PESTICIDES

Dow moves to restore silvex, 2,4,5-T products

In a pre-hearing brief recently filed with U.S. Administrative Law Judge Edward Finch in Washington, D.C., Dow Chemical Company requested that suspended Environmental Protection Agency (EPA) uses for 2,4,5-T and silvex products be restored and the cancellation notice for all uses be withdrawn.

Dow's brief contens that 2,4,5-T, silvex, and the herbicides trace contaminant TCDD (dioxin) pose no unreasonable risks to humans or the environment.

Most uses of the two products were suspended last year after EPA received reports that an abnormally high number of allegedly TCDD-related miscarriages had occurred in isolated spray areas in the Northwest.

In a two-year study just released by the EPA, no detectable TCDD residues were identified in any of 103 milk samples from nursing mothers in the spray areas. The samples were obtained in November, 1977 from women in California, Oregon, and Washington where the phenoxy herbicides 2,4,5-T and silvex were used for agricultural and forest management application. EPA analyzed the samples with technology capable of measuring impurities down to one to four parts per trillion.

"The EPA study supports Dow research that TCDD residues from agricultural uses of 2,4,5-T and silvex are not accumulating in the environment," John E. Donalds, general manager of Dow's Agricultural Products Department, said.

The brief also states that additional unsuccessful searches by Dow to find TCDD in the environment were conducted in Arkansas and Texas where large acreages had been sprayed with 2,4,5-T to control unwanted vegetation.

In addition, according to Dow, 17 independent critiques of EPA's Alsea II study, which

to page 13

OHIO HOUSE BILL 952

Bill requiring notification of customers 48 hours in advance of pesticide application unlikely to pass House in its present form

A bill currently in committee in the Ohio House of Representatives which would require lawn care companies to notify customers 48 hours in advance of a lawn care application of pesticides may never see the "light of day," according to the bill's sponsor.

In a letter to an Ohio Department of Agriculture administrator, State Representative Don S. Maddux said, "In its present form, the bill may be alarming to many interests; however, numerous changes will be made in the proposal if it ever sees the light of day."

Maddux initially introduced the bill at the request of a constituent who allegedly enountered some problems with a utility company concerning pesticide applications on his property. However, Maddux is currently having second thoughts about the merits of the legislation.

"I should have introduced this bill by having the words (by request) following my name because I am not at all convinced whether I should have introduced the bill in the first place," he said, "and if so, whether I should have introduced it in the form I did. In all honesty, had the utility been more responsive to my constituent, I would probably not have introduced the measure."

Maddux added that it is not his "intent to outlaw spraying in Ohio" by any source or by any individuals. "Emphasis must be made that this legislation was intentionally written in a broad and vague manner," he said. "If the legislation begins working its way through the legislative process, the language of the bill will be tightened.

"I am not certain of what the legislature should do in the area of notifying those individuals being sprayed of the type of chemicals being used and when the spraying will occur," he said. "I would guess that the industry itself (or possibly the federal government) already have some rules or regulations on these two items. Obviously, the issues are controversial and need to be addressed. I doubt if my legislation does a satisfactory job in addressing these issues."

Maddux said the "controversial nature" of the bill has resulted in numerous requests for copies of the legislation from his office. For input regarding the legislation contact Don S. Maddux, 341 Baldwin Drive, Lancaster, OH 43130.

LAWN CARE INDUSTRY
Serving lawn maintenance and chemical lawn care professionals.
APRIL 1980 • VOL. 4, No. 4 • A Harvest Publication

PULSE REPORTS

LCI survey charts fourth quarter buying

Almost 60 percent of respondents to a recent survey conducted by LAWN CARE INDUSTRY said they spent an average of $2,343 apiece on dry-applied turf fertilizer during the fourth quarter of last year — the months of October, November and December.

Slightly more than 10 percent of the respondents said they purchased an average of $1,495 on liquid-applied turf fertilizer during the same period.

Results for this fourth quarter "pulse report" are based upon figures submitted anonymously by 145 respondents. This represents a 35 percent response to questionnaires mailed to readers of LAWN CARE INDUSTRY, according to LCI market research manager Clarence Arnold.

The results in the dry-applied fertilizer category would project to $13 million worth of purchases by the total readership of LAWN CARE INDUSTRY, Arnold said. The results in the liquid-applied fertilizer category would project to $1.4 million worth of purchases for the fourth quarter.

In the pre-emergence turf herbicide category, 23.4 percent of the respondents said they purchased an average of $722 worth of product, for a readership projection of $1.6 million.

In the post-emergence turf herbicide category, 29 percent of the respondents said they purchased an average of $794 worth of product, for a readership projection of $2.2 million.

In the turf insecticide category,

to page 3

Fourth quarter buying

PRODUCT Fourth quarter buying	% of sample making purchase	average purchase	projection to LCI readership
Dry-applied turf fertilizer	59.3%	$2,343	$13,000,000
Liquid-applied turf fertilizer	10.3	1,495	1,400,000
Pre-emergence herbicides	23.4	722	1,600,000
Post-emergence herbicides	29.0	794	2,200,000
Turf insecticides	24.1	679	1,500,000
Fungicides	23.4	539	1,300,000
Seed	45.5	1,771	7,600,000
Soil amendments	34.5	1,421	4,600,000
10-20 h.p. tractors	9.7	6,137	5,600,000
Turf sprinklers	17.2	3,899	6,300,000

Source: 1979 LCI survey

QUICK STARTS

wage and hour prob-
INDUSTRY, page 21.
looks at business,
e businessman faces
e been suggested by

Deltic from BOOTS HERCULES

DELTIC MEANS BUSINESS.

New from Boots Hercules! DELTIC™ Residual Tick and Flea Killer provides both immediate and residual control of ticks, fleas and mites. It works longer and harder in holding back recurring infestations.

New Business for you! Spraying for pests can provide a needed service for your lawn care customers plus a new source of additional income for you! Homeowners cannot purchase this restricted-use pesticide on their own. To get its powerful effects, they must rely on a Licensed Certified Applicator.

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Write 158 on free information card

PULSE REPORT *from page 1*

24.1 percent of the respondents said they purchased an average of $679 worth of product, for a readership projection of $1.5 million.

In the turf fungicide category, 23.4 percent of the respondents said they purchased an average of $571 worth of product, for a readership projection of $1.3 million.

In the tree insecticide category, 23.4 percent of the respondents said they purchased an average of $539 worth of product, for a readership projection of $1.2 million.

In the grass seed category, 45.5 percent of the respondents said they purchased an average of $1,771 worth of product, for a readership projection of $7.6 million.

In the sod category, 37.2 percent of the respondents said they purchased an average of $3,995 worth of product, for a readership projection of $14 million.

In the tree fertilizer category, 25.5 percent of the respondents said they purchased an average of $580 worth of product, for a readership projection of $1.4 million.

In the tree category, 46.9 percent of the respondents said they purchased an average of $4,390 worth of product, for a readership projection of $19 million.

In the ornamentals category, 46.2 percent of the respondents said they purchased an average of $4,740 worth of product, for a readership projection of $21 million.

In the soil amendment category, 34.5 percent of the respondents said they purchased an average of $1,421 worth of product, for a readership projection of $4.6 million.

In the less than 10 h.p. tractor category, 4.1 percent of the respondents said they purchased an average of $3,784 worth of product, for a readership projection of $1.5 million.

In the 10-20 h.p. tractor category, 9.7 percent of the respondents said they purchased an average of $6,137 worth of product, for a readership projection of $5.6 million.

In the 21-30 h.p. tractor category, 4.1 percent of the respondents said they purchased an average of $8,485 worth of product, for a readership projection of $3.3 million.

In the 31-50 h.p. tractor category, 3.5 percent of the respondents said they purchased an average of $10,299 worth of product, for a readership projection of $3.3 million.

In the larger than 50 h.p. tractor category, 4.8 percent of the respondents said they purchased an average of $11,797 worth of product, for a readership projection of $5.4 million.

In the rotary mower category, 16.6 percent of the respondents said they purchased an average of $2,289 worth of product, for a readership projection of $3.6 million.

In the rotary tractor-drawn mower category, two percent of the respondents said they purchased an average of $617 worth of product, for a readership projection of $120,000.

In the reel tractor-drawn mower category, 0.7 percent of the respondents said they purchased an average of $5,720 worth of product, for a readership projection of $370,000.

In the irrigation pump category, 9.7 percent of the respondents said they purchased an average of $1,125 worth of product, for a readership projection of $1 million.

In the turf sprinkler category, 17.2 percent of the respondents said they purchased an average of $3,899 worth of product, for a readership projection of $6.3 million.

In the irrigation pipe category, 15.9 percent of the respondents said they purchased an average of $2,703 worth of product, for a readership projection of $4 million.

In the irrigation controls category, 14.5 percent of the respondents said they purchased an average of $2,407 worth of product, for a readership projection of $3.3 million.

TOOLS, TIPS & TECHNIQUES

Seeding southern lawns

Mississippi State University extension plant pathologist Donald Blasingame recommends these seeding rates in home lawn areas for different grass varieties. For a rate for a 1,000-square-foot area, he says:

- Common bermudagrass — one pound of seed.
- Centipedegrass — four ounces of seed.
- Carpetgrass — eight ounces of seed.
- Creeping red fescue — five pounds of seed.
- Tall fescue — three pounds of seed.
- Bluegrass — three pounds of seed.

In Mississippi, he recommends common, Tiflawn, Tifway and Tifgreen bermudagrass varieties; Emerald and Meyer zoysiagrass varieties; common and Floratam St. Augustinegrass varieties; and that tall fescue, creeping red fescue and bluegrass be used in only northern Mississippi.

Art Wick

Harry Podvia

Ron Giffen

Herb Cole

Bill Tanner

Meet our lawn care team — Art, Harry, Bill, Herb and Ron and LESCOSAN and LESCO 100% Sulfur-Coated Fertilizer

Lakeshore Equipment & Supply Co. specializes in meeting your lawn care needs. Art Wick, Harry Podvia, Bill Tanner, Herb Cole and Ron Giffen bring yo·· the finest quality products available — prod·ucts like LESCOSAN and LESCO 100% Sulfur-Coated Fertilizers.

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LAWN CARE INDUSTRY

Just fill in card...(all items must be completed before inquiries can be processed).
Check one box in each category

1 Check one that best describes your business: Lawn care service business involved primarily with fertilization, weed and insect control:

10 ☐ Liquid 11 ☐ Dry 12 ☐ Both
13 ☐ Primarily mowing/maintenance service
14 ☐ Landscape Contractor/Lawn Service Co.
15 ☐ Pest Control/Lawn Service Co.
16 ☐ Nursery or Garden Center/Lawn Service Co.

Grounds Care Manager for:

17 ☐ Private or public estate
18 ☐ School, College, University, Hospital, Industrial Park or similar facility
19 ☐ Government grounds; such as parks, around municipal buildings, or military facility
24 ☐ Cemetery or memorial gardens
25 ☐ Dealer or Distributor
26 Other _____

2 Check one which best describes your buying responsibility:

21 ☐ Purchase
22 ☐ Specify or recommend purchase

3 If your business sells its services to home-owners, commercial or industrial accounts please answer the following:

3A/ Estimated gross annual receipts from lawn service operations in current year:

31 ☐ Up to $50,000
32 ☐ $50,000 to $150,000
33 ☐ $150,000 to $500,000
34 ☐ $500,000 to $750,000
35 ☐ $750,000 to $1,000,000
36 Other _____

3B/ Approximate # accounts serving in current calendar year:

37 ☐ Up to 100
38 ☐ 100 to 500
39 ☐ 500 to 2,500
40 ☐ 2,500 to 5,000
41 ☐ 5,000 to 10,000
42 Other _____

3C/ Is your business:

43 ☐ Independent
44 ☐ Franchise
45 ☐ Chain Affiliated

4 If you are a grounds care manager (not selling lawn care services) estimate the following:

51 # acres you're responsible for_____ acres

Annual expenditures for:

52 Chemicals $ _____
53 Fertilizers $ _____
54 Equipment $ _____
55 Irrigation $ _____
56 Plant Matter $ _____

5 **For more information** about products displayed in this issue, print the reader service number in the spaces provided below and block out A, B, C, or D for specific information needed.

61 [a] Need Catalog literature
62 [b] Need more price info
63 [c] Interest in Purchasing
64 [d] Have specific problem—have salesman call.

	a b c d		a b c d		a b c d		a b c d
	a b c d		a b c d		a b c d		a b c d
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91 First Initial | Middle Initial | Last Name

92 Your Title

93 Company Name

94 Mail To:

95 City | State | Zip Code

96 Phone: Area Code ☐☐☐ No.: ☐☐☐☐☐☐☐

Address shown is:
98 ☐ Business
99 ☐ Home

97 Signature: _____ Date_____

Do you wish to receive/continue receiving Lawn Care Industry? ☐ Yes ☐ No

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COMPANIES

Lawn care products introduced by Tuco

"Lawn care professionals can now rely on the products and turf experience of Tuco, Division of The Upjohn Company, to help them meet the growing needs of the lawn care industry," according to Tuco Marketing Manager Owen B. Lewis. Tuco recently introduced Proxol insecticide and Acti-dione fungicide products into the lawn care market.

Lewis said Tuco has been a leader in research, development, and field testing of agricultural chemicals for more than 30 years. Much of this effort has been devoted to creating effective insecticides and fungicides for use by professional turf managers.

"Through years of use on golf courses, our products have earned an excellent reputation," Product Manager L.E. Jones, added. "This turf care experience is now being introduced to the lawn care industry."

Tuco's Proxol 80 SP is an organophosphate insecticide labeled for control of sod webworms, cutworms, and larval populations of various beetle species (white grubs). It provides lawn care specialists with an effective alternative to chlorinated cyclodiene insecticides, many of which have been banned by the Environmental Protection Agency.

Using this insecticide at new, reduced rates can provide maximum benefits to the user and to the environment. When used at suggested label rates, Proxol has little effect on beneficial insect predators and parasites, so it actually supplements natural controls rather than destroying them. Proxol breaks down without toxic accumulation, preventing harm to helpful insects.

According to results of a study at the Ohio Agricultural Research and Development Center in Wooster, Ohio, Proxol has much less tendency to be bound to thatch than other organophosphate insecticides, allowing it to be carried below the thatch layer to soil layers inhabited by white grubs.

Acti-dione antibiotic turf fungicides are for use on lawns of Kentucky or Merion Bluegrass, Bentgrass, Bermudagrass, or St. Augustinegrass. They may be applied with most common insecticides. Enide, a selective preemergence herbicide for control of most grasses and many broadleaf weeds in ornamentals, is also available from Tuco.

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MEMOS

Fertilizer effect on Fusarium: Robert Pendzick, owner of Lawns, Inc., Milwaukee writes to share with readers of LAWN CARE INDUSTRY his observations on the effects of fertilizers on *Fusarium* blighted turf. He said:

"We realize that the enclosed observations are not a scientific study, because many influencing factors were not controlled. Yet it is interesting to note how these various water insoluble nitrogen fertilizers performed on the diseased turf. We will be glad to answer any questions that may arise concerning these observations."

Pendzick's observations were made throughout last year's growing season on 27 lawns. He says that all lawns had *Fusarium* blight in 1978, and that all lawns were sodded after 1975. Each lawn had approximately 4,000 square feet where the observations were made. He avoided making observations on slopes, in shade and in areas of poor drainage.

All fertilizer applications were made at the same rate and within a five-day time span. Blended fertilizers of about the same analysis were used in the spring and fall while the summer application was made with a product containing the water insoluble nitrogen available for that fertilizer type. He said that mowing and watering practices were not controlled but appeared equal.

On the check lawns, which received no fertilizer, 10 to 15 percent of the lawns had the disease, and it increased to 15 to 20 percent incidence. On lawns which were fertilized with IBDU, lawns with 10-15 percent incidence increased to 15-20 percent, and lawns with 25-35 percent incidence increased to 25 to 40 percent incidence. He says the total effect on these lawns was small.

On lawns which were treated with ureaformaldehyde, lawns which had 10-15 percent incidence increased to 20-25 percent incidence, and lawns with 25-35 percent incidence increased to over 45 percent incidence. Lawns treated with methylene ureas increased from 10-15 percent incidence to 20-28 percent incidence, and 25-35 percent incidence to over 40 percent incidence. He says the total effect on these lawns was moderate.

On lawns treated with straight urea (no water insoluble nitrogen) incidence increased from 15-25 percent incidence to over 40 percent incidence. He terms the total effect on these lawns as large.

His address and phone is: 6709 W. Forest Home Ave., Milwaukee, WI 53220, 414-321-0777.

Ohio Turf Conference dates changed back: Before the ink had dried on LAWN CARE INDUSTRY's March issue, the board of directors of the Ohio Turfgrass Foundation had decided to change its dates back to the original ones scheduled.

So mark your calendars now. The Ohio Turfgrass Conference and Show is set for Dec. 2-4 at the Ohio Center in Columbus, Ohio. Host hotel is the Hyatt Regency. For further information, contact: Dr. John Street, 1827 Neil Ave., Columbus, OH 43210, 614-422-2592.

Trees add value to home. Maintaining trees in the home landscape is like putting money in the bank, because large, healthy trees increase property values, says Michigan State University forester James Kielbaso.

Writing in the Michigan Association of Nurserymen publication, Kielbaso says that trees may add as much as 15 percent to the value of an average half-acre home lot. On open land, the presence of healthy trees can boost appraised land values by as much as 27 percent. Trees with dead limbs or tops, cavities and other problems, however, can be a liability.

"Exactly how much a tree is worth depends on the species, size and location, as well as the tree's condition," he said. "The usual formula for avaluating a tree is to multiply basic value — which is size-related — times the species times the condition times the location."

Basic value is expressed in dollars based strictly on the diameter of the tree four-and-one-half feet above the ground. In Michigan, the current standard is $15 per square inch of cross-section. Thus, the basic value of a 20-inch tree would be $4,713. Trees less than six inches in diameter are usually considered replaceable and valued at what it would cost to replace them.

Other factors are expressed as percentages, representing the tree being evaluated in comparison to an ideal tree. Species represents the relative value of the tree species. A desirable species, like red oak or American yellowwood, would be eveluated near 100 percent, while a poorer one, like the black locust or cottonwood, would be rated about 10 percent. Location refers to the appropriateness of the tree's location in the landscape. Condition refers to the tree's physical and biological well-being.

NEWSMAKERS

John W. Canedy is president of **The Millway Tree Service, Inc.,** Barnstable, Mass. His company handles mowing/maintenance, and both liquid and granular chemical application.

Mark Rice is manager of **Nutra-Lawn, Inc.** Greeley, Colo.

Paul Grimes is owner of **Lawn Aid,** Shreveport, La. His company handles fertilization, insect control and disease control.

Steve Gillette is manager of product promotion for **Allied Chemical Corp.,** based in Omaha, Neb.

Dr. Kent M. Backman has been promoted to manager of agricultural chemicals for **Upjohn International, Inc.,** Kalamazoo, Mich.

Neal Barkett is owner of **Colonial Lawn Care,** Youngstown, Ohio. Stephen DeGenaro is foreman. The company handles weed control, insect and disease management, aeration and dethatching, tree spraying, lawn mowing and snow removal.

Richard D. West is owner of **River City Lawn & Garden Care,** Sacramento, Calif.

Floyd Armfelt is president of **The Greenskeeper,** London, Ohio.

Mike Talbot is production supervisor for **Hillside Gardens,** Foley, Mo.

James M. Zei recently started **Hastings Lawn Care,** Park Ride, Ill.

Ford B. West has been named director of member services for **The Fertilizer Institute.**

Dr. John T. Marvel has been appointed director of research for **Monsanto Agricultural Products Co.,** St. Louis. He succeeds Dr. A. John Speziale, who has retired after 31 years in the industry.

Two promotions in sales management at the Outdoor

Hirschman

Lowell

Power Equipment Division of **J I Case Co.,** Winneconne, Wis. have been announced by marketing manager John W. Stark. Michael F. Hirschman has been promoted to sales manager and Robert L. Lowell to regional sales manager, handling the western region.

Dale A. Wagather is owner of **Southtown's Lawn Service,** Orchard Park, N.Y.

J.C. Patrick is owner of **Pro-Scape,** Baton Rouge, La. His company handles complete commercial maintenance.

Eddie Anderson is owner of **Lawn Care & Co.,** San Pablo, Calif.

Leon T. Wylie is owner of **Green Thumb Liquid Lawn Care,** Southern Pines, N.C.

Terrance Allen is regional lawn administrator for **Orkin Pest Control,** Tampa, Fla.

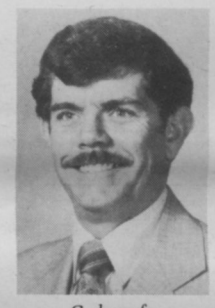
Al Anderson is branch manager for **ChemLawn Corp.,** Largo, Fla. The company is based in Columbus, Ohio.

Richard C. Berner is product development regional manager for **Rhone-Poulenc, Inc.,** Gainesville, Fla. The company is headquartered in Monmouth Junction, N.J.

Bill Sprayberry is district sales supervisor for **Diamond Shamrock Corp.,** Largo, Fla. The company's agricultural chemical division is headquartered in Cleveland, Ohio.

Richard A. Schaaf has been appointed director of purchases of the **Hypro Division of Lear Siegler, Inc.,** it was announced by company president Bernard A. Napier.

A number of promotions and two new branches have been announced by **Hydro Lawn,** Gaithersburg, Md. Greg Richards has been named vice president and Robert Grubb has been



Schaaf

Richards

named director of marketing and advertising. A branch was opened in Columbia, Md. and will service the Baltimore market. Branch manager is Mark Schlossberg. The other new branch is located in Seat Pleasant, Md. Branch manager is Jed Erickson and his assistant branch manager is Kenneth Umbarger. Alistair Bell is branch manager of the company's Springfield, Va. branch, and James Smith is branch manager of the company's Gaithersburg branch. Company president is Jerry Faulring.

ICI Americas, Inc., Wilmington, Del. has announced that its president and chief executive officer, Edward J. Goett, retired last month after 25 years in the industry. He will be succeeded by Robert P. Barnett.

Richard Barth, general counsel and chief financial officer; Dr. Jack Schneller, in charge of production, engineering and technical services; and Charles O'Brien, president of the Agricultural Division, have been appointed senior vice presidents of **Ciba-Geigy Corp.,** Greensboro, N.C. Also, Gene R. Leed has been named assistant regional manager for the western

region of the Agricultural Division.

W.L. Brewer has been named division manager for **FMC Corp.'s Agricultural Machinery Division** with responsibility for domestic and international operations. New general managers for the division's four facilities are: William D. Henderson, Jonesboro, Ark. and Ocoee, Fla.; J.M. (Patt) Patterson at Minden, La.; and Gregory R. Lewsi at Ripon, Calif.

Shell Chemical Co.'s Agricultural Chemicals Division has announced several promotions: Richard H. Metz to staff business representative and M.T. Tom Bonesteel to promotion representative at Houston; J.G. Thew to area sales manager in the St. Louis district; and Tom G. King to distributor accounts manager in Atlanta.

Smith-Douglass Division of **Borden Chemical** has announced several management changes: Roy Brun to director of fertilizer sales; Herman Powers to director of fertilizer manufacturing; Walter F. Bram to the newly created position of vice president of supply, distribution and purchasing; and James McDaniel to manager of supply with John W. Dibble as his assistant.

Federal Agriculture Secretary Bob Bergland has named seven new members to the Plant Variety Protection Board, an advisory group to the U.S. Department of Agriculture's program to protect the rights of breeders of new seed-produced plants. Members from the turfgrass industry include Richard H. Bailey, **Jacklin Seed Co.**, Salem, Ore., and Dr. Gerard W. Pepin, research director for **International Seeds, Inc.**, Halsey, Ore. Jacklin Seed Co. is headquartered in Post Falls, Idaho.

Bailey

Pepin

Leonard L. Johnson has been named chairman of **The Toro Company** distributor council for this year. He is president of **L.L. Johnson Distributing Co.**, Denver. Three new members were named to the nine-member council. They are: Richard Yerxa, president of **Yerxa's Inc.**, South Portland, Maine; Peter K. McDonough, president of **Summit Power Equipment,** Fort Wayne, Ind.; and Jon R. Thomas, president of **Turfaid, Inc.**, Memphis, Tenn. Each will serve a three-year term.

George Abraham is owner of **The Green Thumb,** Naples, N.Y.

Philip A. Raices is owner of **Lawn Gro,** Great Neck, N.Y.

John Mauck has joined the sales staff of **Pacific Green Sod,** Camarillo, Calif., as its new southern area sales director.

Bill Turnage is manager of the Garden Supplies Division of **Voluntary Purchasing Groups' Inc.,** Bonham, Texas.

Kenneth W. McCoy has joined the staff of **Hopkins Agricultural Chemical's** manufacturing division as sales representative for Kansas, Missouri and Nebraska. Hopkins is based in Madison, Wis.

McCoy

Roethe

Robert F. Parmley is president and Sherry Roethe is manager of personnel and training for **Tempo 21, Inc.,** Wheeling, Ill. The company offers both liquid and granular chemical application. Roethe recently addressed the Illinois Turfgrass Conference.

Gary L. Mack is president of **American Lawn of Maryland, Inc.,** Walkersville, Md. The company offers both liquid and granular chemical application.

Wayne Register is district manager and Michael Mobley is sales manager for **Liqui-Lawn (Northern Propane Gas),** Conley, Ga. The company offers liquid chemical application.

Robert C. Wagenschutz is owner and president of **Wagenschutz Lawn Spraying, Inc.,** Plymouth, Mich. The company offers both liquid and granular chemical application.

Environmental Industries, Inc., Encino, Calif., Burton S. Sperber, president, announces the acquisition of **Turf & Landscape Care, Inc.,** Scottsdale, Ariz. With more than a dozen years of experience, the principals and staff of Turf & Landscape Care, Inc. have operated primarily as a commercial landscape maintenance company. Ralph S. Hull, vice president, will remain in charge of operations. This marks the second acquisition of a landscape maintenance company by the corporation. The first was **Green Valley Landscaping,** San Jose, Calif., which was acquired in 1970. Environmental Industries, Inc. in involved in landscape construction, maintenance and tree growing. The acquisition of Turf & Landscape Care will enlarge the scope of the company's landscape maintenance division and provide a base for operations in the growing Arizona marketplace.

Lawnrite Corp., Long Island lawn care company previously based in Bohemia, N.Y. has moved. New address is: 4953 Nesconset Highway, Port Jefferson Station, NY 11776, 516-473-8800. Paul Kampe is president.

James M. Anderson is owner of **Lawn Kare Services,** Anderson,

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MONEYWISE

Create a demand for extras on job sites

Lawn maintenance professionals can increase sales by creating a demand for extras on job sites they already maintain, according to Melanie Reinhold, of William Reinhold Landscape Contractors & Engineering, Inc., Flat Rock, Michigan.

"About two years ago we installed about $20 worth of tulip bulbs on an Ann Arbor site," she said. "We didn't tell the client we did it and we obviously didn't charge them for it.

"In the spring when the bulbs came up, the president of the company was really hot to find out who did it. When he found out that we had taken the extra initiative (in planting the bulbs) he was really thrilled."

Reinhold, speaking at a recent Associated Landscape Contractors Association Maintenance Symposium in Milwaukee, said as a result of their efforts they now install more than $1,000 worth of tulip bulbs and about $2,000 worth of annuals on the site every year. That's a pretty healthy return on a $20 investment.

"Of course, not all of our extra investments have proven to be as profitable as that one, but I've found that it's always really good advertising and public relations with the client to be able to take a little extra initiative on the job sites. It's really quite impressive to them." Reinhold is a graduate of Michigan State University with a bachelor's degree in horticulture.

William Reinhold Landscape Contractors & Engineering primarily services the Ann Arbor and Detroit metropolitan areas. The company services strictly commercial/industrial accounts. "We try to specialize in large sites, especially factories, office complexes, and even a few cemeteries," Reinhold said. "We've found that we can be the most competitive on sites with landscape grounds of five acres or more to maintain."

Reinhold added that there are some problems with operating a business in the Detroit metropolitan area. "The one fundamental problem in being located in Detroit is that Detroit is essentially a one industry town and when the auto manufacturers are not having a healthy year, nobody else is either. And that makes it extremely difficult for anyone to market much of anything in the city.

"For that reason I've tried to diversify my accounts as much as possible," she said.

NEWSMAKERS *from page 7*

S.C. The company handles mowing/maintenance, and both liquid and granular chemical application.

L.D. Anderson is president and Keith Anderson is vice president of **Fertilawn, Inc.,** Bloomington, Minn. The company offers liquid chemical lawn care application.

Mark Alan Fields is owner of **Lawn Scape,** Pinehurst, N.C. Field superintendents are Everette Moore, James Gibson and John Gibson. The company offers mowing/maintenance and granular chemical application.

50 years of outstanding sales of **National Mower Co.** products earned special recognition for distributor **H.V. Carter Co.,** Oakland, Calif. Carter president Bert Graves accepted the award recently from R. Stanard Kinkead III, vice president of National, based in St. Paul, Minn.

Robert E. Scobee has joined **The Andersons,** Maumee, Ohio as a Lawn Fertilizer Division technical salesman, Roger Brown, Lawn Fertilizer Division Sales Manager, announces. Scobee is responsible for the sale of professional specialty fertilizer products, primarily lawn service, golf course and institutional accounts.

A graduate of **Purdue University** with a degree in turf management, Scobee formerly owned and operated a lawn and golf equipment distributorship in Indianapolis.

A storage capacity of more than 200,000 tons at The Andersons Maumee complex allows the company to take advantage cost-saving unit train and water shipments. This large-volume storage facility also helps assure fertilizer customers a dependable supply that is somewhat insulated from volatile disruptions in world fertilizer supplies. The Andersons entered the lawn and garden market in 1964. Since then the firm's Lawn Fertilizer Division has expended its product line to include 300 items that are distributed in 35 states. Products manufactured by this Division are sold directly to distributors, dealers and private label mass merchandisers.

MEETING DATES

California Landscape Contractors Association 1980 Landscape Industry Show, Long Beach Convention Center, Long Beach, Calif., April 3-4. Contact: Michael E. Leeson, CLCA Landscape Industry Show, 3617 W. MaCarthur Blvd., Suite 500, Santa Ana, Calif. 92704, 714-979-2522.

Southern California Turf & Landscape Insitute, Anaheim Convention Center, Anaheim, Calif., April 8-9. Contact: Ed McNeill, Southern California Turfgrass Council, 1000 Concha Street, Altadena, Calif. 91001, 213-798-1715.

EPA Conference on "Waste-to-Energy Technology Update," Cincinnati, OH, April 15-16. Contact: Ruth Anne Gibson, Battelle's Columbus Laboratories, 505 King Ave., Columbus, OH 43210, 614-424-5532.

International Franchise Association 13th Annual Legal Symposium, Capital Hilton Hotel, Washington, D.C., May 6-7. Contact: IFA, 1025 Connecticut Avenue N.W., Suite 1005, Washington,D.C. 20036, 202659-0790.

Turfgrass Research Field Day, Texas A&M University, College Station, TX, May 21. Contact: Dr. Richard Duble or Dr. James Beard, Department of Soil & Crop Sciences, Texas A&M University, College Station, TX 77843.

Residential Landscape Design Course I, Milwaukee, WI, June 18-20. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

Metropolitan Tree Improvement Alliance, Rutgers University, New Brunswick, NJ, June 18-20. Contact: Dr. David F. Karnosky, Cary Arboretum, Box AB, Millbrook, NY 12545, 914-677-5343.

Residential Landscape Design Course I, Tucson, AZ, June 23-25. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

Residential Landscape Design Course II, Phoenix, AZ, June 26-28. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

Lawn, Garden Outdoor Living, Division of National Hardware Store, McCormick Place, Chicago, IL, Aug. 13-16. Contact: National Hardware Show, Charles Snitow, 331 Madison Ave., New York, NY 10017, 212-682-4802.

Western Regional Grounds Maintenance and Equipment Show, Bear Creek Park, Colorado Springs, Aug. 26. Contact: Frank Cosgrove, regional director, National Recreation and Park Association, 3500 Ridge Road, P.O. Box 6900, Colorado Springs, CO 80934.

6th Annual Garden Industry of America Conference & Trade Show, Convention Center, Baltimore, Md., Sept. 12-14, 1980.

Contact: GIA Conference & Trade Show, Box 1092, Minneapolis, Minn. 55440, 612-374-5200.

National Lawn & Garden Distributors Association Annual Convention, Century Plaza Hotel, Los Angeles, Calif., Sept. 16-19. Contact: Nancy S. Irving, executive director NLGDA, 1900 Arch St., Philadelphia, Pa. 19103.

International Franchise Association Tax Seminar, Hyatt Regency O'Hare, Chicago, Ill., Sept. 22-24. Contact: IFA, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Kentucky Turfgrass Conference & Field Day, Eastern Kentucky University, Richmond, KY, Oct. 7-9. Contact: Kenneth B. Rue, president, Kentucky Turfgrass Council, 3110 Brownsboro Road, Louisville, KY 40206, 502-893-7137.

Franchise Management Workshop, Beverly Hills Hotel, Beverly Hills, Calif., Oct. 8-9. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Symposium on Turfgrass Insects, Holiday Inn, Columbus, Ohio, October 14-15. Contact: Dr. B.G. Joyner, Plant Diagnostic Labs, ChemLawn Corp., 6969 Worthington-Galena Road, Suite L, Worthington, Ohio 43085, 614-885-9588.

Southwest Turfgrass Association Conference, New Mexico State University, Las Cruces, NM, Oct. 16-17. Contact: Arden A. Baltensperger, secretary-treasurer, Southwest Turfgrass Association, New Mexico State University, P.O. Box 3-Q, Las Cruces, NM 88003.

Second National Irrigation Symposium, Nebraska Center for Continuing Education, University of Nebraska, Lincoln, NE, Oct. 20-23. Contact: Dr. Dale Heermann or Dr. Del Fangmeier, Department of Soils, Water, and Engineering, University of Arizona, Tuscon, AZ 85721, 602-626-1412.

Franchise Management Workshop, Continental Plaza, Chicago, Ill., Oct. 22-23. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Franchise Management Workshop, Old Town Holiday Inn, Alexandria, Va., Nov. 5-6. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

First Professional Lawn Care Association of America Convention, "Lawn Care Business Management in the 1980's," Nov. 12-14, Commonwealth Convention Center, Louisville, Ky. Contact: Glenn Bostrom, PLCAA, Suite 1717, 435 N. Michigan Avenue, Chicago, Ill. 60611, 312-644-0828.

Ohio Turfgrass Conference, Dayton Convention & Exposition Center, Dayton, Ohio, Dec. 9-11. Contact: Dr. John Street, 1827 Neil Avenue, Columbus, Ohio 43210, 614422-2592.

1981 Nebraska Turf Conference, Holiday Inn, Omaha, Jan. 12-14. Contact: Dr. Robert C. Shearman, 377 Plant Science Building, University of Nebraska, Lincoln, Neb. 68503, 402-472-1145.

52nd International Turfgrass Conference & Show, sponsored by Golf Course Superintendent Association of America, Anaheim Convention Center, Anaheim, Calif., Jan. 25-30, 1981. Contact: GCSAA Headquarters, 1617 St. Andrews Drive, Lawrence, Kan. 66044, 913-841-2240.

COMPANIES

EPA registers Chipco fungicide for Fusarium

Chipco 26019 fungicide has received EPA registration for the control of *Fusarium* Blight on all common turf grasses. *Fusarium* Blight has become a limiting factor in the widespread use of Kentucky bluegrass on home lawns, but Chipco 26019 now offers economical *Fusarium* Blight control and the continued use of Kentucky bluegrass as a desirable turf grass species.

Application rate is four ounces per 1,000 square feet. Foliar application should begin when conditions first become favorable for disease development. Two additional applications should be made at 14 to 21 day intervals.

Write 133 on free information card

MARKETING IDEA FILE

How to develop free newspaper advertising

By submitting articles and news releases to the editors of local newspapers, lawn care businessmen can take advantage of an essentially free advertising tool, according to Jack Mattingly, of Jack Mattingly Associates, Inc., Charlotte, N.C.

Mattingly, speaking at a recent ALCA Maintenance Symposium in Milwaukee, said, "Anytime you have a foreman or manager who gets a promotion, send a release to the business editor of your local newspaper and send a picture too. If he doesn't put it in within three or four days call him or write him again.

"They get this stuff every day," he added. "So keep feeding it to the newspaper and you will continue to get exposure." And the best part, according to Mattingly, is it "doesn't cost you a dime."

Melanie Reinhold, of William Reinhold Landscape Contractors & Engineering, Inc., Flat Rock, Mich., also submits news releases to newspapers. "We keep our local papers informed of any interesting jobs we may be doing or any awards we have won," she said. "I think it's an excellent way to receive a lot of free publicity."

Further, newspaper editors are eager for this type of information, according to Reinhold. "I've found that newspapers are always most cooperative," she said. "In fact, they even encourage me to call them whenever they feel I might have a story for them."

Deborah Crawford, of Pennturf Lawn Care Co., Clinton, Pa., goes one step further than just submitting periodic news releases to local newspapers. She submits entire articles. The articles generally appear in the garden sections of Clinton-area newspapers and deal with turf-care-related topics like proper watering practices, weed control, and fertilization. Crawford's by-line usually accompanies the article, along with a "strategically placed" Pennturf ad.

Obviously, getting material printed about your company in large metropolitan dailies is difficult or close to impossible. However, the editors of small dailies or weekly papers will jump at the chance to publish well-written articles about lawn care. These papers are generally understaffed and are constantly on the lookout for quality editorial material. So brush off your dictionary, take the cover off your typewriter, and start creating a pulitzer prize winning article.

LITIGATION

Pesticide regulations challenged in California

California's new pesticide regulations conflict with federal law, according to a lawsuit recently filed in a California U.S. District Court.

The suit, filed by the National Agricultural Chemicals Association (NACA), the Chemical Specialties Manufacturers Association (CSMA), and 13 manufacturers of basic agricultural chemicals, asks that California Department of Food and Agriculture (CDFA) Director Richard E. Rominger be enjoined from enforcing certain provisions of the department's pesticide regulations.

A lawsuit recently filed in a United States District Court contends that California's new pesticide regulations conflict with federal law.

"In this lawsuit we are not arguing over whether pesticides should be regulated," NACA President Jack D. Early, said. "They should be regulated, and already are among the most regulated products in the nation.

"Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), products can be removed from the market anytime EPA decides that they present unreasonable hazards to man or the environment," Early added.

NACA's five-count suit challenges CDFA's authority to:

- Require pesticide manufacturers to register pesticides with California when the U.S. Environmental Protection Agency has already approved and registered the products under FIFRA.
- Regulate the labeling of pesticides, which the plaintiffs contend is controlled by EPA under FIFRA.

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Apartment/condo accounts are profitable, but beware of constant management changes

There is money to be made in maintaining apartment and condominium complexes, but lawn care businessmen should be wary of the transient nature of the management personnel who make the "buying decisions" for these types of housing developments.

More than one lawn care operator has flawlessly maintained a property one year only to discover his contract has not been renewed the next because a recently hired apartment or condominium manager thinks he can find someone who can do it better, or more likely, someone who can do it cheaper.

And that is precisely the reason Ralph Hull, president of Turf & Landscape Care, Inc., Scottsdale, Arizona, has discontinued servicing apartment and condominium complexes altogether. "We serviced apartments a few years," he said, "but we haven't been soliciting apartment business for about three or four years now." Turf & Landscape Care was formed in 1973.

"They seem to change management every year," he said, "and when they change management, they change vendors. And it doesn't matter what kind of job you're doing because you're not dealing with the owners. You're dealing with the apartment house managers who nine times out of 10 aren't very professional."

Hull added that new managers typically view landscape maintenance as an area where they can quickly cut costs. The result is many lawn care businessmen are left out in the cold after only one or two years under contract. "It just doesn't pay to bid on apartment contracts anymore," he said.

"We make our money by keeping a client for many, many years because we improve the landscape. We don't like to go in and put a lot of effort into a landscape and then at the end of the contract period lose the project. So we just decided not to even solicit that part of the business anymore."

Hull said his company is also wary of homeowner's associations. "We look at homeowner's associations very carefully," he said, "and we will only take them if there is a legitimate reason why they're changing."

John Loyet, of Loyet Landscape Maintenance/Greenscape, Ellisville, Missouri, agrees that maintaining apartment complexes has its drawbacks, but his company continues to actively solicit business from apartment managers. "Apartment managers are usually out for the cheapest job they can find," he said, "so we don't usually do any competitive bidding."

Loyet said most of his company's apartment-related business comes from referrals. "We belong to the Associated Landscape Contractors Association here in St. Louis, so once the nurserymen get finished with a complex a lot of them turn over the maintenance work to us for the six month warranty period. And once the warranty period is over, we will often pick up the maintenance contract for perpetual care. We also get a lot of jobs through referrals from apartment managers who like our work."

Lawn care businessmen should be wary of the transient nature of apartment and condominium managers who make the "buying decisions" concerning the purchase of a mowing/maintenance service.

About 75 percent of Loyet's business is commercial oriented, and of that 75 percent, about 50 percent consists of apartment and condominium accounts.

Regarding condominium work, Loyet said, "We have fewer problems with changes in management when working with condominiums because they have less turnover.

"They're also a lot easier to work with because we can charge them a higher rate," he said. "They're looking for a class job." Loyet attributes the higher landscaping standards of condominium managers to the fact that their residents actually own the facility, as opposed to apartment dwellers, who merely rent space in an apartment building.

"With condominiums the people actually own their own units," he said, "so they want the place to look sharp because that's their own home. Apartment people are transient and really don't care as much and the management firms know that."

Loyet predicts a bright future for condominium maintenance in the St. Louis area in the future. "Probably 25 percent of the apartments here are now being changed over to condominiums," he said. "In fact, some of the new apartments being built in this area are being built with the intention of five miles down the road converting them to condominiums.

Ryan promo merges rental/retail markets

A merger of the rental and retail markets around a bilateral promotional concept has been engineered by Outdoor Marine Corporation (OMC), manufacturers of lawn care equipment. The factors central to this innovative marketing approach include the introduction of a new line of mid-priced, rotary-powered lawn mowers and the announcement of a new consumer lawn-care system under the name Ryan Lawn-Care System.

In addition, OMC expects this move to have long-term benefits for consumers, rental dealers, and retailers alike. It fills a long-standing void with homeowners for professional information on proper lawn care practices, according to OMC.

"Homeowners have been barraged with products to cut and trim their lawns," Vaughn Border, a Ryan spokesman, said. "However, the homeowner has not been offered all he needs to know to undertake a planned professional type program of lawn care in one package. Ryan now offers this and more."

With its experience in growing as well as maintaining lawns under the Ryan Turf-Care Equipment group, and with the superior engineering and performance of its Lawn-Boy mower line, OMC has established the Ryan Lawn-Care System to handle the marketing of the new lawn mower line.

"Lawn mowers have typically been sold independently. With the Ryan Lawn-Care System, we have five new mower models unique to its mid-priced market and also a four-step system for consumer lawn care of which the Ryan mower line is an integral element," Border said.

The four-step system involves the use of three rental products already available through lawn and garden rental dealers. Specifically, this equipment includes the Ryan: Rollaire III power roller, Lawnaire III power aerator, and Thin-N-Thatch power rake. The new walk-behind mower is the final and most often used element of the lawncare system. It will be available at both the rental and retail levels.

The lawn-care system concept will be promoted through both rental dealers and retailers. The homeowner who goes to his local lawn and garden outlet, which handles Ryan products, to purchase fertilizer or shop for a new lawn mower will learn about the lawn-care system and where he can go to secure the necessary accessories.

"Retailers and rental dealers who handle the Ryan LawnCare System should be established as the local experts on total, professional lawn care techniques," Border said. "With the long-term aesthetic benefits and immediate savings realized from doing the work themselves, homweowners will be returning to their local retail/rental lawn and garden outlets to learn more about lawn care and to secure the necessary equipment."

Davey Lawnscape buys 17 new spray trucks

Davey Lawnscape, Kent, Ohio, recently drove away from FMC Corporation's Agricultural Machinery Division, Jonesboro, Arkansas, with 17 spray trucks ready for field use. The new 600-gallon fibergalss tank sprayers feature 10-gallonper-minute turf pumps powered by truck pto and full length mechanical agitation. The sprayers also feature a rotating safety beacon, back-up warning signal, pulsating dampener, and water meter. Pictured are the 17 units and drivers on their way to Davey headquarters. Davey Lawnscape has 10 company-owned outlets employing 110 persons. Sales were estimated at $4.5 million on service to 43,400 customers in 1979.

COMPANIES

Toro announces sales gain and earnings drop

Toro Company recently announced record sales and a 5.3 percent drop in earnings for the second quarter ending January 31, 1980.

Sales for the Minneapolis-based firm were $123.9 million, 46.2 percent higher than last year's $84.7 million and a record for any quarter in the company's history.

Net earnings for the quarter were $4.8 million compared to $5.1 million last year. Fully diluted earnings per share declined 6.6 percent to 85 cents from 91 cents.

Toro Chairman David T. McLaughlin attributed the earnings to extraordinary expenses related to the extremely light snowfall and to the impact of rapidly rising material costs and significantly higher financing costs. The decline followed 11 consecutive quarters of earnings improvements versus comparable quarters of preceeding years.

"While the field inventory of snowthrowers has lowered our expectations from this segment of our business," McLaughlin said, "we are encouraged that our order position in all other areas is very strong."

For the first six months, sales of $225.5 million are up 49.1 percent from the year before, net earnings of $10.4 million are up 12.8 percent, and fully diluted earnings per share of $1.83 are up 10.2 percent.

"Our second-quarter sales were up significantly in all major product lines," McLaughlin added, "but the unusually light snowfall pattern across the United States did cause a backup of snowthrower products in the distribution system due to lower than expected retail sales.

COST CUTTINGS

Cost-efficient direct mail workbook

A workbook designed to assist direct marketing executives — and what lawn care businessman isn't a direct mail executive? — with daily work functions and long-range planning has been compiled by the editors of *Direct Marketing News Digest.*

The book, titled *The Direct Marketing Executive's Workbook,* contains reports on issues related to the direct marketing field; charts and graphs for use in projecting and assessing direct mail response; postal regulations and rates, and lettershop information; and a glossary of direct marketing terms. The book is in loose-leaf form to allow for reproduction of its contents.

The price of the workbook is $24.95. Copies are available from: *Direct Marketing News Digest,* 708 Silver Spur Rd., Rolling Hills Estates, CA 90274.

DOW from page 1

suggested a connection between 2,4,5-T spraying and miscarriages, reject EPA's study conclusions.

"All of the data we have seen so far reflect that EPA's suspension was founded on a feeble scientific basis," Donalds said.

He added that evaluations of the Alsea II data by scientists at Oregon State University, George Washington University, and experts in the United Kingdom, Australia, and New Zealand confirm that the study's conclusions are seriously flawed.

The Oregon State University task force study concluded: "EPA erred seriously in each of the three conclusions in the Alsea II Report. If there is a relationship between herbicide use and miscarriage in the Alsea Basin and its surrounding area, it is not apparent and cannot be tested using the data from the EPA Alsea II study."

"We strongly encourage the EPA administrator to reinstate suspended 2,4,5-T and silvex product uses, supported by over 40,000 technical reports and a 30-year history of safe use. In view of these recent scientific developments in the TCDD controversy, Dow is convinced the emergency suspension of 2,4,5-T was a totally unwarranted, slipshod decision by the EPA without regard for validated science," Donalds said.

COMPANIES

Rockland opens warehouse facility

The Rockland Chemical Company recently announced the opening of a warehouse and distribution center in Paterson, N.J. The new facility is strictly a warehouse and distribution center and is 20 minutes from Rockland's manufacturing plant and offices in West Caldwell, N.J.

FRANCHISES

Lawn Doctor announces dealer sales awards

Lawn Doctor, Inc., Matawan, N.J., the nation's largest franchise company providing specialized home and commercial lawn care, has announced a series of dealer awards based on sales generated during 1979.

The company has a national network of 267 franchised dealers who provide lawn care service during several seasonal visits.

The following dealers received awards for reaching the sales plateau of $50,000:

Bud Ainsworth, Colorado Springs/Pueblo, Colo.; Joan Bierman, West and South Orange, N.J.; Gary Birdsall, Toms River, N.J.; Jim Black, Linwood, N.J.; Robert Clowes, Ewing, N.J.; Joseph Colombrito, Hanover, N.J.; Ed Crosby, Ramsey/Mahwah/Allendale, N.J.; Anthony Cuomo, Whiting/Manchester, N.J.; Peter Edrich, Commack, N.Y.; Gerald Flynn, Boulder, Colo.; Peter Galantic, Woodbury, N.J.; Carmine Granato and Gerald Haupert, Massapequa, N.Y.; Gene Haverlak, Luzerne County, Pa.; Lawrence Heaton, Southwest Denver, Colo.;

Also: Ray Healy, North Morris, N.J.; Kim Herud, Verona/Cedar Grove, N.J.; Frank Hirst, Princeton, N.J.; John Hooker, Wichita Falls, Texas; John Klein, Millville/Vineline, N.J.; Charles Krick, Levittown/Northern Seaford, N.Y.; Robert Larkin and Dominick Vetrano, Orangetown, N.Y.; Philip Laver, North Smithtown, N.Y.; Robert Luce, Columbia, S.C.; Earl Markle, Lancaster, Northeast, Pa.; Vito Martinico, West Islip, N.Y.; Ronald and Winston May, Hurst, Texas.

Also: Mark Mansue, Brick, N.J.; John McIntyre, Northwest Houston, Texas; Michael Mimnaugh, Southwest Westchester, N.Y.; Chuck Mintz, Upper Saddle River, N.J.; Joseph Mooney, Birmingham South, Ala.; Richard Moore, Scotssbluff/Gering, Neb.; Ronald Olive, Greater Springfield, Ill.; Phil Perna, Garden City/Mineola, N.Y.; Paul Petraro, Oceanside/Lynbrook, N.Y.; Stuart Ramsay, Southwest Cleveland, Ohio; Robert Russo, Patchogue, N.Y.; Frank Santoloci, Central Bergen, N.J.; James and Ray Selfridge, Bethpage/Plainedge, N.Y.; Joseph Smith, Broomfield, N.J.; Onofrio Spampinato, Bay Shore/Brightwaters, N.Y.

Also: Thomas Staker, Burke/Springfield, Va.; James Suda and Gary Shea, Springfield West, Va.; David Thompson and David Costello, Duncanville/Desoto, Texas; Robert Vestal, Lewisville, Texas; Clarence Waskey, Chesterfield, Va.; Bart Wodlinger, Southwest Montgomery, Md.; Paul Yoroshko, Stratford, N.J.; and Gil Zayas, North Babylon, N.Y.

INDICATORS

Home construction up slightly last year

A total of 1,868,200 new private housing units were completed in 1979, up slightly from the 1978 total, according to government reports. Some 1,867,500 units were built in 1978, figures showed.

Mortgage rates are soaring, loan money has been scarce and building permit applications have declined this year, government statistics show. The report from the Census Bureau and Department of Housing and Urban Development also indicated that the pace of construction completions slowed as the last year ended.

Completions on a seasonally adjusted annual basis totaled 1.87 million in December, down 2.2 percent from the previous month and down 0.9 percent from December 1978. Completions had increased 0.4 percent in November. Most of the decline in December occurred in construction of buildings with five units or more, where completions fell 27 percent from 493,000 in November to 361,000 in December, the report showed.

At the same time, the completion of single-family units rose 12 percent from 1.2 million in November to 1.35 million in December.

Homes in the housing under construction category fell from a seasonally adjusted annual rate of 1,217,000 units in October to 1,194,000 units in November and 1,178,000 units in December.

LANDSCAPE MAINTENANCE

New species is approved for Atrinal

Atrinal, a broad-spectrum plant growth regulator for ornamentals introduced in 1979, has now been registered for use in reducing trimming on 17 additional species of landscape plantings. These include oleander, elaeagnus, juniper, honeysuckle and photinia.

Atrinal, marketed by Maag Agrochemicals Marketing, Hoffmann-La Roche, Inc., Nutley, N.J., is packaged as a liquid concentrate to be diluted for different species according to directions.

In landscape maintenance, the growth regulator can be used to retard the growth of many species, reducing labor and saving time. Hedges, shrubs and ground covers will require fewer trimmings during the season and will have a more compact shape.

Atrinal is sold through selected distributors to commercial growers of azaleas and other woody ornamentals and to landscape contractors and institutional personnel.

For further information on the new label and a list of distributors who handle Atrinal, contact: Dr. J. Campbell, Maag Agrochemicals Marketing, Hoffmann-La Roche, Inc., Nutley, N.J. 07110.

Control of creeping speedwell in turfgrass

by Dr. John E. Kaufmann
Michigan State University

Creeping speedwell (*Veronica filiformis*) has recently become an important lawn pest because it is competitive in well-maintained, irrigated lawns.

While its spread is more rapid in shade, it can survive and spread in sunny areas as well. Creeping speedwell spreads by both seed and vegetative parts. During the cool weather of spring and fall, cuttings are dragged by the mower to new sites where they easily root when in contact with the soil.

Creeping speedwell was introduced into the United States as early as 1930 as a rock garden plant because it had an attractive blue and white flower. Subsequently, it escaped into adjacent lawns. Although a somewhat localized problem it is considered serious because of its disease susceptibility, lack of tolerance to extreme environments, and general disruption of lawn uniformity.

Most major metropolitan areas have at least one older subdivision densely infested with creeping speedwell. Often the origin of the weed in a locale can be traced back to a single homeowner who imported the weed.

Creeping speedwell is tolerant of 2,4-D and has varying degrees of tolerance to MCPP and dicamba. In the 1950's, one pound per acre of endothall was found to control creeping speedwell. Higher rates were too toxic to desirable grasses while lower rates were not effective in controlling the weed. However, endothall-treated areas were often reinfested within two years.

Since creeping speedwell may cover 80 to 90 percent of the area, chemical control measures must include methods to reestablish desirable turfgrass species. Recently, Dacthal, Roundup and Atrinal have been found to effectively control creeping speedwell.

"Most major metropolitan areas have at least one older subdivision densely infested with creeping speedwell. Often, the origin of the weed in a locale can be traced back to a single homeowner who imported the weed . . . Dacthal, Roundup and Atrinal can be used for control."

If site examination indicates insufficient desirable turfgrasses present for reestablishment, Roundup can kill both creeping speedwell and turfgrasses, but will allow reseeding of the treated area soon after application.

Atrinal has been used as an experimental chemical growth retardant of turfgrasses as well as for selective control of creeping speedwell. In areas where creeping speedwell covers 80 percent or more of the surface, Atrinal inhibits rather than encourages remaining turfgrasses to fill in areas left vacant by the pest. Thus the role of Atrinal in controlling creeping speedwell would be in areas where pest density is 50 percent or less.

Dacthal is normally used as a preemergence herbicide for annual grasses. Surprisingly, it also is an effective herbicide in turfgrass for the selective postemergence control of creeping speedwell. Dacthal is advantageous because it can kill creeping speedwell, prevent the establishment of annual grassy weeds, but allow perennial turfgrasses on the site to grow and spread throughout the treated area. Chemical treatment of creeping speedwell is most effective when the plant is actively growing, usually in spring or fall.

In research trials, granular formulations of Dacthal did not control creeping speedwell, indicating that Dacthal must be applied to and absorbed by the foliage. Both the wettable powder and the flowable formulations were effective.

Following applications of Dacthal, the visual appearance of the lawn is improved. Creeping speedwell, normally yellow-green in color, will darken and blend better with the turfgrasses. This symptom remains for four to five weeks. At the end of that period, the creeping speedwell begins to curl, wilt and disintegrate. At no time does the pest turn the yellow or brown color that is commonly associated with herbicide injury.

Dacthal applied on creeping speedwell at the recommended rate and time for preemergence crabgrass control in the spring has been found to control both pests very effectively. Fall treatment of Dacthal may not kill creeping speedwell until the following spring. The pest may still appear dark green and healthy at snowfall, but will simply be nonexistent after the snow melts. The fall treatment has been used very successfully on golf courses since at no time does the golfer notice adverse symptoms.

Fertilizers: What types are best suited for you?

by Dr. Ray P. Freeborg, Purdue University

The expansion of the lawn care industry has resulted in an urgent need for better understanding of the availability of nitrogen in fertilizer. The basic chemical forms in which nitrogen may be present are ammonium nitrate or nitrate. The physical forms are dry granule, suspended particle, dissolved pellet, liquid in suspension or in solution.

Although there is a continuing controversy over the relative advantages of liquid as opposed to granular (dry) application, each of these physical forms has merit. First, let us consider the concept of using liquid application as a foliage treatment. An important factor here is the volume of water to be used as the physical carrier.

If, for example, one were applying a pesticide in this way, the volume of water would be less because the pesticide must remain on the leaf to be effective. An application of nitrogen becomes more efficient as it reaches the thatch-soil surface, and so requires a greater volume of water. Generally, four to five gallons per 1,000 square feet are used. This may more accurately be termed a compromise between foliage and thatch-soil application.

An application of nitrogen becomes more efficient as it reaches the thatch-soil surface, and so requires a greater volume of water. Generally, four to five gallons per 1,000 square feet are used.

Granular (dry) application, on the other hand, may be considered primarily a thatch-soil surface application. This method may have some disadvantages particularly if dust-like particles are used. These may adhere to moist leaf surfaces or become lodged in the plant canopy and thereby result in undesirable plant response.

If adequate irrigation or rainfall follows either liquid or dry granular application and all nutrients are washed into the root zone, there is no difference in root uptake of the nutrients or in plant growth response. Once the nutrients including ammonium (NH_4), nitrate (NO_3), phosphorus (P), potash (K), sulfur (S), iron (Fe), and the necessary minor elements are in the soil solution surrounding the plant roots, whether the original source was in liquid or dry granule form, the availability of these nutrients is controlled by the soil environment.

Nitrogen loss. There are several factors attributable to liquid application that are often overlooked. One is relative to the loss of nitrogen from the soil surface as an ammonia gas. In his research, Volk[1], stated that ammonia losses from surface-applied ammoniacal materials such as ammonium nitrate or ammonium sulfate may be high from soils with a pH above about 7.5, and negligible from acid soils.

The degree to which nitrogen may be lost as ammonia gas following surface application of urea to sods had not, according to Volk, been fully appreciated. Urea, a physiologically alkaline form of ammonia, is converted to ammonium carbonate by urease, an enzyme which is abundant wherever microbial activity is taking place. Ammonium carbonate is unstable and releases ammonia which escapes to the atmosphere unless an efficient ammonia-absorbing mechanism such as organic thatch layer or soil cation exchange is present to bind with it.

Table 1—Gaseous loss of ammonia during 6 to 8 days following application of urea and ammonium nitrate to grass sods in field tests.*

Sod type	Nitrogen applied per acre as: Pelleted Urea 25 lb.	Pelleted Urea 50 lb.	Pelleted Urea 100 lb.	Crystal urea 100 lb.	Pelleted NH_4NO_3 100 lb.	Urea-NH_4NO_3 solution 100 lb.
	Percentage loss of nitrogen					
Coastal bermuda	13.9	15.2	16.9	30.5	0.2	14.4
Pensacola bahia	13.1	18.5	21.3	28.5	0.2	10.2
St. Augustine	14.1	21.7	20.8	29.8	6.7	10.8
Centipede	13.2	18.0	20.6	29.3	0.3	11.5

**Variations between tests conducted 6, 7, or 8 days were so small that these data were combined for simplicity.*

Volk measured the loss of ammonia following surface applications of urea and ammonium nitrate to a well-developed St. Augustinegrass sod. Data in Table 1 were obtained following application of pelleted urea, crystal urea, pelleted ammonium nitrate (NH_4NO_3) and a urea-

ammonium nitrate solution. In the tests using urea solutions, the liquid was applied to the surface at a volume of 2.3 pounds actual nitrogen in 0.66 gallons of water per 1,000 square feet.

Ammonium losses from 100 pounds of urea-nitrogen averaged 20.6 percent and 29.3 percent of the application for pelleted and crystal urea, respectively, while only 0.3 percent was lost where an equivalent amount of ammonium nitrate was applied. The higher losses from crystal urea probably resulted from a greater tendency for the crystals to cling to the leaf rather than penetrate to the thatch layer where the possibility of efficient cation absorption was greater.

Data in the last column of Table 1 were obtained by the use of a solution containing 32 percent nitrogen with 16.5 percent from urea and 15.5 percent from ammonium nitrate. If all the loss is attributed to the urea fraction, it averages 22.3 percent of the urea applied. This is similar to losses observed for the dry materials applied to the St. Augustinegrass sod.

Table 2—Gaseous ammonia lost into the atmosphere in 8 to 10 days after urea applications of 50, 100, and 150 lbs./acre of urea applied to a bluegrass sod.

Sod type	Amount of urea-N applied in lbs./acre					
	50		100		150	
	Nitrogen as ammonia lost in 8 to 10 days					
	lbs.N/A	%	lbs.N/A	%	lbs.N/A	%
Bluegrass (mature sod)	15.9	32	31.1	31.1	44.5	30

Volk also observes that unreported data on tests kept in place to measure gas losses indicated that volatile loss of ammonia was about 95 percent complete in seven days.

Additional laboratory work completed by Simpson et al[2] was further support of this observation of gaseous ammonia loss from a sod surface. His work showed that following low volume spray applications of a urea-N solution to a bluegrass sod there was a significant loss of gaseous ammonia. Application rates were 50, 100 and 150 pounds per acre. It was observed that on a bluegrass sod, losses of ammonia measured over a period of eight to 10 days increased with increasing rates of application. See Table 2.

Apparently, no recent work has been done to measure gaseous ammonia loss under the actual field conditions experienced by the lawn care industry. Future field research may better identify the magnitude of this potential nitrogen loss.

Reducing nitrogen loss. At present there are ways to reduce nitrogen loss. This may be achieved either by irrigation after application (especially if urea solutions are used), or by the use of other forms of nitrogen such as ammonium nitrate, solid or liquid ureaforms, IBDU, or coated fertilizers.

Another problem to be confronted relates to nitrogen loss from clipping removal. Research now in progress at Purdue University has compared the amount of nitrogen in plant tissue following liquid and granule (dry) applications on both irrigated and non-irrigated plots. An increase in the percentage of nitrogen in or on the leaf tissue was observed in the non-irrigated plots. This increase may be explained by either nitrogen adhering to the leaf surface or nitrogen within the leaf tissue. See Table 3 (page 19).

It was evident that clippings should not be collected but rather returned following liquid suspension or solution applications of nitrogen. Research conducted by ChemLawn Corp.[3] also

To reduce the occurence of nitrogen loss irrigate after application or use other forms of nitrogen such as amonium nitrate, solid or liquid ureaforms, IBDU, or coated fertilizers.

return after fertilization. This report states that from unfertilized plots, as much as three to four pounds of nitrogen per 1,000 square feet could be removed in one year (25 mowings). Where clippings were collected after nitrogen application but before rainfall or irrigation, as much as 47 percent of the applied nitrogen was taken off with mowing. This was true in the case of both liquid and dry granular applications.

The tendency of liquid sources of fertilizer to burn foliage is another cause of concern. In 1948[4], a partial salt index number was established to determine the potential of different fertilizers to cause plant injury. Although related to the effects of fertilizers in a soil solution, the salt indexes also identify the degrees to which fertilizers can damage plants. Table 4 (page 20).

With the partial salt indexes as a guideline, the formulator is able to predict the burn potential of a fertilizer and either change the rate, application procedure or form of fertilizer to be used.

Physiological drought. In his discussion of plant injury, Beard[5] states that there are two kinds of physiological drought caused by high external salt applications. The first involves high salt concentration in the soil solutions surrounding the turfgrass roots.

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FERTILIZER from page 17

The increased osmotic pressure of the soil solution causes a decrease in water availability to the roots.

The term "osmotic pressure" as used here refers to a flow or diffusion that takes place through a semi-permeable membrane such as a cell wall. The flow may be through the cell wall from a dilute to a more concentrated solution to equalize the concentrations in the two solutions. Turfgrasses growing on saline soils have an increased wilting tendency and require more frequent irrigation in order to prevent drought. Newly emerged turfgrass seedlings are prone to physiological drought if a fertilizer is high in water-soluble salts is applied at an excessive rate.

The second type of physiological drought is caused by the presence of water-soluble salts on the surface of turfgrass leaves and stems. This is often called "foliar burn". It can occur during the active growing season or during winter dormancy. The higher osmotic pressure ofthe salt particles in contact with leaves and stems causes the movement of water out of the leaf surface to the salt particles. Wilt and eventually death to the tissue adjacent to the salt particle occurs. Leaves are most frequently damaged, the injured tissue showing a whitish, bleached appearance.

Past fertilizer research has been devoted primarily to the investigation and solution of problems in golf course maintenance. However, to support the lawn care industry in its early years, research should be directed toward the evaluation of new products and the development of different application methods for existing formulations.

The use of fertilizers with a low partial salt index would be recommended where foliar burn is a problem. Several presently available sources of nitrogen have eliminated some of the foliar burn difficulty. Among these are the urea formaldehydes in granular, powder, flowable or liquid formulations, the granular form of IBDU, and coated fertilizers such as the sulfur-coated ureas and those with plastic coatings such as Osmocote, and finally, the natural organics.

Some factors that influence the release of nitrogen from these fertilizer sources are as follows:

There is a considerable amount of information on the performance of most of these fertilizers. Much remains to be

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Table 3—Nitrogen applications to *Poa pratensis* L. cv. Wabash. Applications on 14 August 1979.[3]

Product[1]	Analysis		Percent nitrogen in leaf tissue (Total N)[6] 1 day 15 AU 79 IRR[4]	1 day 15 AU 79 (-IRR)[5]	2 days 16 AU 79 IRR	2 days 16 AU 79 (-IRR)	3 days 17 AU 79 IRR	3 days 17 AU 79 (-IRR)	7 days 21 AU 79 IRR	7 days 21 AU 79 (-IRR)	14 days 28 AU 79 IRR	14 days 28 AU 79 (-IRR)
			%									
Folian[2]	12-4-4-0.5	(liq)	4.6	5.5	4.9	5.6	4.6	4.3	4.9	5.1	4.5	4.5
Formolene[2]	26-0-0	(liq)	4.0	4.9	4.3	5.0	4.3	4.4	4.7	4.5	4.4	4.4
Powder Blue	38-0-0	(dry)	3.7	4.2	4.4	4.4	4.0	3.6	4.5	4.4	4.4	4.3
IBDU	31-0-0	(dry)	3.4	3.3	3.6	3.4	3.6	3.4	4.3	4.1	4.0	4.1
Lebanon	18-4-10	(dry)	3.7	3.9	3.8	4.2	3.9	4.0	4.9	5.0	4.5	4.4
Shaw	16-4-8	(dry)	3.5	3.6	4.0	3.9	4.1	4.1	4.8	4.9	4.5	4.5
Urea	45-0-0	(dry)	3.5	3.9	4.0	4.4	4.2	4.3	4.8	4.8	4.6	4.3
Control			3.4	3.6	3.6	3.5	3.8	3.9	4.4	4.5	4.0	4.5

1. *All fertilizer applied at a rate of 1.5 lbs. of actual nitrogen per 1000 sq. ft., one app.*
2. *Liquid applications were made in a water volume equal to 4 gals/1000 sq. ft.*
3. *Air temperature on 14 August: High of 78F°, Low 58F° for the period from 12 midnight, 13 August to 12 midnight 14 August.*
4. *Irrigated plots were hand watered to apply ¼" surface water (± 150 gals water/1000 sq. ft.)*
5. *Non-irrigated turf did not receive any surface water until 18 August 1979 when rainfall of 0.98" was recorded.*
6. *All data recorded is the average of 3 replicates per treatment.*

Table 4—Salt indexes of fertilizers

Fertilizer	Analysis	Tendency to cause plant injury	Partial salt index
Potassium nitrate	12%N+33%K	High	5.34
Ammonium sulfate	21.2%N		3.25
Ammonium nitrate	33-35%N		2.99
Monoammonium phosphate	12.1%N		2.45
Potassium chloride	50%K	Medium	2.19
Potassium chloride	60K		1.94
Urea	45-46.6%N		1.62
Diammonium phosphate	21.2%N		1.61
Potassium sulfate	54%	Low	0.85

FERTILIZER

from page 19

learned, however, about the newer liquid ureaform fertilizer sources. These are usually identified as controlled-release organic nitrogen Whereas, in the standard ureaforms the urea and formaldehyde form various combinations of the methylene urea in the liquid formulation and urea and formaldehyde combine to form methyl ureas.

The behavior patterns of the latter formulations appear to differ from those of the methlene ureas. In addition, the percentage of nitrogen is lower than that of the granular UF formulations, and may vary from 21-0-0 to 30-0-0. Nevertheless, the liquid ureaform fertilizers apparently have potential for those lawn care firms where liquid application techniques are used. Work at Purdue has shown them to be relatively safe to use. Also, as seen in the following Table 5, a minimum of burn potential was observed.

Research needed. There is a need now for the study and solution of problems that are unique to the lawn care industry. Past research has been devoted primarily to the investigation and solution of problems in golf course maintenance, with secondary emphasis on the home lawn care aspect. To support this industry in its early years of development, research should be directed toward the evaluation of new products and toward the possibility of different application methods for existing formulations. This is both an incentive and a challenge that can be rewarding to those interested in either basic or applied research. Soon we should see interesting and effective work on the solution of the unusual problems faced by the lawn care industry.

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Dr. Ray Freeborg has been a Professional Turf Technician at Purdue University since 1971. He received his master's degree from Washington University and his Ph.D. from Purdue University. He is co-author of the recently published book entitled, "Turf Managers' Handbook."

Table 5 — Plant foliar burn ratings of several liquid nitrogen and liquid urea formaldehyde fertilizers applied to a 'Wabash' bluegrass sod.

Fertilizer	Analysis	Lbs./ 1000 sq. ft.*	Foliar burn**
Formolene	26-0-0	1.5	8
"	"	3.0	6
Folian	12-4-4-0.5	1.5	7
"	"	3.0	5
GAPA	30-0-0	1.5	8
"	"	3.0	6
Amm. nitrate	33-0-0	1.5	5
"	"	3.0	3
Urea	45-0-0	1.5	7
"	"	3.0	5
Control	no treatment		10

Fertilizer	Release type	Critical variables
Coated	Diffusion	Temperature
IBDU	Chemical hydrolsis	Moisture Particle size pH
Ureaform, and natural organics	Microbial	Temperature pH Aeration

EDUCATION

Mower safety booklet available from Dixon

Dixon Industries, Inc., always safety-conscious in the design of its Dixon Zero Turning Radius mowers, has published a safety booklet to be distributed with each machine.

The booklet encourages readers to "use your head and save your legs", with common-sense rules for safely operating any mower, and lawn care tips. It also lists ways Dixon ZTR mowers outdate beliefs" about riding mowers.

Company president K.O. Dixon is especially concerned with riding mower safety, having served on the Outdoor Power Equipment Safety Standards Advisory Committee for the past four years.

A copy of the 1980 Dixon safety booklet is available from the Dixon marketing department. Write to: Jack Horsley, Dixon Industries, Inc., Box 494, Coffeyville, Kansas 67337.

by Richard I. Lehr, attorney

INSIDE THE INDUSTRY

Labor law and you: How to avoid wage and hour problems in the lawn care industry

As the days become longer and the climate becomes warmer, chemical lawn care employes will increase the number of their working hours. Lawn care industry employes work virtually from dawn to dusk during the warmer months. If it rains heavily or is too windy during the spray season, employes either complete paperwork at the shop, do vehicle maintenance or go home early. During the winter, they work mainly in the shop preparing equipment for the upcoming lawn care season. They also are trained or take their vacation during the winter.

Chemical lawn care employes' hours per week will fluctuate from 60 hours during a sunny week to perhaps 30 hours during a rainy one. The day-to-day uncertainty of application in the lawn care industry raise federal wage and hour issues which employers should be aware of. Wage and hour problems often result in an investigation by the United States Department of Labor. This investigation may lead to one of the most disturbing, distracting and expensive labor complications for any business to face.

I will discuss federal wage and hour requirements and suggest starting points for efficiently and economically complying with these laws. The objective is to help employers in the lawn care industry comply with the wage and hour law and avoid the adverse consequences which result from overtime violations.

Properly recording hours worked. The Fair Labor Standards Act, passed in 1938, is administered by the United States Department of Labor, Wage and Hour Division. The Act provides standards for minimum wages, maximum hours, overtime pay, record keeping, equal pay and child labor. The Act's coverage is not limited to employes working at an hourly rate.

Employes are also covered by the Act if they are paid according to piece work, salary, commission or a combination of these methods of payment. The amount they receive must at least equal the statutory minimum hourly rate, which is currently $3.10 per hour (to be raised to $3.35 per hour on January 1, 1981).

The Act provides for a 40-hour work week. As in choosing a fiscal year, employers decide when their standard work week begins and ends; but it must be a period covering 168 consecutive hours (seven days). It is an employer's duty according to the Act to accurately record the hours employes work and their compensation for each week.

Generally, employes must be paid at least the minimum wage for each hour worked up to 40, plus one-and-one-half times the hourly rate for hours worked beyond 40. Certain employes, such as professional, supervisory and administrative employes are exempt from the preceding requirement if they meet a checklist of factors.

Certain businesses are also exempt such as retail or service establishments, food service businesses, motion picture theaters and seasonal amusement or recreational establishments. As with exempt employes, these businesses must meet a list of requirements to qualify for an exemption. It is the employer's burden to show that either its business or certain employes within its business are exempt from overtime coverage.

This brings us to the question of properly recording the hours chemical lawn care employes and mowing/maintenance employes work and the amount of their compensation. Remember the variables of the lawn care job, such as fluctuating hours depending on the weather and the desire for employes to work as much as possible when the weather permits. The following suggestions may be an appropriate starting point for lawn care industry employers to meet wage and hour requirements:

The day-to-day uncertainty of lawn care applications raise federal wage and hour issues which lawn care businessmen should be aware of. These wage and hour problems often result in costly and distracting investigations by the U.S. Department of Labor.

- **Straight hourly rate.** This is an hourly wage rate for lawn care employes. If employes work over 40 hours during any work week, they must be paid one-and-a-half times their hourly rate. Employers do not have to pay employes weekly, but employers may not average a below-40 hour work week with an above-40 hour work week.

Each work week stands alone for minimum wage and overtime purposes. If employes are guaranteed a salary for a 40-hour work week, employers still must pay overtime for those hours worked above 40, unless they are exempt employes.

Employes will generate much overtime during the lawn care season. An inescapable problem is how to best determine the total number of hours worked, since lawn care employes are on job sites and generally unsupervised. One method is to provide a time clock for employes to punch before they load in the morning and after they unload at the end of the day.

I have suggested to my clients in the lawn care industry that they use time slips instead of the time clock. A clock easily leads to the situation where employes are punching each other in and out for hours which are not worked. If supervisors keep the time slips and have each employe record his daily total of hours, with the employe and supervisor initialing the sheet at the end of the week, employers will likely get a more accurate reflection of the total hours worked.

Employers who are concerned that employes are not working or are taking too much time to finish a particular job should spot check to see whether employes are on the job. Records should also be kept to reflect the amount each employe works daily and weekly. The employe who has low production but claims overtime needs to be checked. Those employes with high production who claim overtime are not the ones who need to be checked.

- **Fixed salary for fluctuating work week.** This method of payment requires that the employer receive his full amount of a prior fixed salary regardless of the hours he works in a week. In contrast to the straight hourly rate method, days missed within each week, whether due to sickness or poor weather, may not be deducted. If the employe works only one hour in a week, he is still entitled to his full salary.

Most employers who use the fluctuating work week standard base the salary for unlimited number of hours per week. That salary, when divided by the weekly hours worked, may not fall below the statutory minimum wage. If an employe works more than 40 hours, he is not owed one-and-one-half times his hourly rate, since he has already received his regular rate of pay in the salary. Instead, that employe must be paid "half time."

That is, one half of the regular hourly rate multiplied by the number of hours worked in excess of 40. For an example, the employer and an employe agree that he shall receive $200 for an unlimited work week. If the employe works 50 hours, the regular hourly rate is $4. The employer owes him an additional $20, based on one half of his regular hourly rate times the additional hours above 40.

The fluctuating work week method still requires accurate time records. An advantage of the fluctuating work week method is that employers can partially build and project overtime costs on a fixed basis for the

to pge 22

fiscal year. Its disadvantage is that employers may end up paying employes for sub-50 and 40 hour weeks.

Employers must pay the same salary for a rainy, unproductive week as for a highly productive week. Since each week stands alone, employers cannot average a poor week with a subsequent productive one.

- **Belo contract.** This method of payment includes overtime in a weekly guarantee for up to 60 total weekly hours. The key requirement is that in addition to fluctuating hours, the hours must also be *irregular.* This means that there must be at least a four-hour variation in working hours from week to week. Additonally, the irregularity must be unavoidable, such as due to the weather.

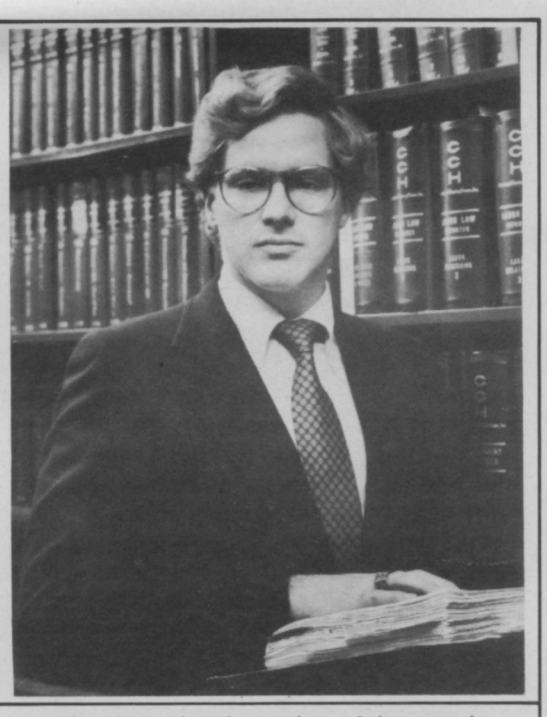
Thus, for a 50-hour week, employers may provide an hourly rate of $3.50 for the first 40 hours, plus time and one-half for the next 10 hours, then a total guaranteed weekly salary of $192.50. If the employe works less than 50 hours, he still must be paid the same. If he works more than 50 hours, he must be paid at one-and-one-half times the regular rate as agreed upon (i.e., $3.50 perhour in this example).

A Belo contract must be written and specify the regular hourly rate, overtime hours, the existence of irregular and fluctuating hours, and a weekly guarantee of pay. Its advantages are that for up to 60 hours per week, employers may pay someone an agreed-upon salary without considering overtime calculations.

Employers still are required to keep accurate records of time, but the base salary will not change from pay day to pay day unless the employe works more than the number of hours specified in the contract. Clearly, this will save administrative time.

The disadvantages of the Belo system are two-fold. Like the fluctuating work week method, employers are required to pay a salary even if employes work substantially fewer hours than provided for. Further, since a long, dry spell during the summer months will not produce irregular hours, the Belo principle is invalid; and employers are then required to pay according to the fluctuating work week standard.

- **Retail and service industry exemption.** The Act exempts commissioned employes in the industry if two conditions are met. First, more than 50 percent of the total compensation must be from commissioned earnings. Second, the regular rate of pay for every hour in every exempt week must be more than one-and-one-half times the statutory minimum hourly rate (that is, greater than $4.65 per hour).



Richard I. Lehr, the author of this article, is an attorney for the law firm of Sirote, Permutt, Friend, Friedman, Held & Apolinsky, in Birmingham, Alabama. He received his B.A. Degree from Oberlin College in 1976 and his J.D. Degree from the University of South Carolina School of Law in 1979. Lehr is also a member of the Alabama Bar Association, American Bar Association, and the ABA Section on Labor and Employment Law. Lehr said he would like to thank his colleague, Maurice L. Shevin, for his "helpful comments" in the preparation of the article.

In a letter to LAWN CARE INDUSTRY, Lehr added, "It is obvious to me that the lawn care industry will continue to grow and hopefully prosper despite increased government interference in the workplace and environment."

In contrast to the other methods of payments discussed, this approach enables employers to average weekly earnings. Productive weeks are able to make up for unproductive ones. As an example, assume an employe is paid monthly commissions based on number of square feet sprayed in a chemical lawn care situation.

In one month, he earns $1,000. Multiply that times 12, then divide by 52 to get the average weekly pay for that month, approximately $230 per week. If he worked 45 hours in one week, then his average hourly rate for the week is approximately $5.10 for every hour worked. Since that exceeds the rate of $4.65 per hour, that employe is not owed overtime for that week. If the employe worked 50 hours the following week in the same month, then his average hourly rate for the week is $4.60.

That is below the $4.65 required for the exemption. Accordingly, he must be paid "half time" for 10 hours. A monthly draw against the monthly commissions will not affect this calculation as long as are greater than 50 percent of the draw. Thus, a draw for $400 on the 15th against the $1,000 commission check on the 1st is only 40 percent of the total compensation, so he is still within the exemption.

Remember that the average weekly earnings, and therefore, the average hourly rate for that week, will fluctuate from month to month, depending on the total of commissions. This exemption approach may accomplish certain objectives which the other methods will not. First, employes have incentive to work as much as possible, since at least 50 percent of their compensation depends on the amount they work.

Second, if an employe works only 20 hours in a week, he is not paid for nonworking time, unlike under the fluctuating work week or Belo method. Finally, though the hours worked per week stand alone for overtime purposes, employers may average commissions from low production weeks with higb production weeks to raise the monthly commission total and thus, the average weekly salary for the month. The higher the weekly salary, the greater the possibility of exceeding $4.65 per hour for every hour worked in the week.

I have consulted at length with the Wage and Hour Division of the Department of Labor about pay plans for lawn care industry employes. The Department recognizes the inherent difficulties in this industry of keeping accurate time records and structuring a pay program which compensates fairly. In the past, the Department advocated a fluctuating work week standard. Occasionally, a Belo plan was used.

The Birmingham office of the Wage ad Hour Division has agreed to consider whether lawn care employes may qualify for the retail and service industry exemption, according to the plan outlined in this article. Employers should consult with their local office of the Wage and Hour Division or an attorney before altering existing recordkeeping and compensation systems.

The approaches discussed in this article include a variety of requirements for compliance with the Fair Labor Standards Act. If these requirements are not met, there may be substantial liability for employers in the lawn care industry.

Labor Manuals

There are some manuals available from your local government Wage and Hour Board that might be helpful when you put together your work plan for the year. They are:

Overtime Compensation under the Fair Labor Standards Act, Wage and Hour Publication No. 1325.

Records to be Kept by employers under the Fair Labor Standards Act of 1938 as Amended, Wage and Hour Publication No. 1261.

Executive, Administrative, Professional and Outside Sales Exemption under the Fair Labor Standards Act, Wage and Hour Publication No. 1363.

Mowing practices are integral part of turf care

Influences overall plant health, density, and vigor

by Dr. James R. Watson
Toro Company,
Minneapolis, Minnesota

Good mowing practices can be the most important single factor to good looking turfgrass. To establish good mowing practices you need to know something about the turf to be mowed and determine what kind of equipment and techniques are best suited to that particular turf. Simply removing some of the grass leaf surface does *not* constitute good mowing practices.

How turfgrass is mowed will greatly influence its health, vigor, density, weed invasion, longevity and ability to withstand use. "Use is a key word. Management practices — including mowing — must be keyed to the "use" for which the grass is produced.

The grass leaf has remarkable ability to intercept the sun's rays for photosynthesis. The long, flattened grass blades provide maximum exposure with a minimum amount of protoplasm, thus grasses make very efficient use of the living tissue. A reduction in the plant leaf area exposed to sunlight reduces photosynthetic activity within the plant. Thus, how often and how high to cut are basic decisions vital to the health of turfgrass.

ules can cause clippings problems. A heavy accumulation of clippings can smother the grass and provide an attractive environment for disease organisms and insects.

The height to which a perennial grass can be cut and survive depends on its ability to produce sufficient leaf surface for food production after being cut. The growing area of the grass blade is located in the crown and at the base of the blade, rather than at the tip of the blade or stem (as is the case with most plants). Consequently, mowing does not harm the plant, as long as no more than one-third of the grass leaf's surface is removed during any one cutting.

Mowing frequency. The amount of leaf surface removed will be determined by how often and at what height the turf is cut. Frequency of mowing is an important consideration of every turf maintenance program. Infrequent cutting allows the grass blades to elongate to a point where cutting will remove an excessive amount of leaf surface. Removal of too much leaf surface produces stubbly and unsightly turf, causes excessive graying or browning of the leaf tips and curtails growth activity, all of which will lead to depletion of root reserves.

Depending on the species of grass and the time of year (both influence the rate of growth) some lawns or turf areas may require cutting on a fairly frequent basis. For example, in the spring, Kentucky bluegrass may need to be mowed on a three-to-four-day interval.

Erratic cutting schedules can cause clippings problems. A heavy accumulation of clippings can smother the grass and provide an attractive environment for disease organisms and insects.

Mowing lawns more often than once a week might be impractical. If the mowing schedule will produce excessive clippings, there are ways to alleviate build-up. The most common, and perhaps easiest, is to use a bagger mower. Or sometimes, after an initial mowing, let the clippings dry for a few hours and then recut. This will disperse the clippings; and on thin turf, as opposed to dense turf, will serve as a mulch and conserve moisture.

On established lawns the finely chopped clippings will sift into the sward more readily. Of course, use of one of the new mulching mowers will have the same effect. And there are other ways to handle excess clippings. Some other options could include use of a lawn sweeper or blower to remove the clippings after mowing. And there is, of course, always the rake.

But the key to successful mowing is to cut often enough so that no more than one-third of the leaf surface will be removed in any one mowing. In other words, frequency of mowing must be related to height of cut and rate of growth.

For any given grass, its rate of growth is a response to weather conditions, season of the year, soil fertility, moisture conditions and the natural growth rate for that species. Above all, height and frequency of cut must be determined on the basis of requirements for play or other use of a given turf facility.

to page 24

Cut lower in spring. The stage of growth for a particular grass must also be taken into consideration in determining mowing practices. Young, tender growth in the spring is generally soft and succulent. The moisture content of young, immature turfgrass is much higher than that of mature grass. Likewise, the fiber content of young grass is much lower than that of mature grass. These conditions should influence mowing practices.

Mowing practices during the early stages of growth will affect density of turfgrass. Many species should be cut at heights somewhat lower than normal during the early spring to encourage lateral growth, which will promote density and help prevent weed invasion.

Regardless of growth stage, mowing wet grass should be avoided whenever possible, although availability of labor and other factors may make it necessary. Dry grass cuts easier whereas wet grass may ball up and clog the mower. Most important: If grass is cut when dry, the lawn will appear better groomed. Also, dry grass requires less mowing time.

For maximum aesthetic value, cutting patterns should be altered with each mowing. For example, cut in an east/west direction once, then a north /south direction the next time, and diagonally the next. This will produce a "patterned effect" which enhances turf appearance.

Mowing should be avoided during early morning hours if there is a heavy dew on the grass. But, if it is necessary to mow at that time, dew can be partially dissipated with a light sprinkling, or by dragging a garden hose, rope or similar device over the turf surface. This will knock the dew droplets from the grass leaves. Unlike rain or water from a sprinkler, dew contains exudates from the grass blades, which cause them to stick together. Such clumping leads to an untidy appearance.

Where possible, try to avoid mowing during the afternoon hours of peak heat, when the grass plant is most susceptible to wilting.

One more important consideration: Regardless of the weather, growth conditions or type of mowing machine used, the cutting mechanism must be sharp. Dull blades or improperly adjusted cutting heights can damage the turf and, in turn, lead to a variety of problems. Leaf tips will become frayed, turn gray, then brown. The turf will look poorly groomed. And those grayed mutilated tips provide ready access for disease-producing organisms.

Cutting patterns. For maximum aesthetic value, cutting patterns should be altered with each mowing. For example, cut in an east/west direction once, then a north/south direction the next time and diagonally the next. This will produce a "patterned effect" which enhances turf appearance.

Turfgrass areas regularly cut with either single-unit power mowers or gang mowers sometimes develop a series of wavelike ridges running at right angles to the direction of mowing (similar to washboarding or corrugating on a gravel road). Unless this is caused by a poorly prepared seed bed, or a reel mower with a clip that is too long the height of cut, this corrugated pattern may be prevented or partially remedied by regularly changing the direction of mowing (diagonal or right angles). If the length of clip is responsible, the height of cut must be raised or the mower replaced with a unit having either more blades or a faster reel speed.

Dull mower blades or improperly adjusted cutting heights can damage turf and lead to a variety of problems. Leaf tips will become frayed and the lawn will look poorly groomed. And those frayed, multilated tips provide ready access for disease-producting organisms.

Keep in mind that mowers are not intended to be used for grading. Turf areas with contours that are continually "scalped" should be regarded to permit proper cutting and reduce wear and damage to the mowing equipment.

Inadequate insect control can lead to mowing problems on closely cut turf areas. Earthworm casts and ant hills often become troublesome when heavy infestations occur. In severe cases, these mounds of soil will result in an uneven cut. Similar problems arise when the turf area is invaded by gophers or other burrowing animals.

Improper operation of equipment can contribute to a poorly groomed appearance. Irregular or uneven cutting can be caused by mowing units bouncing when they are operated at excessive speeds.

Selection of the proper type and size of mower is an impor-

tant part of sound mowing practices and should be an integral part of any maintenance program. Good mowers are characterized by maneuverability, ease of adjustment, durability and horsepower adequate for the size of the machine and usage expected. Different types of mowers have certain advantages and limitations which should be carefully weighed.

Reel (cylinder) type mowers are always recommended for lawns groomed to a height of one inch or less. Reel-type gang mowers also are the most efficient and economical for large open areas. The reel cuts by a shearing action similar to that of scissors. Reels, when sharp and properly adjusted, give a clean, even cut which cannot be equalled by any other type of mower.

Reel-type mowers may not be appropriate for some turf areas because they require relatively smooth ground and they will not cut tall, vigorously growing weeds. In addition, the cost of maintenance is somewhat higher than for rotary mowers.

Rotaries are versatile. On the other hand, rotary mowers are versatile and well-suited to use on most home lawns as well as larger areas. And they work well in rough conditions and on areas where control of grass, rather than appearance, is the main consideration.

The versatility of rotary mowers, and the availability of a wide choice of models with different features, make them especially well-suited to residential use. They can be used to grind up leaves, cut tall, stemmy weeds and to trim. The rotary cuts by impact similar to the cutting action of a scythe. For this reason, a sharp, properly balanced blade is necessary to avoid tearing of the grass blade and also to prolong engine life.

The selection of a rotary mower should take into consideration safety features, blade type, method of blade mounting, ease of adjustment and horsepower. Rotaries require higher horsepower than reel mowers of comparable size and will "scalp" on uneven, rough terrain. However, maintenance costs are generally lower.

Present day energy concerns may soon change turf care maintenance practices through development of machinery that is more energy efficient. This could mean higher cutting heights, perhaps even less visually pleasing lawns.

Mowing programs have always been based on aesthetic appeal, and until recent years equipment used has been developed with little regard to energy consumption. As our concerns about energy increase, we can expect equipment better-suited to alleviation of those concerns. At the same time, there may well be a need to adjust the philosophy and standards by which we judge satisfactory mowing.

Regardless of mower type or use demands, performance will always be improved by proper maintenance.

The importance of blade sharpness has been emphasized. It also is important to keep machinery well-lubricated and to change the oil frequently. Do not store equipment for extended periods with gasoline in the tank. Put in fresh gas when taking machinery out of storage.

Always follow owner and service manual instructions, and when major maintenance is necessary, take the mowers to a qualified service outlet.

As stated at the outset, machinery and equipment required for grass maintenance should be selected on the basis of the level of maintenance desired; the size the area, the type of landscaping, kind of grass and use to which the turfgrass will be subjected. These considerations are basic when determining the capacity, number and types of equipment needed.

Mowing is not a simple operation to be regarded merely as a means of removing excess growth. Good mowing practices contribute as much as any single factor to the well-groomed appearance of grass.

MEMOS

Shur-Lawn donates to Musser: Keith Weidler, president of The Shur-Lawn Co., Omaha, Neb. has donated $2,500 to the Musser International Turf Foundation, and will donate a like amount late this year or early next, Dr. Fred Grau of the Foundation told LAWN CARE INDUSTRY.

This is the second donation the Musser Foundation has received from the lawn care industry. ChemLawn Corp., Columbus, Ohio, has pledged $5,000, a $1,000 gift for five years.

House starts down: High interest rates helped slow housing construction in January to its lowest level in more than three years.

The federal Commerce Department said housing starts fell 6.4 percent to a seasonally adjusted annual rate of 1.4 million units. That decline, the fourth consecutive monthly drop, left new housing construction at its lowest level since July 1976.

At a seasonally adjusted annual rate of 1.4 million units, starts of new, private housing in January were 19 percent less than the revised figure of 1.74 starts for last year and 30 percent less that the 2.02 million reported in 1978.

Loft and Southern Turf Nurseries form new company

Peter Loft, chairman of Lofts Pedigreed Seed, Inc., and Charles D. Nash, president of Southern Turf Nurseries, recently announced the formation of Sunbelt Seeds, Inc. The new company, based in Tucker, Georgia, will initially specialize in marketing programs to the southern recreational turf market.

Sam Ellington, president of Sunbelt Seeds, Inc. , explained how his company's resources will benefit the Bermuda belt. "Our new company is in an incomparable position due to the proven service and expertise of the two parent organizations. Through the benefit of a year round product emphasis, we can supply the southern market with leading varieties of the turf type seeds at very competitive prices and with superior service. Our clientele can refer their unique regional turf problems to our experienced agronomists for solutions. All together, I'd say we have a great deal to offer the South."

Elllington has 30 years experience in the seed industry. Until the formation of Sunbelt in March, Ellington was Southeastern Regional Manager for Northrup King Seed, Minneapolis, Minnesota, where he specialized in the development and servicing of the medalist overseeding program.

Sunbelt Seeds, Inc., will supply leading varieties of turf type seeds at competitive prices to those working in the Bermuda Belt.

Other officers in the company include Vice-President Dr. Tim Bowyer, vice-president, Southern Turf Nurseries, and Richard Hurley, research director at Lofts Pedigreed Seed. Both will be providing expertise in agronomy, plant pathology, and seed technology to the Sunbelt Seed program.

Don D. White also joins Sunbelt as assistant vice-president of sales. White was formerly associated with Southern Turf Nurseries for some 20 years and is eminently familiar with the needs of the turf markets in the South.

Included among the stable of grasses available through Sunbelt Seeds will be quality turf perennial ryegrasses such as Pennfine, Manhattan, and Derby. In addition, blends of the finest turf type perennial ryes, fineleaf fescues, and Poa trivialis, including such blends as C.B.S., Marvelgreen Supreme, Marvelgreen 3 + 1, Marvelgreen + Sabre, Medalist 5, Medalist 6, and Medalist 7. Jamestown fine fescue and Sabre, Poa trivialis will also be available on demand. In addition to the above, all of the major high performance bentgrasses which are part of many southern overseeding programs, will be available through Sunbelt.

As part of the total seed product mix, Sunbelt Seeds will also provide such products as common bermuda (hulled and unhulled), bahia (Argentine and Pensacola), carpetgrass, weeping lovegrass, tall fescues (Kentucky 31), a variety of Kentucky bluegrasses, and Regel, the first turf type tall fescue commercially available.

Supplemental seed treatment for disease control as well as a blending service for those requiring special blends of seeds to fulfill their seeding needs is also provided by Sunbelt. For further information contact Sunbelt Seeds, Inc., 2055 Tucker Industrial Road, Tucker, Georgia, or call 404-491-1311.

New officers of Sunbelt Seeds, Inc., Tucker, Georgia, include (standing, left to right) John Morrissey, Rich Hurley, and Jon Loft. Seated from left to right are Peter Loft, Sam Ellington, and Tim Bowyer. Lofts Pedigreed Seed, Inc. and Southern Turf Nurseries announced the formation of Sunbelt Seeds in March

Included among the stable of grasses available through Sunbelt Seeds will be perennial ryegrasses such as Pennfine, Manhattan, and Derby. In addition, blends of the finest turf type perennial ryes, fineleaf fescues, and Poa trivialis will also be available.

TURF

Starting a lawn

by Dr. William H. Daniel, Purdue University

These basic steps and principles should help you make a good lawn that is easier to maintain.

Remove all building debris and larger rocks. Rough grade the subsoil to form the desired drainage and landscape features. Fill areas often need to settle to avoid later unevenness.

A slope of not less than one percent nor more than 10 percent is desirable for areas which will be used. Avoid terraces and steep slopes, since it is difficult to keep grass on them.

Avoid filling soil around trees if possible. Tree wells with ample drainage, gravel layers and stone walls can help save valuable trees.

Where needed (in low or wet areas) trench for tile lines. Use pea gravel backfill over the tile all the way to the surface so excess water can soak in rapidly. If automatic lawn watering is to be used, install lines and sprinklers so that uniform coverage is assured.

Reduce layers, mistakes, compaction from trucks, etc. with deep tillage. In larger areas, subsoil machines are strongly suggested. Vertical springtooth loosening until rootzone is uniform is preferable. Excess rotary cultivation should be avoided, since it may cause soils to compact more later.

Is topsoil worth it? The organic matter and granular structure, plus accumulated nutrients of topsoil, can provide better water retention and grass growth. If possible, when you are beginning construction, push aside and save the topsoil, then respread it over the base grade. Topsoil is expensive to haul and spread. If used, it should be applied four inches or more deep. Thin layers of soil, muck or peat at the surface should be avoided. Mix these into surface soil.

Add peat or other amendments. Organic matter holds moisture and nutrients, but relatively large amounts are required to produce effective changes. Manure, compost, leaf mold, rotted sawdust, sewage sludge, etc., may be spread one to two inches deep. Often, two to four bales of peat or peat moss for each 1,000 square feet are suggested. In either tight subsoils or sands, extra organic matter can reduce maintenance later. Any material should be thoroughly mixed with the soil. Extra nitrogen may be needed during periods of rapid organic matter decay, or turf may appear very yellow and weak. Even where economy limits use, consider adding peat to high spots of sandy areas. Where subsoils are exposed, raking one bale of peat into each 1,000 square feet of surface may help get the lawn started.

Lime if pH shows need. About one third of untreated soils going into lawns in Indiana, for example need lime. A pH of 7.0 is neutral. If pH is 6.0 or more acid, then add lime. A soil sample should be submitted for test before lime is used.

Provide ample nutrition. Force the grass to grow and make turf rapidly, even if previous cultural practices were not all that they should have been. It is important to establish a uniform ground cover quickly. On sands, unirrigated soils, or in unfavorable dry weather, consider applying two pounds each of nitrogen, phosphate and potash. On silt loams and good soils under good conditions, such as irrigation and mulch, shift to a 4-2-2 analysis fertilizer for each 1,000 square feet. Some examples of turf fertilizer formulations are: 16-8-8, 12-4-8, 23-7-7, 18-4-9 and 23-6-12.

These numbers indicate the percent of available nitrogen, phosphorus and potassium in the fertilizer, and they are always indicated in the same order. These formulations are high in nitrogen, yet ample in phosphorus, and provide about half as much potash as nitrogen.

It is always better to mix lime and fertilizer into the rootzone if you can. After seedlings germinate, consider spreading additional fertilizer to force growth, before yellowing, slow growth or other need responses appear. Phosphorus is most needed to help young grass develop rapidly.

Loosen the soil as deeply as practical with a tractor, cultivator, rototiller, etc. Incorporate additives, lime and fertilizer as early and as uniformly as conditions permit. The final edges of the lawn should be one inch below sidewalks and drives. Do not work soil when wet.

When spreading seed, go over all areas twice to assure a uniform stand. Check labels. Generally, two pounds of bluegrass, or three to four pounds of mixture for each 1,000 square feet are ample.

Always rake or drag in the seed so that rain or wind will not remove all seed. For bluegrass seed, a soil covering of one-quarter to three-eighths inch is ideal. However, raking should give a range of covering. Lawns may be planted at any time. Although fall is best, spring plantings with mixtures may be satisfactory.

Mulch the important areas. Seed must be kept moist, and yet not saturated. In fact, bluegrass won't germinate in standing water. When seed dries between rains, it may be weeks before germination is secured. And, if seed dries just after sprouting, complete failure can occur.

Mulch minimizes erosion, dust, mud and surface dryness. Straw at one to two bales for each 1,000 square feet, or locally available nettings, excelsior, peat, etc. — even sand and pea gravel — may aid as mulches. Remove excess mulch as soon as seedlings are obvious.

Disease management will be the next growth area in the lawn care industry.

Lawn care businessmen are beginning to realize that no matter what they apply to their customer's lawn, without good disease management, their effort will be futile. When a homeowner signs up for a lawn care service, they expect a beautiful lawn.

If a disease destroys the appearance of their lawn, they are unhappy and probably won't sign up for the service again. If a homeowner was taking care of their own lawn, they would understand a disease being present, however, they expect to see a disease-free lawn when they sign up for a lawn care service. They are not only upset with the disease in their lawn, but usually blame the lawn care service for its presence.

The lawn care industry started out many years ago with the idea of applying some nitrogen fertility to a home lawn and producing a better product than the homeowner could. They soon found out that pre-emergence and post-emergence weed control was necessary to give a homeowner the quality lawn that they desired.

The lawn care industry next included an insecticide treatment so lawn insects would not reduce the turfgrass quality. Only one step remains for a total home lawn treatment package: disease management. Without good disease management programs, you often have dissatisfied customers this season, and perhaps no customer at all the following season, in spite of all the other treatments the lawn received.

The occurrence of the disease is often not the lawn care businessman's fault and could have been prevented had the right cultivars been selected when the lawn was established. Good disease management begins with selecting proper cultivars. Too often, the cultivars used for home lawns are not the most disease-resistant cultivars, but rather the cultivars that have been promoted most extensively.

The lawn care businessman is at the mercy of these cultivars. Had the lawn care businessman been consulted prior to the establishment of the lawn, they could have recommended disease-resistant cultivars which would have gone a long way towards solving both the homeowner's as well as the lawn care businessman's problem. Unfortunately, this is not usually the case and they are forced to work with whatever cultivars are present.

The lawn care businessman should try to convince his customers to carry out cultural practices that will minimize disease development so the maximum benefits his products can be realized, and to make fungicide application more effective. Cultural means of managing the various turfgrass diseases can be found in the accompanying guide along with effective fungicides that may be applied on either a preventive or curative basis.

Table 1 (see chart on page 30) lists the ideal mowing height for the various turfgrass species. Too often, turfgrass is mowed below its optimum cutting height because of what is known as the "golf course fairway syndrome". This is also known as "I would like my front lawn to look like a golf course fairway". Such practices can put additional stress on the turf and in some instances make it more disease-susceptible.

Homeowners should be encouraged to mow their lawn at the optimum mowing heights so they can reap the benefits of your products. Thatch should be kept at a minimum or at least modified; excess thatch can put the turfgrass plant under stress and cause more severe disease problems.

The homeowner usually tries to remove thatch through power raking. Little thatch is removed by power raking. Homeowners with severe thatch problems should be encouraged to rent some type of coring machine (aerifier) to core or aerify their thatchy turf. These cores should not be removed but should rather be broken up and reincorporated into the thatch layer where they will help to degrade the thatch or modify it into a more suitable growing medium.

The above-mentioned cultural practices should help minimize disease development, but they alone may not be enough.

The time has come to incorporate preventive fungicide application into home lawn care programs where truly first-class lawns are desired.

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This article was prepared by Dr. Joseph M. Vargas, Jr., associate professor, Botany and Plant Pathology, Michigan State University, East Lansing, Michigan. Vargas is a frequent contributor of articles to LAWN CARE INDUSTRY.

RUST

POWDERY MILDEW

STRIPE SMUT SPORES

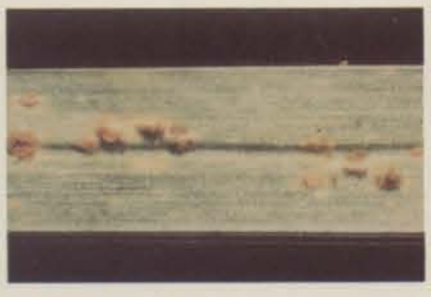
GRAY LEAF SPOT SYMPTOMS

HELMINTHOSPORIUM MELTING OUT

FUSARIUM BLIGHT

RHIZOCTONIA BROWN PATCH

MELTING OUT LESSION



STRIPE SMUT

FUSARIUM "FROG EYE" SYMPTOM

SPRING DEAD SPOT

Quick-reference turf disease guide

The Kentucky bluegrasses

Diseases	Time of Year	Symptoms	Cultural Practices	Fungicides
Melting-out	Cool wet weather of spring and fall. Most severe in spring.	General over all thinning of turf. Black to purple spots present on leaf blade and sheaths. Spots tend to be very large on susceptible cultivars.	a) Remove clippings b) Raise mowing height c) Reduce spring nitrogen	Spectro, Fore Tersan LSR, Daconil 2787, Chipco 26019, Duosan, Acti-dione TGF, Acti-dione-Thiram, Dyrene
Fusarium blight	Most prevalent during hot, dry weather of summer, but can occur anytime drought stress conditions exist.	The disease is characterized by a circle of dead grass surrounding a circle of so-called healthy grass often called a "frog-eye" symptom. They are usually 6" to 2' in diameter. In extremely susceptible cultivars, the disease will occur as dead spots ranging in size from a few inches up to a foot in diameter with the so-called healthy center missing.	a) Light daily irrigation during warm weather b) Reduce thatch c) Coring (aerification)	Tersan 1991, Fungo 50, Cleary's 3336, Chipco 26019 Chipco 26019 Chipco 26019
Stripe smut	Foliar symptoms most prevalent in spring & fall. Infected plants die MQ often during summer drought periods.	Clumpy appearance of a Kentucky bluegrass turf. Individual plants die leaving small bare spots. Turf may have a yellow appearance. Individual blades have black stripes which are the spores of the fungus being produced in the plant veins. They eventually rupture the epidermis. They can be rubbed off and will brown to black in color on a white handkerchief.	a) Irrigate to prevent summer dormancy b) Reduce summer nitrogen	Not recommended
Rust	Most common in fall, especially on slow growing turf which may be due to lack of nitrogen.	The turf may have a reddish-brown appearance. The individual grass blades will contain rust-colored spores of the fungus which can be rubbed off.	Maintain adequate nitrogen levels	Fore, Tersan LSR, Acti-dione TFG, Acti-dione Thiram, Daconil 2787
Powdery mildew	From mid-summer to late fall.	An infected turfgrass stand will be white in appearance.	Reduce shade. Improve air drainage.	Not recommended

The Bermudagrasses

Spring Dead Spot	Spring—when grass begins to green up.	Dead patches of grass ranging in size from 6 inches to 3 feet.	a) Avoid nitrogen fertility after August 1st. b) Reduce thatch.	None
Brown Patch	Late spring through early fall when day time temperatures are 70°F plus accompanied by high humidity.	Brown circles of grass ranging from 6 inches to 3 feet or more. All grass in spots is not killed initially.	a) Increase air movement b) Reduce nitrogen fertility.	Daconil 2787, Fore, Tersan LSR, Chipco - 26019, Acti-dione TGF, Acti-dione Thiram, Turfcide, Duosan, Bromosan, Spectro
"Helminth"	During cool wet weather of spring and fall.	General all over thinning of turf. Black to purple spots on the foliage.	Reduce spring nitrogen. Raise cutting height. Collect clippings.	See Melting-out

The Zoysiagrasses

Dollar Spot	When temperatures are between 70°F and 85°F Most severe when accompanied by high humidity. The diseases is most serious on turf where nitrogen is deficient.	Roundish straw-colored spots ranging from 1 inch on low cut turf up to 6 inch in higher cut turf.	Adequate nitrogen levels.	Tersan 1991, Fungo 50, Cleary's 3336, Spectro, Duosan, Daconil-2787, Acti-dione TGF, Acti-dione Thiram, Bromosan, Dyrene
"Helminth"	The cool wet weather of spring and fall.	General all over thinning. Black to purple spots present on the foliage.	Reduce spring nitrogen. Raise cutting height. Collect clippings.	See Melting-out
Rust	Late summer early fall especially a problem on slow growing turf where nitrogen is deficient.	Turf area becomes yellow to rust-colored in appearance. Rust colored spores can be found the surface of the grass blades.	Adequate nitrogen levels.	See Kentucky bluegrass rust.

St. Augustinegrass

Brown Patch	Late spring-early summer and late summer-early fall.	Circles of brown grass ranging in size from 6 inches up to a few feet or more. All the grass in the spot is not initially killed.	Reduce nitrogen fertility. Increase air movement.	See brown patch patch bermudagrass
Grey Leaf Spot	During periods of warm rainy weather.	Turf may appear burned or scorched. Mature spots on foliage have depressed grey centers with irregular brown margins often surrounded by a yellow ring.	Reduce nitrogen fertility. Irrigate during day time.	Daconil 2787, Dyrene, Acti-dione TGF, Acti-dione Thiram.
St. Augustine Decline (SAD)	The disease occurs all season long.	Turf areas turn yellow in color initially. The infected grass will eventually die.	Adequate nitrogen will slow disease progression.	None

DISEASE from page 29

Disease identification. The two most important things in identifying turfgrass diseases in the field are knowing the species of grass, or preferably the cultivar the disease is occurring on, and the weather conditions just prior to and during the development of symptoms.

Knowing the grass species or cultivars can greatly reduce the number of disease possibilities since specific diseases occur only on certain species and in some cases, only certain cultivars. For example, melting-out only occurs on the common type Kentucky bluegrass, whereas improved types are resistant.

The other important thing is the weather. If the Kentucky bluegrass is thinning and dying in the heat of summer, there is no sense looking for melting-out, which is a cool, wet weather disease. You can find the major turfgrass species grown on home lawn turf and their disease problems in the quick reference turf disease guide. Photographs depicting these diseases can be found throughout the article. You may wish to cut the table and photos out and keep them in your vehicles so you can have them with you when diseases problems are encountered. A few brief comments will be made to supplement the guide.

Kentucky bluegrass. The three major diseases are melting-out in the cool, wet weather of the spring and fall on common types such as Common, Kenblue, Newport, Park, etc. The improved types are resistant. These include Merion, Fylking, Nugget and Victa.

Fusarium blight is a problem whenever drought stress occurs, but is most serious during droughty periods of the summer when warm weather adds to the stress problem. Merion, Fylking, Nugget, Pennstar appear to be the most susceptible whereas Adelphi, Baron, Cheri, Majestic, Vantage and Parade appear to be the most resistant although certainly not immune.

Stripe smut is a systemic perennial disease and once a grass plant is infected, it will remain so for life. Although the disease is always present, most turf is lost to the disease during the warm weather of summer, especially where high rates of nitrogen are applied or where the infected turf is allowed to dry out.

Powdery mildew is a problem in shaded areas and cultivars like Nugget or Bensun can be used, or other species like the fine-leaved fescues in the more northern climates. *Poa trivialis* can be used for shaded areas in more southern regions of the Kentucky bluegrass growing region. Rust is primarily a problem on slow-growing turf in the late summer through the fall where nitrogen is deficient.

Bermudagrass. Spring dead spot has been the limiting factor in the northward movement of bermudagrass. The longer the dormant period or the colder the winter, the more severe the problem appears to be. Fungicide applications during the growing season appear to reduce the severity of the disease. The cultivar Midiron has been reported to be resistant, but more research is needed before any definite conclusions can be drawn. "Helminth" is most serious in the coastal regions in which bermudagrass is grown and brown patch is most serious when warm temperatures of summer are accompanied by high humidity.

Zoysiagrass. Even though this species is advertised as a desirable species in the northern regions of the cool-season grass belt, it is not. It does have the winter-hardiness necessary to survive the northern winters, but usually does not green up much before June and usually turns brown in late August.

It is a fine southern grass and that is where it should be grown. Since it is basically a slow-growing turfgrass species anyway, its two most serious problems are diseases that are most serious on slow-growing turf — dollar spot and rust. All attempts should be made to keep nitrogen fertility levels up to reduce the severity of these diseases.

St. Augustinegrass. The most serious disease on St. Augustinegrass is St. Augustine Decline, caused by a virus. This virus is mechanically transmitted. The question is often asked: "Will I spread the disease from one lawn to another with my mowers or other equipment?" The answer is usually "yes" but it does not really matter because most turfgrass diseases are caused by fungi which produce spores that are spread by the wind (rust, *Helminthosporium*), or are native to most soil (*Fusarium*, brown patch).

However, the answer for St. Augustine Decline is "yes" and it is an important means of spreading the disease. When going from an infected lawn to a healthy one, the equipment should be thoroughly washed with water or sterilized if possible. Another alternative is to mow or cultivate the infected lawns last where possible.

Other diseases of St. Augustinegrass include grey leaf spot, which occurs most commonly during the hot humid weather of summer and is most serious on newly established lawns. Brown patch occurs during the warm weather of late spring, early summer and tends to disappear during the extreme hot weather of summer and return during the warm weather of late summer and early fall. Excess nitrogen fertility will increase the severity of both diseases.

Table 1 Preferred Mowing Height for Home Lawn Turfgrasses

Turfgrass species	Mowing Height in inches
Kentucky bluegrass	2-3
Fine leaf fescue	2-3
Bermudagrass	1-2
St. Augustinegrass	2-3
Zoysiagrass	2-3

Disease management. It is difficult to develop fungicide schedules for specific areas of the country because they are so diverse and because the environmental factors which affect disease development do not occur at the same time each season.

Some diseases are treated on a preventive basis while others are treated on a curatuve basis. All homeowners do not have the same cultivars of a particular species and it would be difficult to devise a fungicide treatment program to encompass all the disease problems that occur on the various cultivars. Instead, a list of cultural management practices to minimize diseases development and a list of fungicides that are effective on each disease is given in the guide.

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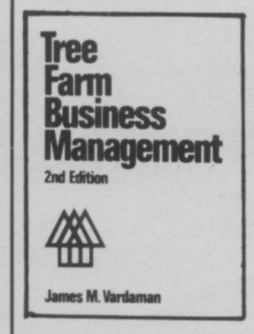

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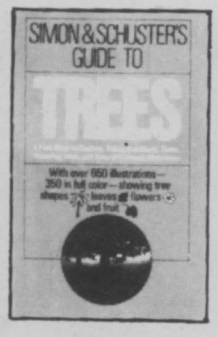

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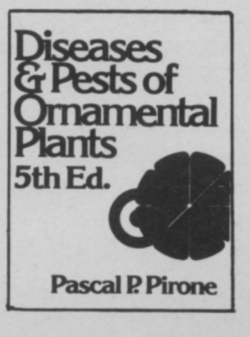

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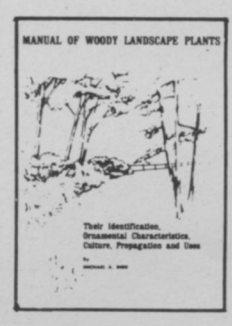

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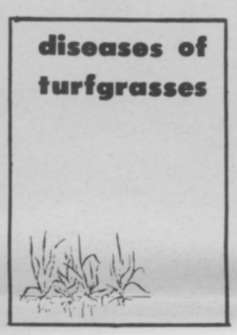

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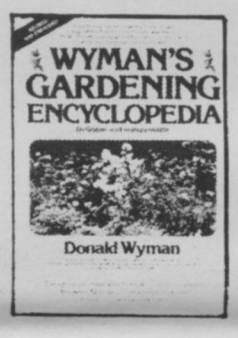

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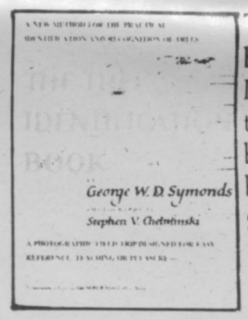

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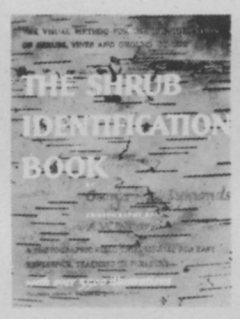

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COMPANIES

Toro announces sales gain and earnings loss

The Toro Company recently announced record sales and a 5.3 percent drop in earnings for the second quarter ending January 31, 1980.

Sales for the Minneapolis-based firm were $123.9 million, 46.2 percent higher than last years's $84.7 million and a record for any quarter in the company's history.

Net earnings for the quarter were $4.8 million compared to $5.1 million last year. Fully diluted earnings per share declined 6.6 percent to 85 cents from 91 cents.

Toro Chairman David T. McGlaughlin attributed the earnings drop to extraordinary expenses related to the extremely light snowfall and to the impact of rapidly rising material costs and significantly higher financing costs. The decline followed 11 consecutive quarters of earnings improvements versus comparable quarters of preceding years.

"While the field inventory of snowthrowers has lowered our expectations from this segment of our business," McGlaughlin said, "we are encouraged that our order position in all other areas is very strong."

For the first six months, sales of $225.5 million are up 49.1 percent from the year before, net earnings of $10.4 million are up 12.8 percent, and fully diluted earnings per share of $1.83 are up 10.2 percent.

"Our second-quarter sales were up significantly in all major product lines," McGlaughlin added, "but the unusually light snowfall across the United States did cause a backup of snowthrower products in the distribution system due to lower than expected retail sales.

Porter Brothers, Shelby, N.C., was recently named outstanding distributor of the year by Weed Eater division of Emerson Electric Co. Other awards presented at Weed Eater's national sales meeting were for top sales performance and outstanding advertising/sales promotion. Pictured from left to right, top row, are : Jim Killeen, Power Equipment Distributors, Inc.; Ernie Buehrer, Century Toro; Davis Bottoms, Universal Tractor: Steve Timm, Century Industries; John Fisher, Midwest Equipment; Joe Porter, Porter Brothers; Scott Smith, Stull Equipment; George Sherman, Weed Eater president. Kneeling: Eddie Burke, Jr., Outdoor Equipment; Jack Knight, Pacific Equipment; John Reeves, Impossible Equipment; Tim Curran, Pacific Equipment; John Sherman, Lucky J.T. Distributing; Bob Garrett, Garrett-Moore Distributing.

COMPANIES

Liqui Lawn introduces marketing program

Be your own professional with Liqui Lawn, the ready-to-use, no mix, spray-on lawn food and spray-on weed control. It's quick, easy, and economical. That's what the 1980 Liqui Lawn advertising campaign will be telling consumers.

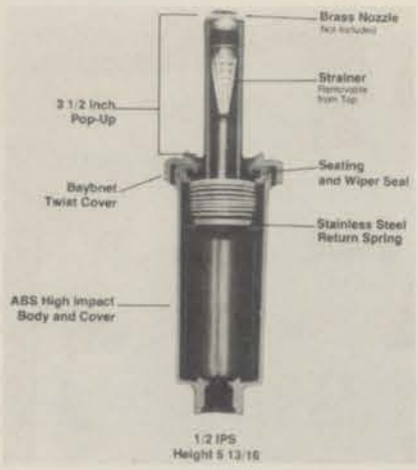
According to Dan Gavin, director of Sales and Marketing, Liqui Lawn will be putting liquid lawn fertilizing directly into the hands of the consumers.

"People who have been using lawn application services can now go to the store and get an over-the-counter product which is easy and convenient to use. We test marketed Liqui Lawn in northeastern Ohio in the spring of 1979 and it proved successful."

Becasue of that success, Liqui Lawn will now be expanding its market to include Ohio, Michigan, Pennsylvania, and Indiana. To match its growing market, an extensive advertising campaign is being produced. The program will include television, radio, newspaper, and point-of-purchase advertising.

Write 150 on free information card

PRODUCTS



Easy-to-clean plastic sprinklers from Telsco

The Weather-matic Division of Telsco Industries' Model 35P spring-loaded, pop-up sprinkler features a bayonet-type, twist-lock cover which permits easy cleaning. It also has an under-nozzle screen which can be cleaned without removing the cover.

Further, the 35P has a full three-and-a-half-inch nozzle pop-up that allows the spray to clear taller grasses and eliminates the need to trim around the head. The sprinkler also features Weather-matic's new 300 Series fully-adjustable brass nozzling.

Write 206 on free information card

Easy-to-use soil probe

An easy-to-use soil probe which can extract a 12-inch core for soil testing is available from Oakfield Apparatus. Made from chrome-plated steel, the device is a one-piece unit with in-

terchangeable tips for different soil types and conditions. A foot step eliminates stooping to insert the probe. The sample is easily removed by turning the probe upside down.

Write 202 on free information card

Electrostatic sprayer for ornamental plants

Electrostatic ornamental sprayer reduces drift and improves chemical adhesion to plant surfaces due to a process which charges spray droplets making them electrically attracted to plant surfaces. The spray droplet charger was developed by the University of Western Ontario under Canadian government funding.

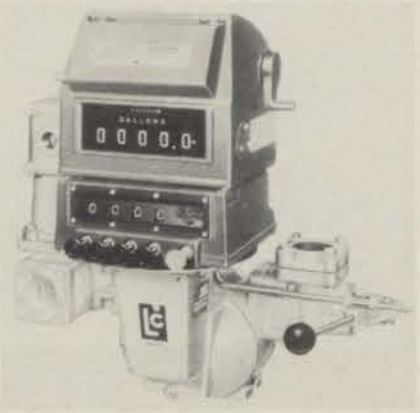
The system also cuts costs. It is estimated that use of this method can further increase by up to 25 percent the already considerable savings provided by low-volume spraying. Further, there is less chance that spray material will drift and pollute downwind areas where coverage may be undesirable.

The system consists of a charge generator that operates from the tractor's 12-volt electrical system and a charge-inducing strip installed in a special non-metallic spray head.

Write 203 on free information card

Metering system is corrosion-resistant

Excellent results have been obtained when metering complete mix fertilizers through Liquid Controls Corporation's Class 18 meter. The unit is made of cast



iron which has been specially treated to provide both corrosion resistance and surface hardness. On spray rigs, where many different chemicals may be used, or on a metering system where water flushing is required, the corrosion resistant properties of the Class 18 meter are of great advantage.

Liquid Controls Class 18 meters are available in 60, 100, and 350 gallon-per-minute models. Accessories include counters, printers, presets, strainers, air eliminators, and valves. Further, Liquid Controls now offers a choice of seventeen variations in materials of meter construction plus a choice of seal materials.

Write 204 on free information card

Turf product controls crabgrass and insects

The Andersons Lawn Fertilizer Division offers a unique three-

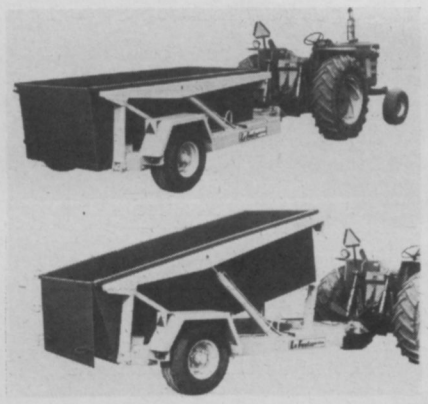
way product which feeds turf, controls crabgrass, and prevents grubs from laying eggs, thereby preventing another grub generation. Turf-Care 20-4-10 with 92 percent Balan and 46 percent Dursban also contains iron, sulfur, and slow-release nitrogen. A 40-pound bag treats 8,000 square feet of turf.

Write 208 on free information card

Container/trailer unit transports materials

La Font's container/trailer system is ideal for transporting grass clippings and is flexible enough to successfully handle other lawn related material handling. The system is designed for use with standard ag-tractors or a hydraulically-equipped light truck. Load capacities range up to 13,200 pounds.

The system consists of a basic trailer and matched containers.



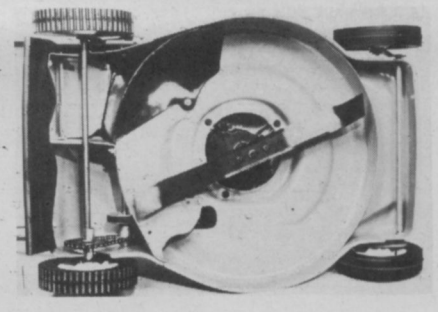
The trailer picks up, hauls, and drops. When desired, a built-in dump system can provide up to 58 degrees tilt for fast emptying. The container is picked up and deposited in a level attitude, so even liquids can be handled without spilling. A wide variety of container styles are available including boxes in five cubic yard to 17 cubic yard sizes.

Write 211 on free information card

Conversion kit changes rotaries to mulchers

Yard-Man's four-horsepower, rear-discharge rotary mowers are now capable of converting to mulching mowers with the quick-and-easy installation of the mulch-a-matic conversion kit. Whenever the owner wishes to mulch, he simply converts the unit's 20- or 22-inch steel deck from its standard rear discharge capability to an efficient mulching capability by inserting a Yard-Man mulching enclosure and changing to a mulching blade that is provided in the kit. The mulching action results in a beautifully mulched lawn, with no raking, clumping, or bagging required. The kit is also easily removed for regular lawn care.

A selection of push, self-propelled, and key electric start rear-discharge rotaries, all adaptable to the mulching conversion,

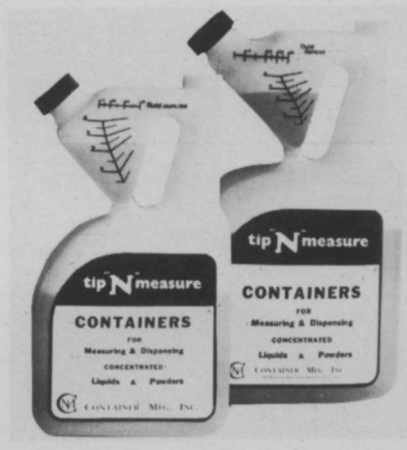


are available from Yard-Man, as is an eight-horsepower rear-engine riding mower that converts into a mulching rider.

Write 210 on free information card

New plastic containers measure materials

Concentrated liquids and granular material frequently used by lawn care professionals can be accurately measured and dispensed by means of a patented line of plastic containers introduced by Container Manufacturing, Inc.



Unlike other measuring devices, Tip 'N' Measure containers have no operating mechanisms. Further, the occurence of accidental spill are reduced and safety is increased because the container is closed for initial

measurements, volume re-check, and addition or subtraction of materials. Units use standard or special closures and can be re-closed for storage after dispensing. The containers are available in one quart, two quart, and one gallon sizes.

Write 200 on free information card

Folding utility trailer

The problem of where to store a utility trailer has been solved with the unveiling of the new Tow 'N Stow trailer, manufac-

tured by Trail-R-Craft, Inc. The four-foot by six-foot utility trailer folds up to just 20 inches wide and rolls into the side of a garage like a roll-away bed.

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Eight good reasons to join the Professional Lawn Care Association of America.

1.

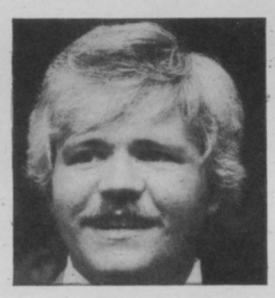
"An annual national lawn care convention for the professional exchange of new ideas and operating know-how, and a chance to meet with suppliers."
Rick White, Village Green Lawn Spraying, West Chicago, Ill.

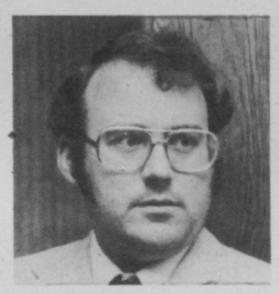
2.

"Consumer education . . . informing potential customers of the advantages of lawn care and the importance of putting the proper care of lawns into the hands of dedicated, trained, skilled professionals."
Tom Brune, Atwood Lawn Spray, Sterling Heights, Mich.

3.

"Conferences, clinics and workshops aimed at continuing management education for today's business climate and conditions relating to the lawn care industry."
Jim Kelly, Keystone Lawn Spray, Wayne, Pa.





4.

"Government relations . . . PLCAA, as a spokesman for the entire industry, can present our interests with greater force and effectiveness than can an individual company. Government legislation is going to affect our industry more and more, and we have to make our needs known."
Ronnie Zwiebel, Chem-Care Lawn Service, Birmingham, Ala.

5.

"Specially designed training programs for sales, service and supervisory employes of member firms to teach the fundamentals of business, customer relations, lawn care technology and the importance of economics to business success."
Gordon Ober, Davey Lawnscape Service, Kent, Ohio

6.

"Establishment of acceptable technical, ethical and safety standards to guide existing lawn care businesses and newcomers to the industry."
Dr. Paul Schnare, Atkins Lawn Care, Columbia, Mo.

7.

"Association funding for the specific research and development we need for the lawn care industry."
Frank Stevens, Pro-Lawn-Plus, Baltimore, Md.

8.

"Surveys to enable each PLCAA member company to compare its performance against the average performance of all member companies and to compare business performance factors, such as sales volume, profit, investment and growth."
Marty Erbaugh, Lawnmark Associates, Peninsula, Ohio

These are only some of the things the lawn care industry as a whole can accomplish through the Professional Lawn Care Association of America. Ours is a young industry, we need to be recognized as professionals and the experts we are. We need to get the word out about the lawn care industry to potential customers, suppliers to the industry and to government at the local, state and federal level. We can't do it alone. We need the support of the entire lawn care industry if we are to realize our goals.

Symbol of Good Practice
PLCAA
PROFESSIONAL LAWN CARE ASSOCIATION OF AMERICA

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LAWN CARE INDUSTRY

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13 ☐ Primarily mowing/maintenance service
14 ☐ Landscape Contractor/Lawn Service Co.
15 ☐ Pest Control/Lawn Service Co.
16 ☐ Nursery or Garden Center/Lawn Service Co.
Grounds Care Manager for:
17 ☐ Private or public estate
18 ☐ School, College, University, Hospital, Industrial Park or similar facility
19 ☐ Government grounds; such as parks, around municipal buildings, or military facility
24 ☐ Cemetery or memorial gardens
25 ☐ Dealer or Distributor
26 Other _____

2 Check one which best describes your buying responsibility:
21 ☐ Purchase
22 ☐ Specify or recommend purchase

3 If your business sells its services to home-owners, commercial or industrial accounts please answer the following:

3A/ Estimated gross annual receipts from lawn service operations in current year:
31 ☐ Up to $50,000
32 ☐ $50,000 to $150,000
33 ☐ $150,000 to $500,000
34 ☐ $500,000 to $750,000
35 ☐ $750,000 to $1,000,000
36 Other _____

3B/ Approximate # accounts serving in current calendar year:
37 ☐ Up to 100
38 ☐ 100 to 500
39 ☐ 500 to 2,500
40 ☐ 2,500 to 5,000
41 ☐ 5,000 to 10,000
42 Other _____

3C/ Is your business:
43 ☐ Independent
44 ☐ Franchise
45 ☐ Chain Affiliated

4 If you are a grounds care manager (not selling lawn care services) estimate the following:
51 # acres you're responsible for_____ acres
Annual expenditures for:
52 Chemicals $ _____
53 Fertilizers $ _____
54 Equipment $ _____
55 Irrigation $ _____
56 Plant Matter $_____

5 **For more information** about products displayed in this issue, print the reader service number in the spaces provided below and block out A, B, C, or D for specific information needed.
61 [a] Need Catalog literature
62 [b] Need more price Info
63 [c] Interest in Purchasing
64 [d] Have specific problem—have salesman call.

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91 First Initial | Middle Initial | Last Name

92 Your Title

93 Company Name

94 Mail To:

95 City | State | Zip Code

96 Phone: Area Code ☐☐☐ No.: ☐☐☐☐☐☐☐

Address shown is:
98 ☐ Business
99 ☐ Home

97 Signature: _____ Date_____

Do you wish to receive/continue receiving Lawn Care Industry? ☐ Yes ☐ No

APRIL 1980 (Expires in 60 days)

reader service card

Use this card to obtain more information...fast.

C

D

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 2675 CLEVELAND, OHIO

POSTAGE WILL BE PAID BY ADDRESSEE

LAWN CARE INDUSTRY

9800 Detroit Ave.

Cleveland, Ohio 44102

CLASSIFIED

When answering ads where box number only is given, please address as follows: Box number, % LAWN CARE INDUSTRY, Dorothy Lowe, Box 6951, Cleveland, Ohio 44101.
Rates: 35¢ a word for line ads, 65¢ a word for display ads. Box numbers add $1 for mailing. All classified ads must be received by the publisher before the 10th of the month preceding publication and be accompanied by cash or money order covering full payment.
Mail ad copy to Dorothy Lowe, LAWN CARE INDUSTRY, Box 6951, Cleveland, Ohio 44101.

FOR SALE

FOR SALE: Tree/lawn sprayer components, all new; 1-Bean 20-20 500 psi pump, 1-Kohler cast iron 12 h.p. electric start, 1-275 gallon s.s. tank. $1500. w/used hose and guns. P.O. Box 548, N. Kingstown, RI 02852. 401 294-6397.

MISCELLANEOUS

KELWAY SOIL pH TESTER, used by professionals everywhere. Direct reading, longlasting, portable, lightweight, no power source. Model HB-2 reads moisture too. Available through local distributors or contact Kel Instruments Co., Inc., Dept. L, P.O. Box 1869, Clifton, N.J. 07015. 201 471-3954.

BUSINESS OPPORTUNITIES

TURFGRASS MANAGEMENT: Obtain the expertise to start and/or manage a lawn care business. For information contact: The Institute of Applied Agriculture, University of Maryland, College Park, MD 20742. 301 454-3938.

USED EQUIPMENT

NOTICE TO LAWN-A-MAT DEALERS: Tractors, trailers & combines for sale. Very good condition—Make an offer. Jerry Amstutz, 918 N. Main St., Orrville, OH 44557. 216 682-8866.

TREE/LAWN SPRAYER, Bean 10-10, 200 gallon stainless, hose and gun, like new, $1,600.00. 319 232-7520 Waterloo, Iowa. 50702.

HELP WANTED

TURF SPECIALIST/MANAGER TRAINEE positions open at expanding chemical lawn and shrub care company in fast growing Houston, Texas. Tremendous opportunity for those having experience with national or regional lawn care companies, or knowledge of turfgrass and ornamental plants. The right people will have unlimited advancement potential. Send complete resume including education, experience and salary history to: Environmental Lawn Care, 7544 Harwin, Houston, Texas 77036 or call collect 713 784-1750.

CAREER OPPORTUNITY available with Houston based firm. Experienced lawn care manager needed to head-up commercial lawn maintenance operations. Must have professional attitude, genuine desire to participate in a well-organized growth plan, as well as a sincere desire to produce quality at a profit. Contact Houston Landscape Associates, 1606 Elmview, Houston, Texas 77080.

DISTRICT MANAGERS FOR GROWTH AREAS in south Florida: Duties include supervising all aspects (training, sales, production quality control and administration) of our established turf and household pest control business. This is an excellent opportunity for a man with training in entomology/horticulture or related fields and with a moderate to-heavy business background. We are a growth company with ambitious but realistic goals, presently grossing over $1,000,000. annually Generous compensation and benefits for qualified man. Send resume, photo and salary requirements to: Box 17, Lawn Care Industry, Box 6951, Cleveland, Ohio 44101.

Coming next month

The May issue of LAWN CARE INDUSTRY will feature stories about post-emergent weed control, soil amendments, and a tree and shrub care equipment roundup.

ADVERTISERS

COMPANIES

Barefoot mails book to 800,000 households

Barefoot Grass Lawn Service, a subsidiary of The Toro Company, recently published the first edition of the *Barefoot Grass Idea Magazine*. The magazine is being mailed to more than 800,000 households identified as prime prospects in Barefoot Grass marketing areas in Colorado, Illinois, Nebraska, Ohio, and Wisconsin.

The four-color, 16-page magazine contains feature articles on the growing of herbs and topiaries (exotic plants) and how to select a lawnmower. There is also a four-page pull-out section devoted to the Barefoot Grass service with a postage-paid postcard that can be used to either order the service or request additional information.

BEHIND THIS ISSUE

We at LAWN CARE INDUSTRY get a lot of letters each month from our readers. Here is one from Steven Fry, owner of Nu-Lawn, South Vienna, Ohio, that raises some good points:

"I read the article on spring influx of amateur 'lawn experts' by Mr. Stanley L. Weber (of Lawn-A-Mat) in January, and I disagree with most of what he had to say.

"Why is a multi-million dollar company like Lawn-A-Mat worried about a guy working out of his garage? I think it is fine to display affiliation with recognized organizations, this is a positive approach, but stricter licensing and more government regulations are things that this industry and this country do not need. Although more regulations might cut down on my competition, I think the preservation of free enterprise is more important.

"As far as formal education is concerned, I don't think it is near as important as the man himself. I have turned down college graduates and have hired others and I haven't been disappointed in them. People realize that one bad operator doesn't make the whole industry bad. If they buy a car that is a lemon, they don't quit buying cars.

"Huge warehouses, pretty trucks and beautiful offices with leather furniture do not make a professional. Treating customers as individuals instead of numbers when they call, going out at 8 p.m. to go over a problem with a customer that is not home at any other time, taking time to listen to the customer and explaining what you are doing to their lawn and why, are the things that make professionals.

"I realize that low overhead means low prices, but I have always been taught that this is good business. We are not a multi-million dollar company, but I am not afraid of one guy working out of his garage, in fact I have tried to help some of them get started.

"By the way, how did Lawn-A-Mat get started? Did it suddenly appear as a huge company or did it start with one man working out of his home determined to do a good job?"

Rob Earley

CALIFORNIA from page 10

- Delegate to the state's county commissioners the responsibility for issuance of permits for the possession and use of restricted-use nonexempted agricultural pesticides, action which the suit contends is contrary to the intent of Congress.
- Release to the public or allow competitors to use trade secret data submitted by the plaintiffs in support of pesticide registrations.

A number of individual companies have also joined in the suit including Chevron Chemical Company, Diamond Shamrock Corporation, Monsanto Company, FMC Corporation, Mobil Chemical Company, Thompson-Hayward Chemical Company, CIBA-GEIGY Corporation, Rohm and Haas Company, E.I. du Pont de Nemours & Company, Union Carbide Agricultural Products Company, Inc., Vertac Chemical Corporation, Mobay Chemical Corporation, and BASF Wyandotte Corporation.

"The purpose of the federal pesticide regulatory program is to assure the people of every state that the some 35,000 EPA-registered agricultural and household pesticides present no unreasonable risks for human health or the environment," Early said.

"The question most central to our lawsuit is whether individual states should be allowed to adopt differing pesticide regulatory programs which are preempted by the national EPA program. The U.S. Congress, which recently devoted 19 months of hearings to further tightening the federal pesticide regulatory standards, says that except for registering products for "special local needs," states and their subdivisions are precluded from requiring the registration of federally registered pesticides," he added.

"California taxpayers should be aware that the states's new regulations threaten to create an enormously costly, and in the Association's opinion, needless regulatory program which largely duplicates the $70-million-a-year federal program they are already helping finance."

For the turf you care for: season-long protection against crabgrass, Poa annua and other annual grasses and weeds with America's leading preemergence turf herbicide.

Dacthal is number one in its field. Not only because it is so effective, but because it controls more than 20 unwanted weeds and grasses. Applied properly, it lays down a barrier that stops early and late germinating annual weeds without affecting healthy, growing turf grasses. Tough weeds like crabgrass and Poa annua can't stand up to Dacthal.

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Dacamine® provides postemergence control of over 70 broadleaf weeds including dandelion, annual chickweed, knotweed and Canada thistle. It works right down to the roots. So tough perennials don't return.

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