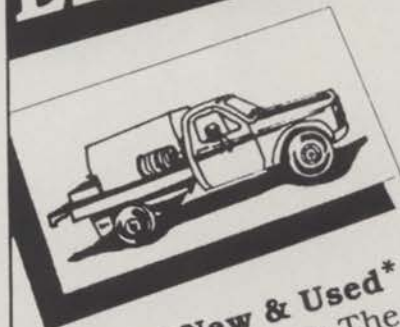


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PRODUCTS

Hinson-Femco unveils the new Universal Tractor Weather Brake with Top for commercial lawn and garden tractors with flat fenders and footrests. The Weather Brake is heavily constructed of reinforced vinyl laminate, brass grommets and double-locking seams for operator warmth and weather protection.



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Featured within is the new GA 30™

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Blackburn Manufacturing Company has developed a marking flag designed specifically for lawn care professionals. The flags

were developed to meet requirements for posting pesticide application areas.

The 4-inch by 5-inch plastic flag is mounted on a PVC plastic staff which is 1/8-inch in diameter. A message can be screen printed on the flag to indicate that pesticides or herbicides have been applied on the area. Blackburn has standard lawn care flags, pre-printed with a cautionary message in stock, ready for immediate shipment. Flags can also be custom-printed with the customer's logo and message.

The staff comes in lengths of 18-inch or 24-inch. It bends easily at a 90-degree angle so that the flag hangs vertically for easy reading.

Circle 103 on reader service card

POSTING

(continued from page 35)

would bear the name, address and phone number of the applicator business, in addition to the phone numbers of the New Jersey Department of Health and the New Jersey Poison Information and Education System.

NEW YORK. Final regulations haven't been made yet, but the law governing certified pesticide applications went into effect April 25. Posting won't be enforced, however, until the regulations are promulgated. In the state of New York, a label notification law became effective in 1983.

Under the law, certified applicators must provide prior notice to the occupant of a dwelling where pesticides are going to be applied. This includes a written copy of the label with the pesticide warning.

At multiple dwellings and buildings or structures other than single-family residences, the applicator provides the information to the owner or agent of the structure, who in turn must make that available at reasonable times to the occupant or resident. (See "What's Happening in New York?" on page 30.)

PENNSYLVANIA. This state is now in the early stages of compiling a register that includes names and addresses of residents who have apparent allergies to pesticides. Pennsylvania is the first state to adopt this sort of voluntary program. Under the program, certified applicators must notify a hypersensitive individual when operating within 500 feet of their home.

Citizens who wish to have their names placed in the registry must provide medical evidence of their hypersensitivity. Commercial applicators then contact them as needed.

At this time, rules and regulations are not yet enforced in the areas of pre-notification or posting.

RHODE ISLAND. Rhode Island began requiring posting by commercial applicators one year ago. Under this law, a sign must be posted in property access areas for at least 72 hours. In addition to residential lawns, the regulation covers public recreational facilities.

In Rhode Island, citizens may request 48-hour notice prior to an application on neighboring property.

The flag is slightly different than most in New England. Four by five inches, with black lettering on a white field, it reads, "Lawn Chemicals Applied" and "Keep posted for 72 hours." The marker also bears the name of the company or applicator and a phone number. — *Julie November*

The author is Assistant Editor of ALA magazine

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COMING NEXT MONTH

The lawn service industry has undergone a variety of changes in recent months. Find out who's been buying whom in next month's acquisitions story. We'll also bring you our annual seed research and development business feature. We'll report on new seed varieties and the latest developments being researched in regard to tolerance, resistance and other basic qualities.



A Breakthrough



There's an armed struggle going on out there. Man versus machine. In this case, it's operators just like you battling it out with old-fashioned "pistol grip" type steering. But now there's a way for you to gain the upper hand. T-bar steering exclusively from Toro.

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