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respond

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year ahead?

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Government
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HBJ A Harcourt Brace Jovanovich Publication

APRIL 1984

Volume 8, Number 4

\$2.00

LAWN CARE INDUSTRY

Serving lawn maintenance and chemical professionals

The Garabedian trial

Pesticides are found innocent

David Garabedian, a 23-year-old former employee of Old Fox Lawn Care, bowed his head as Middlesex County (Mass.) Superior Court Judge Robert Barton read a sentence of mandatory life in prison.

Garabedian was found guilty on Feb. 6 of a murder which had been committed while he was measuring a homeowner's lawn in Dunstable, Mass., last year.

This was an unusual case, one without precedent. For that reason, two assistant district attorneys were assigned to it, along with all the resources the department could muster.

In this case, not only was



PESTICIDES ON TRIAL

Garabedian on trial for first-degree murder, but so were the pesticides (Dursban in particular) to page 24

UPFRONT

The courtroom, the rocks and the drum of Dursban

The courtroom was empty, except for a few items with small blue circles stuck on them: material evidence.

Two rocks and a five-gallon container had been placed on the floor next to the witness stand. A couple free-hand drawings of a human brain, labelled with long hardly-legible words, were taped

to the front wall.

Courtroom 6-B of the Middlesex County (Mass.) Courthouse had been chosen as the site of David Garabedian's murder trial. But it was morning, and court wasn't due to re-convene until early afternoon.

The rocks, each the size of a to page 12

Lingering questions remain

In the wake of the Garabedian trial, two lingering questions remain:

1) How might this kind of publicity influence the homeowners' decision to seek professional lawn care? and

2) What effect might this kind of publicity have on insurance rates for lawn care businesses?

Old Fox Lawn Care, the company of record in this highly-publicized murder case, has seen no perceptible effect on business. But that's only the tip of the iceberg, according to Old Fox's Dr. Jim Wilkinson.

"The impact on Old Fox has been minimal," Wilkinson states. "We have not heard from any of our customers in regard to the trial whatsoever."

"Of course, we'll never know the impact it might have on customers who would've called Old Fox—or any other lawn care company—down the road. We don't to page 22

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INDUSTRY NEWS

PLCAA to offer 13 regional seminars

Dates and sites for 1984 Professional Lawn Care Association of America regional seminars have been announced, beginning with a May 16 date in Gainesville, Fla. and ending on Aug. 14 in Atlanta, Ga.

The PLCAA will sponsor 13 regional seminars this year, an increase of two over 1983.

Here is the complete list of regionals:

Gainesville, FL: May 16, Hilton Hotel; contact Nick Dennis, Pro Lawn, (904) 737-8873.

Omaha, NE: June 19, Old Mill Holiday Inn; contact Chip Dolittle, Northern Lawns, (402) 493-2252.

Denver, CO: June 26, I-70 East Holiday Inn; contact Dick Miller, Ever-Green Lawns, (303) 442-7415.

Chicago, IL: July 11, Elmhurst Country Club; contact Rick White, Village Green, (312) 293-1036.

Detroit, MI: July 12, Livonia Holiday Inn; contact Don Behnam, Benham Chemicals, (313) 624-3200.

Cincinnati, OH: July 17, location pending; contact Rick Steinau, Greenlon, (513) 761-4100.

Cleveland, OH: July 19, Boston Heights Brown Derby; contact Fred Haskett, Greenworld Lawn, (216) 364-1442.

Pittsburgh, PA: July 24, location pending; contact Jim Walter, Specialty Spraying, (412) 539-3226.

Rochester, NY: July 26, Hilton Hotel; contact Dave Sek, Monroe Tree & Landscape, (716) 438-2900.

Framingham, MA: Aug. 2, location pending; contact Steve Evans, Turf Doctor, (617) 879-4510.

White Plains, NY: Aug. 7, location pending; contact Bill Carey, Lawn Masters, (914) 769-1256.

Frederick, MD: Aug. 9, Sheraton Inn; contact Gary Mack, American Lawn of Maryland, (301) 662-6060.

Atlanta, GA: Aug. 14, Airport North Holiday Inn; contact Chuck Baird, Green Thumb, (404) 944-8140.

Lawn Doctor picks Russ Frith

The board of directors of Lawn Doctor, in a meeting earlier this year, selected Russ Frith to succeed the late Tony Giordano as president.

"I'm just putting a new hat on," says Frith, chief operating officer of Lawn Doctor for the past three years.

"The direction of the company has not changed at all," he notes. "We're going to work with just a little bit more determination. We're looking to have our best year ever in 1984."

Giordano died at his home in Matawan, N.J., on Dec. 16, 1983. He was 48.

Giordano and Bob Magda, who remains a top officer in Lawn Doctor, sold their lawn and garden store in 1965 and built Lawn Doctor into the second largest lawn care company in the nation.



TUCO scholarship

Lori C. Walter, a senior in turfgrass management science at the University of Florida, received the TUCO turf scholarship for 1983 at the recent Florida Turfgrass Conference and Show in Orlando. The annual award, sponsored by TUCO, Division of the Upjohn Co., is based on scholastics, integrity and career interest.

ChemLawn facility is opposed

Plans by ChemLawn Corp. to operate a chemical plant in Massachusetts are being opposed by a neighboring community which feels the facility is a hazard to its water supply.

Selectmen of West Bridgewater earlier this year voted unanimously to oppose operation of the plant which is being constructed in nearby Easton Industrial Park.

trial Park.

"It's not the building that concerns us, it's the uses," Charles H. Pickering, an opponent of the plant says. "Nobody should be allowed to put hazardous materials on top of our water supplies."

Management of the plant reportedly wrote letters to local governmental bodies assuring them of the safety of the plant.

Chlorpyrifos, diazinon and trichlorophen are insecticides to be handled at the plant, which is currently under construction.

Pickering, a selectman for West Bridgewater, says: "We'll continue to oppose it even when it goes into operation." He adds that those opposed to the plant are seeking an environmental impact study.

Bugs are featured in new OSU publication

All you ever wanted to know about bugs can be found in "Bug Dope," a seasonal newsletter being made available by The Ohio State University.

The publication, available March to September, discusses

insect pests, their life cycles and habits. "Bug Dope" reveals the latest in pesticides, control measures, and research results—written in an easy-to-understand language.

To receive the publication,

send a check or money order of \$8.50 (payable to The Ohio State University) to Dr. Richard L. Miller, Extension Entomologist, B&Z Bldg., OSU, 1735 Neil Ave., Columbus, Ohio, 43210. Be sure to enclose a return address.

MEMOS

ARE ELECTIONS good for business? It doesn't matter if it's a Democrat or Republican heading for the White House, Mike Ryan sees a big boost in business every presidential election year, he says. Six years ago, Ryan started Creative Lawn Care, Fox Lake, Ill., and he says he doubled his usual number of new accounts in 1980. Before starting his own company, Ryan says he observed the same trend as a plumber.

GARLON, the systemic herbicide for control of woody plants and broadleaf weeds on rights-of-way, forests and industrial sites, is being tested in lawn care situations this season for post-emergence weed control. Chemical name of the product, being marketed by Dow Chemical USA, Midland, Mich., is triclopyr. Dow also has plans for tridaphane, which will control annual grass in professional lawn care situations.

MR. BUILD INTERNATIONAL has announced its expansion from remodeling franchising into total property services. One of the 30 major services it will offer homeowners is landscaping. Chairman of Mr. Build is Art Bartlett, who founded the Century 21 real estate franchise system.

BAD NEWS for small businessmen: business failures in 1983 set a record. Small businesses accounted for 98 percent of the 28,211 business failures reported by Dunn & Bradstreet as of Nov. 24, 1983. Overall business failures during 1983 surpassed the post-World War II record set in 1982, and were the highest since 1932.

LAWN INSTITUTE director Dr. Eliot Roberts has some interesting national lawn statistics, revealed in a recent speech. He says that the lawn industry is a \$25 billion industry, when every facet (mower manufacturing, grass seed production, etc.) is included. He pegs the professional lawn care industry at \$2.3 billion annually, adding that 53 million households (63 percent of the national totals) are do-it-yourselfers, with \$4.25 billion being spent in this segment.

Dr. Roberts also says that there are 25-30 million acres of turf in the country, and in states like New York and California, home lawns account for more than 60 percent of the total. Other surveys have shown that 22 million home lawns in the country are potential lawn care customers and that about 5.5 million (about 25 percent) are receiving chemical lawn care now.

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Herbicide patent fight continues

The legal battle between Monsanto and Stauffer chemical companies continues.

Monsanto claimed it obtained a preliminary injunction from a British court requiring Stauffer to stop selling glyphosate-based herbicides in the United Kingdom. Stauffer is appealing the injunction.

The two companies are in disagreement over the rights to glyphosate, the active ingredient in Monsanto's Roundup herbicide.

Last year Stauffer challenged Monsanto's original patent on glyphosate. Monsanto responded by filing countersuits charging Stauffer with patent infringement in the U.S., Britain, and West Germany. Monsanto sought the British injunction after Stauffer began marketing its glyphosate-based herbicide in the U.K. in August.

Industry Show slated April 4-6

New developments in the landscape industry will be the focus of nearly 300 exhibitors at the fifth annual Landscape Industry Show April 4-6, at the Long Beach (Cal.) Convention Center.

"Let's Talk Business" is the show theme, according to chairman Gary W. Weems of Hydro-Plant, Inc., San Marcos. The show, which is sponsored by the California Landscape Contractors Association, promises to draw a record 10,000 visitors.

The show is free to landscape industry representatives, contractors, educators and students.

Grounds meeting slated in October

The Professional Grounds Management Society has announced a change in site for its 1984 Annual Conference and Trade Show.

The conference will be held at the Marriott Hotel in Worcester, Mass., Oct. 7-10 with the trade show on Oct. 8-9.

For further information, contact PGMS Headquarters, 7 Church Lane, Suite 13, Pikesville, MD, 21208. The telephone there is (301) 653-2742.

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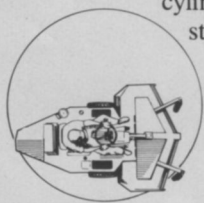
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Dual traction assist pedals provide a tight, zero turning radius.

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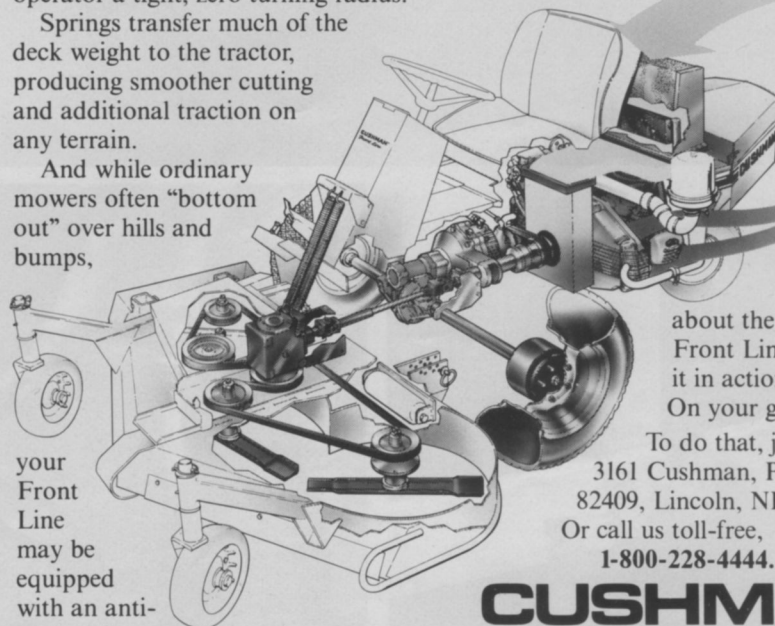
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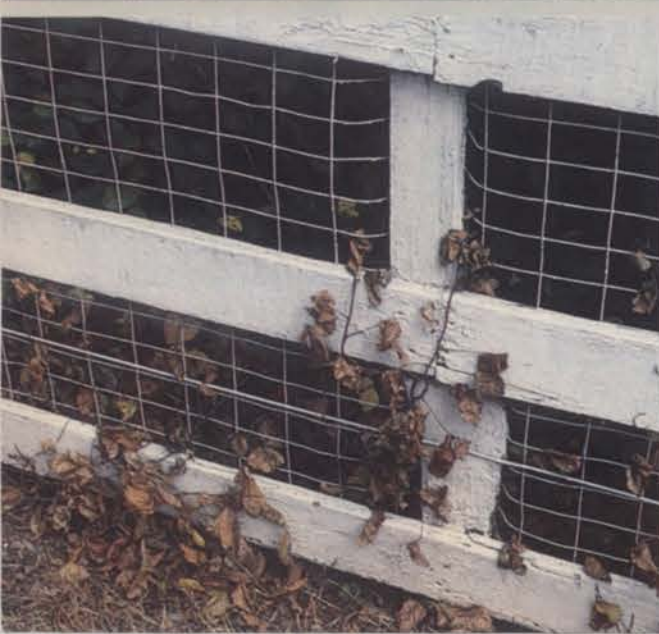
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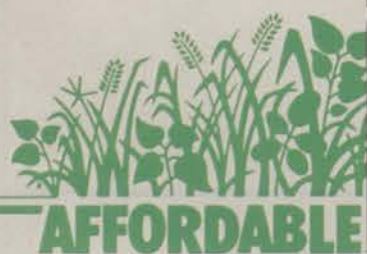
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Anderson's increases output



Two new fertilizer mixers and two production lines are now fully operational at The Anderson's plant in Maumee, Ohio.

The company's modernized facility is in full swing and ready to produce nearly 400 lawn care products for distribution in 35 states.

The Anderson's began in August, 1983, to undertake a \$1.2 million renovation of its existing plant, replacing older machinery with newer, safer and more efficient equipment, and updating the entire facility.

"This new plant's efficiency will enable us to be strongly competitive with all the major producers in the industry," says Mike Cole, Lawn Division Marketing Manager. "This construction and remodeling project signals the Anderson's long-term commitment to the lawn and garden business."

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LCI 4/84

New brochure about chemicals

A new brochure titled "Pesticides: A Better Life for All" is now available free of charge.

The brochure points out that pesticides are a boon to mankind. They protect our health by controlling disease carriers such as flies, mosquitos and ticks; they combat weeds, rodents and other pests; they help farmers protect food and fiber crops.

But pesticides cannot improve the quality of life if they are not used properly and safely, the brochure states, mentioning also that label directions must always be followed.

To obtain the brochure, write to: Betsy Nilanont, Chemical Specialties Manufacturers Association (CSMA), 1001 Connecticut Avenue, N.W., Suite 1120, Washington, DC, 20036. Include a self-addressed, stamped envelope.

Oklahoma group looks to future

Memberships are being accepted in the recently-organized Oklahoma Sod Producer's Association (OSPA).

Individuals, partnerships, or corporations actively engaged in the business of planting, growing, and marketing sod grass, and firms engaged in allied trades or in the business of providing equipment and supplies to sod producers can join.

The OSPA was formed Dec. 15, 1983, in Stillwater when members developed by-laws and elected a board of directors and officers. On Jan. 24, 1984, the bylaws were ratified and articles of incorporation signed.

Total acreage of sod growing in Oklahoma has approximately tripled since 1977.

Turfgrass confab gets big turnout

The 22nd Annual North Carolina Turfgrass Conference held at the Pinehurst Hotel in Southern Pines, N.C., drew 770, its largest crowd ever.

Conference activities included day-long seminars in three categories, including lawn care. A new trade show and an awards banquet were also featured.

Officers elected at the convention are: P.J. Lenihan, Lawn-Medic, Winston-Salem, president; Gary Stafford, Cardinal Country Club, Greensboro, vice-president; Dr. L.T. Lucas, North Carolina State University, secretary; and Gene Maples, Pine Needles Country Club, Southern Pines, treasurer.

The NCTC presented James H. Spencer of E.J. Smith and Sons its highest honor, an honorary life membership award.

Next year's conference is to be held at the Sheraton Hotel in Charlotte, Jan. 2-4. Information on exhibiting at the trade show can be obtained from the Turfgrass Council of North Carolina, P.O. Box 5155, Raleigh, NC, 27650.

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LAWN CARE INDUSTRY

APRIL 1984

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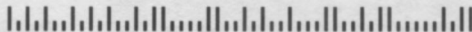
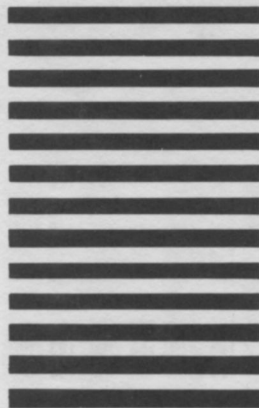
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New York alters laws

This January, lawn care operators in New York State received unwelcome New Year's greetings from the state—changes in the state pesticide law. The changes went into effect immediately.

The state legislature ruled that certified applicators must supply a written copy of information, including any warnings contained on the label of any pesticide to the occupants of any premises where they are going to apply pesticides, prior to application.

Several LCOs in New York state, contacted by LAWN CARE INDUSTRY, feel the law is unnecessary since they inform their customers about pesticides as a matter of course, anyway. They say the new law is vague but

they will attempt to comply with it by providing customers with copies of the labels of the pesticides they use.

Another provision of the new law makes applicator certification valid for six years. Identification cards, however, will be valid only for three years. A fee of \$10 is to be charged for each certification exam.

In addition, enforcement penalties have been greatly increased. Criminal violations of the provisions can result in as

much as a \$10,000 fine and a one year prison term.

The New York legislature is reviewing other new provisions which could become effective by fall of 1984, applicators have learned. Most of them deal with certification.

Under review are laws that would require the certification of all private pesticide applicators applying a restricted pesticide, all commercial pesticide applicators, and all dealers of restricted pesticides.

Illinois company garners awards

Clarence Davids and Sons, Inc., a landscape maintenance firm in Blue Island, Ill., recently received awards from the Illinois Landscape Contractors Association and the Associated Landscape Contractors of America.

The Illinois firm won gold medals from the state association for its work at the 140-acre Bell Telephone Laboratories research center in Naperville, Ill., and at a private residence in Palos Heights, Ill. The company also received silver medals for work done at two apartment complexes in Chicago.

Lawn Expo set in Louisville, Ky.

The Engine Services Association and the Outdoor Power Equipment Distributors Association have voted to endorse the International Lawn, Garden and Power Equipment Expo July 23-25 at the Kentucky Fair & Exposition Center in Louisville, Ky.

Information can be obtained by writing P.O. Box 37130, Louisville, KY, 40233, or by calling (502) 366-9592.

Speaking on the endorsement, OPEDA president Gary Merrill says, "Our members enthusiastically support this international event and we are looking forward to working with our supplier partners."

ESA's Bill Rousar adds, "Our members feel that the Louisville show will bring the industry together in one location we can see products in actual operation."

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- **Annual Convention and Show**—The annual PLCAA Convention and Show keeps members abreast of the latest ideas, operating know-how, and industry developments. The national meeting encourages the exchange of new ideas and gives industry suppliers the opportunity to demonstrate products and equipment.

- **Newsletter**—To help members keep up with the latest ideas, trends, and activities of the association and industry, PLCAA publishes "Turf Talks". Included are articles covering current technical, management, economic, legislative and association news.

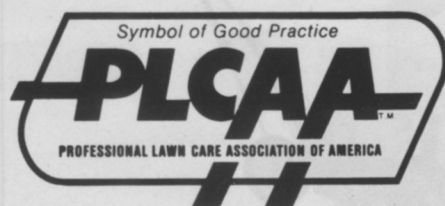
- **Awareness Program**—Developed to increase the visibility of PLCAA and your participation as a member, the program promotes professionalism and increases the confidence of the public in the integrity of the lawn care industry.

- **Property and Casualty Insurance**—A comprehensive business protection program that protects your company from the dangers of underinsurance and the waste of overinsurance.

- **Soon to be Offered: Major Medical and Group Life Insurance**—Programs designed to serve members with quality insurance at a competitive cost.

- **Technical Resource Manual**—This publication provides members with technical information vital to operating their businesses on a professional and agronomically sound basis.

- **Seminars**—Regional seminars are offered to members at a reduced registration fee. Sessions are aimed at providing agronomic and management information tailored to today's business climate and the lawn care profession.



- **Credit Association**—The Professional Lawn Care Credit Association is designed to meet the collection of delinquent account needs of members. The PLCCA is the only collection service sanctioned by PLCAA, and is open only to members.

- **Legislation Update**—A significant factor in today's business climate is the constant presence of proposed changes in local, state and national legislation and directives by regulatory agencies—changes that could seriously affect the successful operation of your lawn care company. Through PLCAA's Pesticide and Environmental Issues Alert Committee and the Pesticide Public Policy Foundation, Inc., you'll be kept informed of issues and legislation affecting the profession and industry.

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Professional Lawn Care Association of America

UPFRONT

Courtroom, rocks, Dursban



from page 1

breadbox, were smattered with blotches of dried blood. The label on the five-gallon container read "Dursban."

This was Tuesday, Jan. 31, and in a few hours, defense attorney Robert Mardirosian would call Dr. David Bear to the witness stand. Dr. Bear was to testify that chemicals used in the lawn care industry—Dursban insecticide, in particular—had caused Garabe-

dian to temporarily lose his mind and kill a Dunstable, Mass. woman in March, 1983.

When 2 p.m. rolled around, a handful of the victim's brooding relatives huddled at the rear of the courtroom. Garabedian's parents sat together in a corner, just to my left. The jury single-filed in, followed by Judge Robert Barton.

It did not take long for Mardirosian's line of questioning to hit the mark. Dr. Bear, an expert witness

in the field of psychiatry, testified.

"My opinion is that he (Garabedian) was suffering a mental defect as a result of chemical poisoning," claimed Dr. Bear, an assistant professor in the Medical School at Harvard University. "He lacked substantial capacity to conform his behavior to law."

"Mr. Garabedian...was a man without a history of aggressive behavior. But I did learn of unusual behavior during the month of March, 1983."

Bear went on to describe some other symptoms Garabedian reportedly exhibited, and added that the cluster of symptoms was "very indicative of organophosphate poisoning."

He continued: "In my judgment, this man was involuntarily intoxicated and not capable of forming intent. In my opinion, chemicals played a major role in the determination of this activity (murder)."

Convincing stuff, this testimony.

Not until Assistant District Attorney Thomas Reilly cross-examined was it determined that—though he was indeed a competent psychiatrist—Dr. Bear was not an expert in toxicology, an essential requisite in offering this type of testimony.

After nearly two weeks in the courtroom (much of it followed by the wire services and television reporters), the eight-man, eight-woman jury went into deliberation. Seven hours later, it ruled Garabedian guilty of first-degree murder.

John Kenney of Turf Doctor in nearby Framingham, who is also president of the Professional Lawn Care Association, followed the case closely. Kenney's video tapes of local TV news programs depict an outcry of emotion from the victim's friends and relatives as the guilty verdict is read.

So our country's system of approving chemicals for use in a domestic environment was again judged innocent of any wrongdoing. Our judicial system again proved that, yes, it works.

And apparently, the episode closes another chapter in the lawn care industry's continuing struggle to safely dispense approved chemicals in a safe fashion.

But Garabedian's mandatory life sentence carries with it a mandatory appeal. So is this the end...or just the beginning?

Jerry Roche

Jerry Roche
Editor

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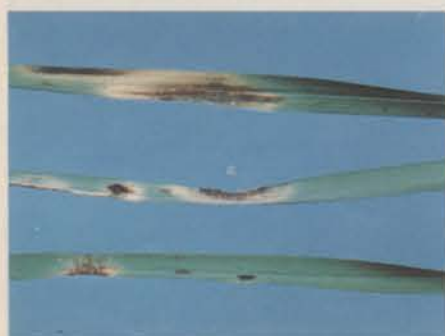
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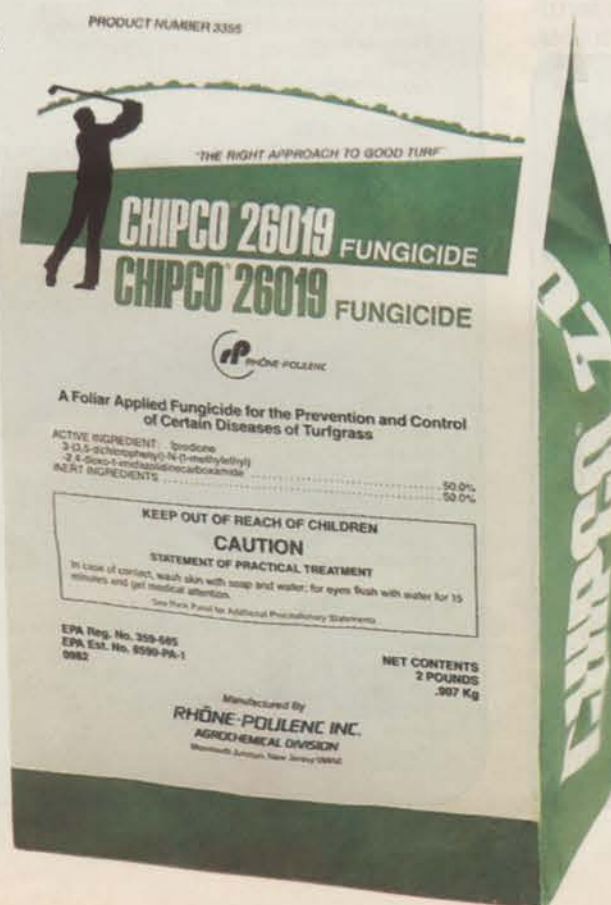
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New study

Residents aren't happy over lawns

By Dr. W.H. Robinson
and F.W. Ravlin,
VPI-SU

Seventy-nine percent of the homeowners in a Virginia survey said that they were not satisfied with the condition of their lawn.

Yet, according to the survey conducted by Virginia Polytechnic Institute and State University, a majority of the homeowners considered the quality of their lawn to be "average"—a few brown patches and weeds, but mostly green.

A 23-question survey was conducted from April to July, 1981. Homeowners completing the questionnaire were participants in county extension programs and individuals visiting extension offices in Virginia.

Objectives of this survey were to determine:

(1) the usual lawn care and maintenance provided by homeowners, and their own knowledge of common turf-grass insect pests;

(2) sources of information on lawn care and pest control most used by homeowners;

(3) homeowners' willingness to pay for lawn care and pest management programs; and

(4) the feasibility of developing an integrated pest management program for urban lawns.

Each participant had to live in a house with a lawn around it, and

be primarily responsible for the care and maintenance of the lawn.

Homeowners surveyed were nearly evenly distributed among 23 counties in the mountain, piedmont and coastal plain regions. Of 800 surveys distributed, 402 were returned.

Although homeowners were not chosen randomly, as volunteer participants in county extension programs, they were probably more representative of those homeowners who would participate in pest management programs.

Mean value of the house and yard of the homeowners surveyed was \$69,630 with a range of \$10 thousand to \$300 thousand. That

is more than the 1980 Census Bureau state average of \$48,000. The mean number of years residing in these houses was 12.7 years with a range of 0.2 to 68 years.

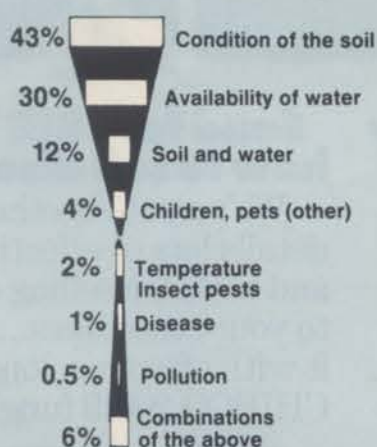
Fifty-four percent reported lawns of one-half acre or less while just 14 percent had lawns of more than one acre.

Fifty-four percent of the participants reported the most common use of their lawn was as ornamentation, or as a display

for flowers and shrubs. Playground use was reported by 36 percent with the remainder of uses including enclosure for pets and combinations of the other responses.

For information on lawn fertilizers, insecticides and herbicides,

What do you think most affects the quality of your lawn?



Which of the following do you consider the most important?



Question #1

Do you consider the quality of your lawn to be:

Lush green, no weeds	3%
Lush green, very few weeds	19%
Few brown patches, few weeds, green	63%
Several brown patches, abundant weeds	11%
Mostly weeds, little grass	4%

Question #2

Are you satisfied with the present condition of your lawn?

No.....79% Yes.....21%

Question #3

When do you usually apply fertilizer to your lawn?

Spring (March, April, May)	38%
Summer (June, July, August)	1%
Fall (Sept., Oct., Nov.)	21%
Winter (Dec., Jan., Feb.)	4%
Spring and fall	19%
Other combinations	6%
Don't use fertilizer	11%

Question #4

Do you apply insecticides to your lawn on a yearly basis?

No.....83% Yes.....17%

Question #5

Are insect pests a serious problem which are causing damage in your lawn?

No.....85% Yes.....15%

Question #6

What do you think most affects the quality of your lawn?

Condition of the soil	43%
Availability of water	30%
Soil and water	12%
Children, pets (other)	4%
Temperature	2%
Insect pests	2%
Diseases	1%
Pollution	0.5%
Combinations of the above	6%

Question #7

What do you think is the best way to control the insect pests in your lawn?

Insecticides	33%
Insecticides and non-chemical methods	24%
Non-chemical methods	9%
Don't know	34%

Question #8

Are you aware of the natural control material called milky disease, used to control Japanese beetle grubs?

No.....68% Yes.....32%

Question #9

Do you have "lawn moths" (sod webworms) in your lawn?

No.....14% Yes.....11%
Don't know75%

Question #10

The immature stages of the Japanese beetle live:

In the soil, below the turfgrass	74%
In the soil around trees	13%
On leaves of plants	10%
In decaying trees and logs	2%
Other	1%

Question #11

Large, irregular patches of dead grass in a lawn may be caused by:

Disease and fungi	32%
Poor soil	24%
White grubs	13%
Poor soil and disease	11%
Adult Japanese beetles	5%
Female dogs	4%
Birds	1%
Combinations of the above	10%

Question #12

Which of the following do you consider the most important?

A green, weed-free lawn (21%) or having your house painted (79%)
A green, weed-free lawn (65%) or having your driveway paved (35%)
A green, weed-free lawn (31%) or shade trees around the house (69%)
A green, weed-free lawn (69%) or enclosed patio or sunroom (31%)

Question #13

Do you think a well-kept lawn and trimmed shrubs increase the dollar value of your house?

No.....2% Yes.....95%
Don't know3%

Question #14

How much would you be willing to pay per year to maintain your lawn?

\$10 to \$25	16%
\$25 to \$50	29%
\$50 to \$100	30%
\$100 to \$200	19%
More than \$200	5%
Professional lawn care	1%

Question #15

How much do you spend on fertilizers, insecticides, herbicides, etc. for your lawn per year?

Less than \$5	8%
\$5 to \$10	12%
\$15 to \$20	27%
More than \$20	50%
Professional lawn care	3%

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32 percent of the homeowners contacted garden centers and/or feed and seed stores. Thirty percent contacted extension agents, while 39 percent used television, newspaper articles and commercial brochures.

The percentage of homeowners contacting extension agents was probably influenced by the method of survey distribution; however, the percentage for garden centers/feed stores is noteworthy because they may place more emphasis on chemical control than on cultural control methods.

According to the survey, 78 percent of the participants considered their lawn to be average or below (Question #1). Hellman et.

al. reported in 1982 that approximately 87 percent of the Maryland homeowners contacted in another survey thought the quality of their lawn was average or below.

A majority (89 percent) of the homeowners surveyed regularly applied fertilizer to their lawn, and 17 percent regularly applied insecticides. However, there was no correlation between those who considered insects a serious pest problem (15 percent) and those who regularly applied insecticides.

Savage et. al. reported in 1980 that 28 percent of the households in Virginia, Pennsylvania, Maryland, Delaware and West Virginia use pesticides in the home

yard.

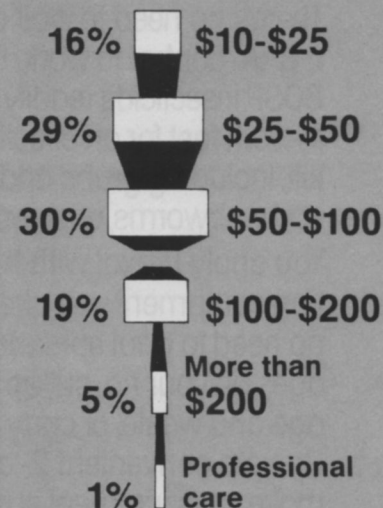
Of the participants in the VPI-SU survey, 33 percent reported insecticides as the best way to control lawn insect pests. However, only 17 percent did so on a yearly basis.

It is also noteworthy that 34 percent of the homeowners were undecided as to the best insect control method, and that 68 percent were unaware of the availability of pathogenic bacteria (milky disease) used to control Japanese beetle grubs.

Fifteen percent of the respondents thought that insects were a serious problem in their lawns, even though 34 percent did not know a suitable control method.

Seventy-five percent did not

How much would you be willing to pay (per year) to maintain your lawn?



know if sod webworms were present in their lawn, yet 74 percent were knowledgeable about Japanese beetle grubs.

There is an indication, from the questionnaire responses, that homeowner knowledge is somewhat limited to a few key pests. Considering the source of their information on this subject, their knowledge may reflect the emphasis placed primarily on chemical controls by garden centers, feed stores and advertising.

For example, there is no association between the perception of an insect problem by the homeowners and the application of insecticides to the lawn. This indicates a gap in the homeowners' ability to perceive a problem and treat it with chemicals or any other suitable control tactic.

The answers to Question #14 were comparable to those reported by Hellman et. al. for homeowners in Maryland. In that study, 46 percent of the participants spent \$11-\$25, and 24 percent spent more than \$25 per year on pesticides for both shrubs and turfgrass.

That study also concluded that a scout-based integrated pest management (IPM) program for urban ornamentals and turfgrass was acceptable and effective in suburban Maryland, and that an IPM approach could be adopted by professional lawn care companies.

Maryland homeowners participating in an IPM program were charged from \$30 for less than 1/4-acre to \$50 for 3/4-acre for a 14-week period.

The attitudes of Virginia homeowners toward pesticide use and their perception of significant turf problems also seem to be conducive to cultural and non-chemical control recommendations. 

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Ridding lawns of 'frog-eyes'



Photo 1



Photo 2



Photo 6

1,2

Photo 1: active Rhizoctonia brown patch "frog-eye;" Photo 2: Rhizoctonia brown patch "frog-eye" with recovery late in the summer.

6,7,8

Photo 7: early stage of yellow patch "frog-eye;" Photo 8: mature yellow patch "frog-eye" in mid-summer.



Photo 3



Photo 7



Photo 8



Photo 4



Photo 5

3,4,5

Photo 3: a mature "frog-eye" of Fusarium blight syndrome; Photo 4: early stages of Fusarium blight syndrome with wilt symptoms present; Photo 5: later stage of Fusarium blight syndrome with "frog-eyes" evident.



Photo 9



Photo 10

9,10,11

Photo 9: grub injury with severity of problem near sidewalk and driveway from heat being given off; Photo 10: sod webworm damage; Photo 11: billbug injury early state with grass dying in place.



Photo 11

By Dr. J.M. Vargas Jr.
Mich. State Univ.

The "frog-eye" symptom is characterized by a circular pattern with a brown dead grass outer ring surrounding a more or less healthy green center.

The circular pattern is predictable, since the fungi that cause soilborne diseases usually originate from a single point in the thatch or soil and grow in a circular pattern, unless impeded.

In fact, the only fungi causing

diseases which are not circular in nature are the ones that cause foliar diseases like the rusts, the *Helminthosporium* diseases and powdery mildew.

The "frog-eye" pattern occurs one of two ways.

This pattern may be formed by the fungus growing in the thatch or soil as a saprophyte where it lives on the dead organic matter early in its development. Later, when the actively-growing part of the fungus is in the outer perimeter of the ring, it becomes pathogenic and kills the grass. The part of the fungus that was in the center of the circle has either become dormant or has died, leaving the center of the circle healthy.

The second type of "frog-eye" symptom occurs when the fungus is pathogenic from the onset, or shortly after it begins growth as a saprophyte in the thatch or soil. In this case, most of the grass in the circle is destroyed, leaving a solid dead spot. The following season, the fungus usually remains active

only in the outer edges of the ring. New plants may develop in the center of the dead spot from rhizomes or from plants that were only damaged and not killed.

After a turf has been infected for a period of three years, it is impossible to distinguish the difference between the two types of "frog-eye" symptoms.

Cool season grasses

Kentucky bluegrass is the major cool season turfgrass species grown on home lawns. It is susceptible to "frog-eye" diseases, such as *Fusarium* blight (causes to be discussed later), *Rhizoctonia* brown patch (caused by *Rhizoctonia solani*) and yellow patch (caused by *Rhizoctonia cerealis*).

The symptoms of these diseases are all similar, and it is difficult to tell them apart—especially when the diseases are not active.

Before discussing the differences among these three "frog-eye" diseases, we need to discuss

the latest findings on just what *Fusarium* blight is.

The two current schools of thought seem to agree on one thing: that *Fusarium* blight is not caused by either *Fusarium roseum* or *Fusarium tricinctum*. Research at Penn State University suggests that a basidiomycete is involved in causing the "frog-eye" symptom associated with *Fusarium* blight and that, if the *Fusarium* fungi are involved at all, they are involved as saprophytes colonizing the dead and dying tissue. They suggest the basidiomycete is either causing the "frog-eye" by directly attacking the turfgrass plants or by making the soil hydrophobic, as do the fungi that caused localized dry spot or fairy ring.

The other school of thought represented by Cornell University suggests the cause of "frog-eye" is due to a species of *Lepidosphaeria korrae* and/or *Phialophora graminicola*.

It could be we are actually deal-

Dr. Joe Vargas



ing with three different fungi causing three different diseases, all of which have the same symptom.

Regardless of what the cause, *Fusarium* blight has initial symptoms that separate it from the other "frog-eye" diseases. It is a warm weather disease that occurs from late June through early September, depending on your location. The disease usually occurs after a week or two of dry weather followed by a heavy rain.

Rhizoctonia brown patch is also a warm weather disease that usually occurs in July and August during hot humid weather. These plants, with circles initially characterized by plants with dark brown foliage, eventually thin and become yellow in appearance. This disease doesn't always form "frog-eyes," but this symptom occurs with enough frequency to cause confusion with *Fusarium* blight during warm weather periods. Spots caused by brown patch normally fill in and recover in the cool weather of fall.

The third disease is yellow patch, a cool weather disease that occurs in September through November, depending on location. The initial symptoms are red to purple leaves on the infected plants. The infected plants eventually die and become straw-colored in appearance. "Frog-eyes"

best management recommendations available, although slight variations may exist in different areas of the country and among the different fungi causing the diseases. The management principles are summarized in Table 1.

Resistant cultivars. This information should be obtained from your local turf expert, since both climate and soil conditions vary greatly throughout the cool season turfgrass area.

There are also often other diseases that have to be taken into account when recommending cultivars. And there are other factors such as quality, color, texture, wear tolerance, competitiveness with other grasses and weeds, etc., which should be

taken into account when selecting a cultivar.

Cultural Management. Cultivation, fertility, irrigation and biological means are all cultural ways of controlling "frog-eye" diseases.

Coring should be done to improve root development, reduce thatch and eliminate layering caused by two different soil types.

Home lawn turf is often grown on poor soil. Many times, sod is laid on compacted sub-soil because the topsoil was removed during construction. Nutrient and water uptake are active processes which require adequate oxygen.

Coring holes provide an excellent area for root growth with

good aeration for proper uptake of nutrients and water. Thatch reduction is best accomplished during the coring operation by breaking up the cores with a vertical mower or power rake, and incorporating the soil back into the thatch layer.

Power raking does little for thatch reduction. It removes leaf tissue which is readily broken down, but does nothing to remove the rhizomes and roots which are primarily responsible for thatch formation. Layering results from one soil of a different type being placed on top of the other. This often occurs in the home lawn situation after sodding where, for example, muck sod is placed on mineral sub-soil. In the cool

MANAGING THE FUSARIUM BLIGHT SYNDROME

1. Resistant cultivars
 - a. Check with local turf specialists
2. Cultural
 - a. Core cultivation
 - 1) improved root growth
 - 2) thatch modification
 - 3) eliminate layering
 - b. Daily irrigation—foliar cooling
 - c. Light summer nitrogen application
3. Biological
 - a. Daily irrigation
4. Chemical
 - a. Preventative or curative
 - 1) Cleary's 3336
 - 2) Fungo 50
 - 3) Tersan 1991
 - b. Preventative only
 - 1) Bayleton

are formed initially, as well as later in the disease development.

While these diseases are relatively easy to distinguish when they are active, they are difficult to distinguish when dormant.

This is especially true in the spring when you arrive at a new customer's lawn and try to diagnose the problem that occurred last season so you can treat it properly. Your best bet is to try and determine from the homeowner the time of year the disease first occurred.

If it was in the warm weather, it is probably *Fusarium* blight. If it occurred in the cool weather, it is probably yellow patch. Remember that *Rhizoctonia* brown patch infected spots normally recover in the cool weather of the fall.

Fusarium management

Since there may be as many as three fungi involved in the *Fusarium* blight syndrome, it is difficult to make specific recommendations to encompass all of them. The following are the

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weather of spring and fall, it may not be a problem, but under stress conditions of the summer it can become a serious problem. The entire turfgrass root system is restricted to the upper layer during the summer heat stress period. This often means the root systems are no more than an inch in depth. Obviously, drought stress diseases like the "Fusarium blight syndrome" are going to be more severe under such conditions. Integrating the two soil layers over a period of years through a coring program should make for a deeper rooted, healthier turf.

Nitrogen fertility in the summer months of June, July and August will reduce the severity of the "Fusarium blight syndrome."

Approximately ½-pound of actual nitrogen per 1,000 square feet per month should be adequate.

Supplemental irrigation can culturally reduce "Fusarium blight syndrome" if applied on a daily basis. If applied at midday, it will cool the plants similar to the syringing that is done on golf courses during the heat stress periods. It also provides water for the short and limited root system of the infected plants.

If the mat or thatch is kept moist, antagonistic micro-organisms may develop, which will prevent the pathogenic fungi from attacking the plants. A daily irrigation program during the summer on turfs infected with the "Fusarium blight syndrome" may

also cause the build-up of antagonistic micro-organisms that destroy the *Fusarium* fungi. The daily irrigation method of disease management is often criticized because it will cause short root development. In cool season turfgrasses, such as Kentucky bluegrass, root shortening is a natural occurrence during the summer months due to warm soil temperatures. Deep, infrequent irrigation won't cause the formation of deep roots during this period, nor will light, frequent irrigation shorten them.

Most customers are more concerned with green, healthy turf than with deep roots. Furthermore, deep roots on 50 percent of the lawn with no roots in the dis-

ease patch won't thrill them either. If you're skeptical, try to use the deep root excuse as the reason they have to tolerate the "frog-eyes" in their lawn and see how far you get!

Chemical Management. Cleary's 3336, Fungo 50 and Tersan 1991 are good fungicides for the management of the "Fusarium blight syndrome." They all have the same basic chemistry.

The turf area to be treated should be irrigated the night before and the fungicides drenched in before they dry on the foliage. They can be used either curatively or preventatively to control the "frog-eyes" caused by the "Fusarium blight syndrome."

The fourth fungicide, Bayleton,

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does not have to be drenched in to be effective. However, it does have to be used as a preventive fungicide, meaning that it has to be applied before the disease becomes active during the current season. If two applications are made, the first should be applied one month before the disease normally appears with a second application about one month later. If only one application of Bayleton is made, it should be applied two weeks prior to the normal occurrence of the disease.

Regardless of which approach is taken, following good cultural and management practices will make the fungicide more effective.

Rhizoctonia brown patch

Resistant Cultivars. Most Kentucky bluegrass cultivars have good resistance to *Rhizoctonia* brown patch as demonstrated by their quick recovery in the cool weather of the fall. Perennial ryegrass lawns or mixtures of perennial ryegrass and Kentucky

plant growth. Several products were tested for their management of *Rhizoctonia* yellow patch, and some promoted excellent recovery of older yellow patch "frog-eyes" and prevented new ones from forming. They are listed in Table 3.

It is important to point out these are only preliminary findings and further research is needed to determine rates, timing and the exact effect they are having on disease reduction.

Chemical Management. As with biological management, the data is only preliminary but they suggest that Chipco 26019 and Rubigan will manage *Rhizoctonia* yellow patch. Effective timing and minimal rates have to be deter-

MANAGEMENT OF YELLOW PATCH	
Chemical management	
1. Chipco 26019	
2. Rubigan	
Biological management	
1. Lawn Keeper	
2. Green Majic	
3. Relief	
Cultural management	
1. Nitrogen for recovery	

mined through further testing.

It does appear that nitrogen application will have to be made in conjunction with the fungicide. Otherwise, fungicides may prevent the older "frog-eyes" from becoming active again and new ones from forming, but the older "frog-eyes" will not fill in and the

maximum benefit from the fungicide treatments will not be realized.

Conclusion

A final word of caution is necessary in diagnosing "frog-eye" disease.

It has been my experience that insect problems are often misdiagnosed as "frog-eye" diseases. While you may be able to imagine "frog-eye" diseases from the last set of figures on Page 17, please note there are no definite sunken rings in any of these lawns. 



RECOMMENDED FUNGICIDES FOR MANAGEMENT OF RHIZOCTONIA BROWN PATCH

- Chemical management
1. Daconil 2787
 2. Proturf 101V
 3. Actidione RZ
 4. Dyrene
 5. Dymec 50
 6. Proturf
 7. Fungicide III
 8. Ortho Dyrene Lawn
 9. Disease Control
 10. Chipco 26019
 11. Fore
 12. Formec
 13. Lawn Disease Preventer
 14. Proturf FII
 15. Turfcide
 16. Bromosan
- Cultural management
1. Reduce nitrogen before warm weather
 2. Increase air movement

bluegrass will be more susceptible to this disease.

Cultural Management. High levels of nitrogen increase the severity of *Rhizoctonia* brown patch. No more than ½-pound actual nitrogen per 1,000 square feet per month should be applied as warm weather approaches. Pruning trees or removing shrubs to increase air incubation will also help reduce the severity of the disease.

Chemical Management. See Table 2.

Yellow patch

Resistant Cultivars.

Good critical data on cultivars that are resistant to this disease is lacking at this time.

Cultural Management. Nitrogen fertility during the growing season is necessary for the recovery of the older yellow patch "frog-eyes" that were formed in previous seasons. The effect nitrogen has on development of new yellow patch "frog-eyes" has not been determined.

Biological Management. There are some products which claim to change the chemical and biological activities of soil and thatch to make it a better environment for biological activity of beneficial microorganisms and healthier

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In 1985:

ALCA looks forward to Hawaiian trip

New officers are installed at the Associated Landscape Contractors Association of America conference in Phoenix Feb. 7-11. The officers took the oath of office under the direction of immediate past president Ray Gustin III (left). New officers pictured are, left to right: President J. Landon Reeve IV, Immediate Past President Dave Pincus, President-Elect Rod Bailey, Vice-President of Finance Irv Dickson, Vice-President Karl Korstad, Vice-President Joe Carpenter and Secretary Bruce Hunt.



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Though the tone of the Associated Landscape Contractors Association of America's annual conference was generally light, pointing toward its 1985 convention in Hawaii, outgoing president Dave Pincus of North Haven Gardens, Dallas, Tex. made a somber speech before stepping down.

Pincus, addressing 558 ALCA members at the installation banquet, took a swipe at our country's system of higher education.

"You could probably make a good case that our colleges are cheating the students," Pincus said at the annual conference in Phoenix recently. "Of all the schools I've visited, only one adequately prepares its students to enter our industry."

Pincus said that the main problem with colleges educating students in the green industry are fourfold, centering on little exposure to the industry.

"The higher educational institutions are more interested in research grants and protection of tenured faculty than they are in producing marketable students," Pincus continued. "Our industry's No.1 problem is that it can't find qualified people."

"We got where we are by working hard; to get where we need to, we have to work smart. I believe the time is now that the educational institutions come out of their ivory towers."

Installed as new president was J. Landon Reeve IV of Chapel Valley Landscape, Woodbine, Md. President-elect is now Rodney Bailey of Evergreen Services Corp., Bellevue, Wash. Secretary is Bruce Hunt of The Brickman Group, Ltd., Long Grove, Ill.

Vice-presidents are Irvin Dickson of Native Tree, Marietta, Ga.; Karl Korstad of Sedgefield Interior Landscapes, Greensboro, N.C.; and Joe Carpenter of Landmasters, Gastonia, N.C.

New officers of the Landscape Management Division are Jack Mattingly of Mattingly Associates, Charlotte, N.C. (chairman); Bruce Wilson of Environmental Industries, Calabasas, Cal. (chairman-elect) and Ron Kujawa of Kujawa Enterprises, Cudahy, Wisc. (immediate past chairman). Vice-chairmen are Richard Reasoner of

to page 35

Lingering questions remain

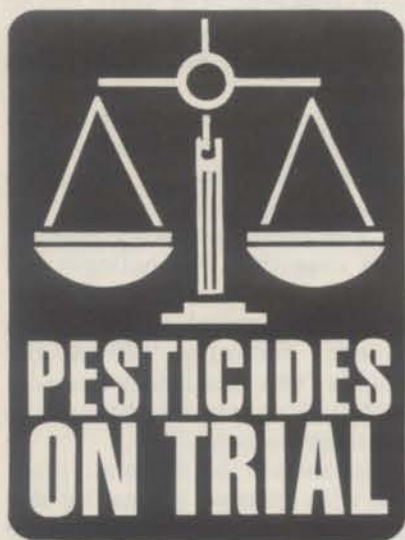
from page 1

know the impact it'll have on potential future customers who may never call because of the trial."

The trial itself could be classified as yet another attack at the pesticides on which the lawn care industry so heavily relies. And—make no mistake—quite a few people's livelihoods hung in the balance of the jury's decision.

"One thing we learned is that, in a trial like this, you can claim what you want," says Dr. Wilkenson. "I believe the charge was unsubstantiated. Quite obviously, the jury felt that way also. But being in front of a jury, you never really know which way they're going to turn until they come back into that courtroom with a verdict."

Terry Witt of Dow Chemical



USA, which produces the chemical of record (Dursban), concurs.

"We were glad that the jury looked at the scientific data rather than at the emotional appeal which is attached to that plea," Witt says.

"Obviously, one of the real concerns the industry faces today is the anti-pesticide movement afoot within the country. If the jury is unduly influenced by anti-pesticide sentiments and concerns, you never really know what the possible outcome of claims of this nature might be. They may sympathize with the defendant, in spite of whatever the scientific evidence is.

"I think," Witt continues, "one of our major challenges is to figure out how to communicate with the general public and translate some of our technical information to a level that people can comprehend."

Had Garabedian somehow been found innocent by reason of insanity due to chemical intoxication, the legal floodgates would have crashed open immediately, effectively "drowning" the industry.

"If you let your imagination go, you could easily imagine any former employee who ever got a hangnail suing you for damages," says John Kenney, president of the



The Muldoon residence in Dunstable, Mass. (about 30 miles northwest of downtown Boston) is shown here. Last March, the property was site of the brutal murder of Eileen Muldoon, 34, by David Garabedian, then of Old Fox Lawn Service. Garabedian used rocks from a portion of the stone wall (foreground) to murder Mrs. Muldoon. Though he claimed pesticides made him temporarily insane, Garabedian was convicted of first-degree murder earlier this year. Barring a successful appeal, he will spend the rest of his life in prison.

"... The Andersons has consistently proven to Dow how effectively our Dursban® insecticides can be beneficially combined with their fertilizer formulations for double-barreled professional performance.

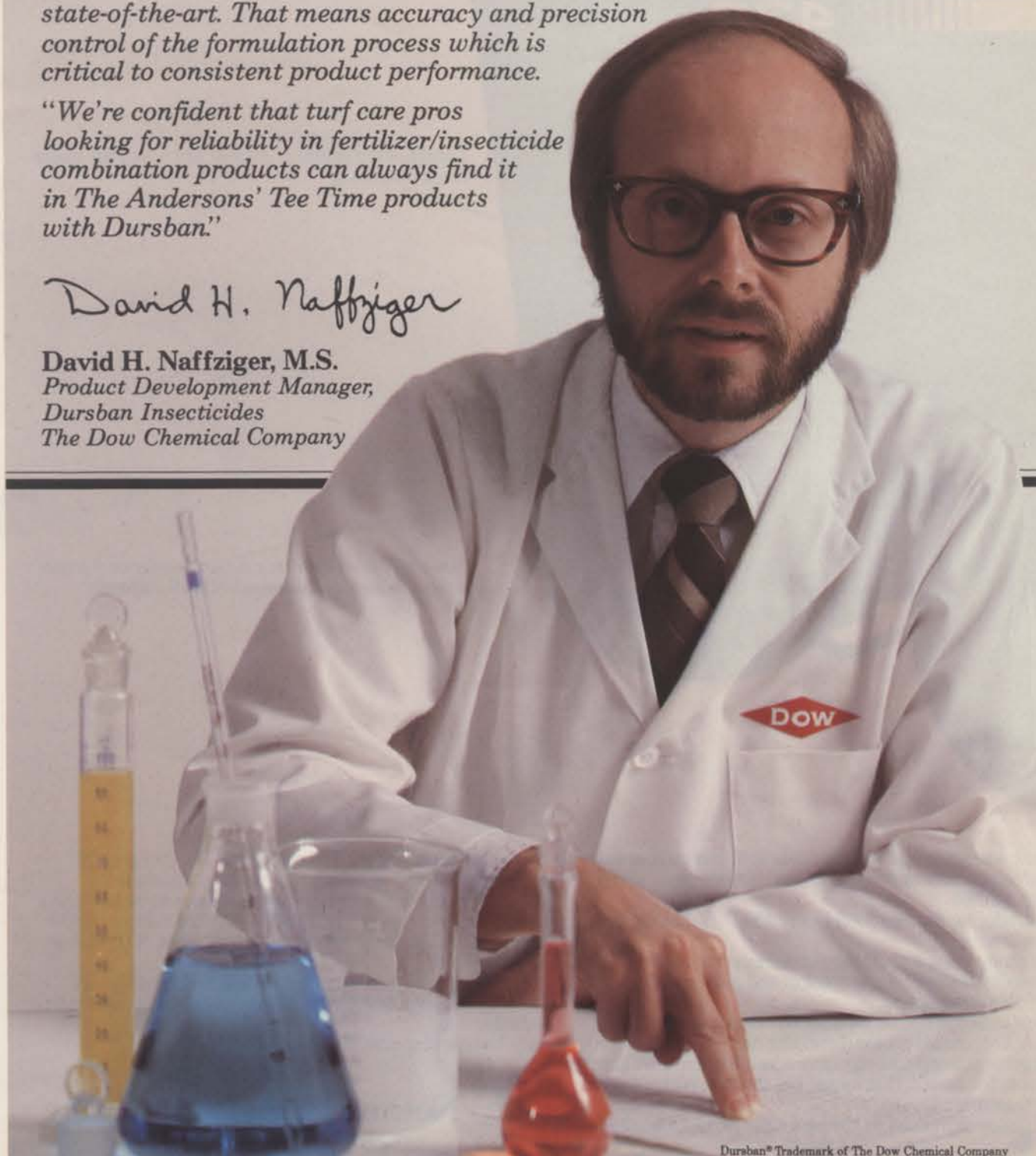
"There's no question that Dursban insecticides are one of the most versatile, safe, and dependable insecticides which modern chemistry has produced. The Andersons expertly incorporate Dursban into Tee Time fertilizer/insecticide combinations that also give turf pros the added benefit of simultaneous turf feeding. Now, that's effective, efficient and economical.

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David H. Naffziger

David H. Naffziger, M.S.
Product Development Manager,
Dursban Insecticides
The Dow Chemical Company



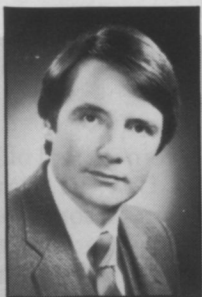
Dursban® Trademark of The Dow Chemical Company

Professional Lawn Care Association.

"In our society, people have tried to use chemicals as a scapegoat," observes Mark Beliczky of the ChemLawn Corp. "They think, 'it couldn't have been me, so it must have been the chemicals I was exposed to.' I think, though, that this was a situation where the defense was really fishing.

"But we got some positive press out of this thing, in the fact that the Today show and Good Morning America covered it initially, and then when it was decided. And I'm very surprised: the media actually explained that it was not the chemicals that made this person act in this manner, but that other factors

Dr. Jim Wilkinson



were involved."

Beliczky also sees insurability of chemical lawn care companies at the heart of the matter.

"You could not do business without insurance," he says. "Right now, ChemLawn has no trouble getting insurance because the materials we use are safe and effective as used and as prescribed by labelling. But, had Garabedian won the case, it would be different."

Professional Lawn Care Association executive director Jim Brooks has been trying to round up a comprehensive plan for that group's members, and the insurance problem is already proving sticky—even without the Garabedian trial entering into negotiations.

Ripples of concern

from page 25

care industry. "If it would have lasted longer maybe it would have had more effect," he offers.

Cruse cautions about disregarding the incident just yet, however. "Nobody has contacted us about it," he says, "but maybe it'll show up when we start applying insecticides. I didn't feel the pesticides could have caused it (the murder), but we still have to be concerned with these things or we won't be in business long."

Bob Auer, who operates Tru-Green, North Clearwater, Fla., didn't learn about the incident until he read it in LAWN CARE INDUSTRY. He feels the publicity arising from it—and he hasn't been aware of any in his region—will be quickly forgotten. "It was an isolated case," he notes.

Dr. Paul Schnare of Accu-Spray, Cape Girardeau, Mo., says he is not sure the incident has even been reported in his particular area. "Maybe in Kansas City," he says, "but this is a small town (about 35,000) and I haven't seen anything about it."

Larry Bourbonnais, owner of Spray Green, Riverside, Cal., feels Garabedian was "desperate" when he made his claims.

Bourbonnais saw the story in a local newspaper. "As far as other people noticing it?—I don't think so," he adds. "I saw it and happened to notice it. Obviously, I thought he was blowing smoke."

Paul Bizon, like the others, is relieved at the outcome of the case. "It would have been bad if it had gone the other way," says Bizon of Prograss, Hubbard, Ore. "It was a situation that could have taken place in any industry or in any business. It's unfortunate he hung it on our industry."

"If Garabedian had been found innocent, I think probably there would be other insurance companies that might have dropped out of the bidding," Brooks says. "There are some insurance companies now who, as soon as you say that you deal with chemicals, don't want to pursue anything further.

"We would have to show people on an industry basis what our risk factor has been—and it's been damned low. You would have to try and talk to companies on the basis of average, rather than one individual instance."

That, of course, is all speculation. Witt puts the whole trial in perspective:

"The most important thing that came out was the fact that the jury

Mark Beliczky



was able to see through the emotionalistic appeal and look at the data which clearly demonstrated that the claims (made by Garabedian) were an impossibility."

—Jerry Roche



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Pesticides are found innocent

from page 1

to which he was exposed during his job. Defense attorney Robert Mardirosian claimed that Garabedian was innocent by reason of temporary insanity induced by chemical poisoning.

Garabedian was guilty, the pesticides innocent.

"I certainly felt that it would be very difficult to sell it to a jury," Mardirosian told reporters afterward. "Unfortunately, David Garabedian was a pioneer. Maybe in the future, with new developments and discoveries, we will

find he could have very well been affected (by pesticides). I do believe that as we learn more about these pesticides, as with EDB, we will find these things can cause psychosis."

According to an Associated Press report, one juror who wished to remain anonymous said: "We didn't give much credence to the pesticide poisoning. We just followed our conscience and the testimony."

Among those called as expert witnesses were Dr. Peter Spencer, professor of neuroscience, Albert

Einstein School of Medicine, New York City; Dr. David Bear, assistant professor of psychiatry, Harvard University Medical School, Boston and Dr. Martin Kelly, associate psychiatrist, Brigham and Women's Hospital, Boston.

Garabedian had been charged with garroting and bludgeoning Eileen Muldoon, 34, last March 29. According to testimony, Garabedian had been urinating on her property when she returned home. An argument followed, ending with Garabedian strangling and bludgeoning her with

rocks from a nearby stone wall.

Dr. Roger Yeary of the Chem-Lawn Corp. talked with Middlesex County (Mass.) Assistant District Attorney Thomas Reilly before the case.

The defense

"The defense got a neurologist and one other witness to basically say that there were some studies on very potent cholinesterase inhibitors—Sarin specifically, which is a war gas, a nerve agent," Dr. Yeary related.

"They showed that you could produce long-term electroencephalographic (EEG) changes some time after poisoning, and they had reported some behavioral changes in monkeys.

"The weakness is that the EEG changes were so subtle that they had to have a computer to analyze them...and these were all cases of not just exposure but poisoning."

The defense also attempted to equate potent nerve gasses to chlorpyrifos, since both are organophosphates.

"This is what the defense was placing a great deal of emphasis on," said Terry Witt, public relations executive at Dow Chemical USA, which produces chlorpyrifos under the brand name of Dursban. "Fortunately, the jury was able to see the fact that chlorpyrifos is not in the same category as some other organophosphates."

Dr. Yeary also said that chemical tests had some bearing on the guilty verdict.

"The employee had cholinesterase tests within four days of when he committed the murder, and they were normal. There's no reasonable person who could buy the story that an exposure could have an effect on his brain activity without having an effect on plasma cholinesterase."

Dr. Jim Wilkinson of Old Fox was happy with the verdict, which took 16 jurors just seven hours to reach.

"If there was one juror who bought the defense," he noted, "they wouldn't have come to the verdict they did. For the rap of first-degree murder, that isn't a long time to be out, either."

The response

Dow issued a formal statement. It read, in part:

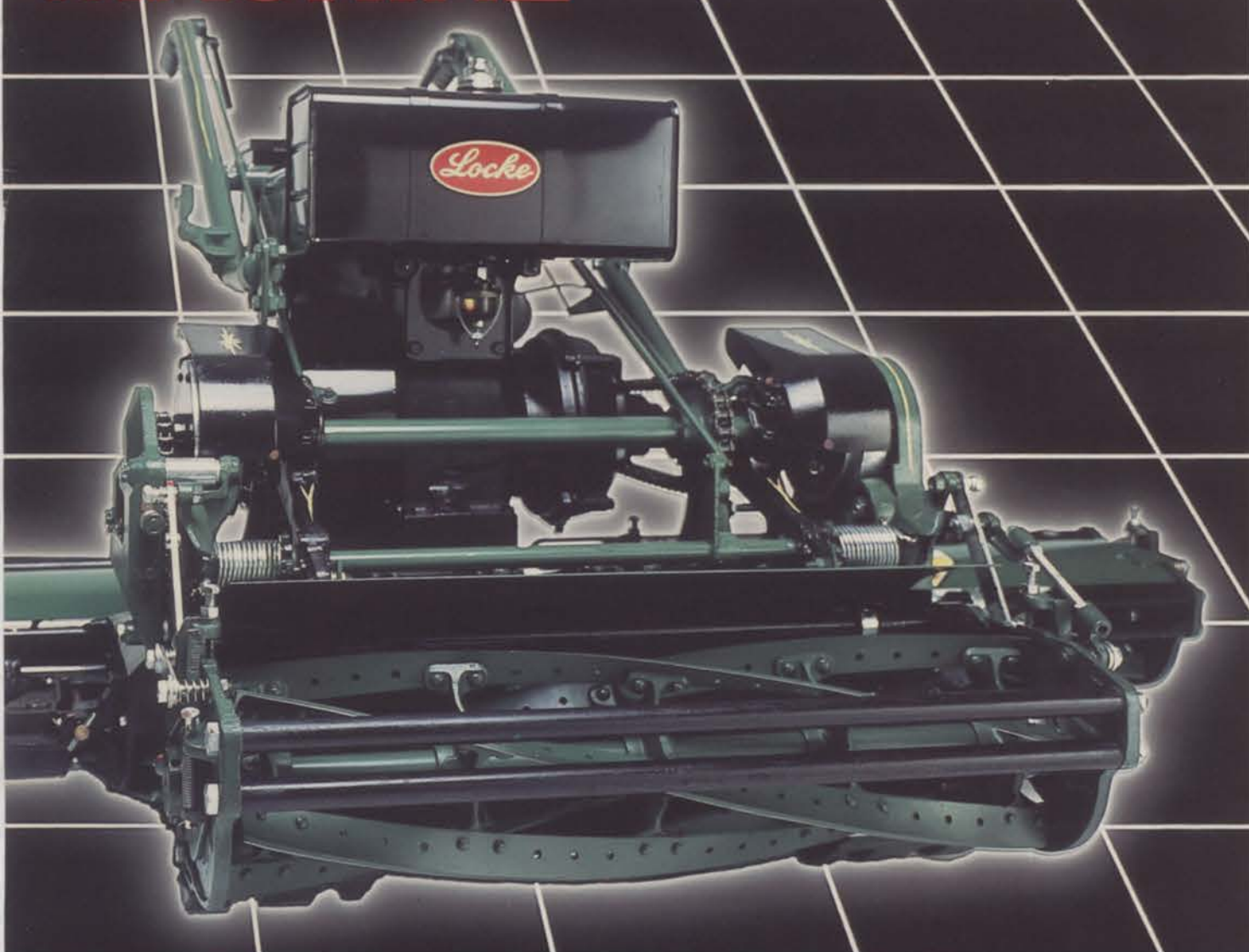
"We are pleased that the jury concluded that chlorpyrifos could not have had any bearing in the brutal and tragic event."

"In all our years of testing, manufacturing and monitoring Dursban in the field, we have never seen any evidence of behavioral change due to chlorpyrifos—even in cases of substantially greater exposure, including those few cases of overexposure."

When court had adjourned, Reilly was asked his thoughts.

"It certainly was a tragedy, but he deserved what he got," the assistant D.A. said. □

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cut cleanly at a uniform height, unlike the ragged finish of a rotary. Cutting a wider path than a rotary, and with a ground speed equivalent to most rotaries, the Locke is almost fifty per cent more productive. And it goes on delivering this productivity over a life that is decades longer than that of a rotary. The choice becomes simple, either buy a rotary every few years, or invest once in a Locke.

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**Carey:**

"We didn't get any feedback on it."

**Cruse:**

"We have to be concerned with these things."

**Auer:**

"It was an isolated case."

**Schnare:**

"I haven't seen anything about it."

**Bourbonnais**

"Obviously, I thought he was blowing smoke."

**Bizon:**

"It could have taken place in any industry."

Ripples of concern seen among LCOs

The claim by former lawn care worker David Garabedian that the pesticides he had been working with caused him to murder a Massachusetts woman spread ripples of concern among lawn care operators. But it seems to have caused few concerns with customers, according to lawn care owners (LCOs) from around the nation.

A jury of eight men and eight women didn't buy Garabedian's story that the pesticides he had been in contact with made him murder.

"I heard about the incident at its inception," says Bill Carey of Lawn Masters, Hawthorne, N.Y. "This thing had all kinds of

repercussions if they could have made a case out of it."

Carey doesn't feel the public, at least in his area, developed much of an interest in the case. "We didn't get any feedback on it," he reports. "I don't think many of my customers were even aware of this particular incident."

Carey admits he was "very happy with the outcome. We were only concerned about it in regards to its ramifications to the industry."

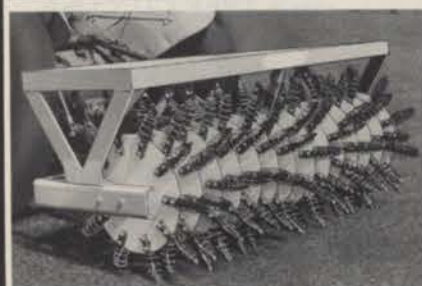
John Cruse of Easy Lawn, Piqua, Ohio, feels the incident "ended too quickly" to have much of an impact on the lawn

to page 23

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- Industry proven Chem-lawn Spray Gun with extra nozzles.

Other models - the GN1000, GN1200 and GN1600 offer the same top-of-the-line components with larger chassis and payloads. All the Great Northern systems are available for mounting on customer-owned chassis.

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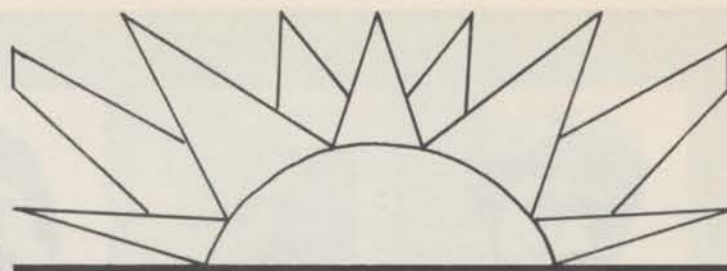
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Circle No. 108 on Reader Inquiry Card

1983 drought

Making hay while the sun shines—and shines



Last summer, lawn care businessmen in the Midwest found themselves face-to-face with a drought—a prospect about as popular as a plague of boils.

But most lawn care owner-operators (LCOs) learned to deal with the serious situation, and several even found ways to profit from it.

In a telephone poll of Mid-

western LCOs, LAWN CARE INDUSTRY found that some homeowners cancelled their mid-summer treatments because of the lack of rain. But some of these same individuals—and others who had never considered lawn care help before—began to turn to professional services.

Even so, the consensus was, give us rain!

"I would like to see a year with a lot of moisture and green lawns," says Kevin Kellermeyer of Ever-Green, Alexandria, Ind. "I don't like that dry weather."

The drought of '83, extending over much of the Midwest, was a real humdinger. It withered corn in the fields, lowered the usually drought-resistant soybean harvest, affected livestock produc-

tion. In short, it affected all living things—including turfgrass.

When the sun turned from friend to foe and the puddles dried and cracked, neighbors stood in their side yards and discussed the spread of the Mojave into their front yards. The time came for lawn care businessmen to do something. Some, like Kellermeyer, made a special effort to

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educate their customers.

"We tried to inform our customers about the drought and explain the need for them to water their lawns," Kellermeyer remembers.

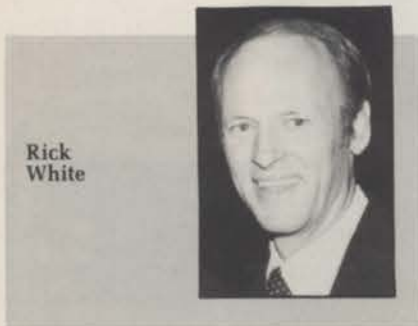
Martin McPheeters of American Lawn, Terre Haute, Ind., agrees. "I made a habit of trying to keep our customers informed about what was going on," he says.

Although the two men agree on the necessity for keeping in contact with their customers—even more so during unusual conditions—they differ in their approach to service during the drought. McPheeters says his company didn't spray during the hot spell. Some of the companies in his area that did, he says, were blamed by customers for "burning up" their lawns.

"It reduced the amount of income we had coming in," McPheeters admits. "We didn't go out and spray when it was over 90 degrees." His company, however, began a late fall treatment and picked up a lot of the missed mid-summer applications.

Kellermeyer says that some of his customers skipped the mid-summer application because of the dry conditions, but those who didn't were satisfied with the results. "Actually, we didn't lose as many as we thought we would," he says.

Taking a compromise approach



Rick White

was Steve Juntgen of Emerald Green, Fort Wayne, Ind. Juntgen says that his crew stopped production for two weeks during the peak of the dry season. When it resumed mid-summer work, it took particular care with herbicides and applied slow-release fertilizer.

"The people understood," he says. "We sent out newsletters. We're a family owned and operated business and we've got to stay close to our customers."

The drought created short-term problems, almost all the businessmen agree. The resulting damage, however, awakened some homeowners to the benefits of professional lawn care.

Juntgen saw a marked increase in the amount of overseeding, dethatching, and aerating he was called to do when the rains returned. Others offer similar comments.

"I think the bad weather last year may increase interest in professional lawn care in our area," notes Rick White of Village Green, Naperville, Ill. "The homeowner here doesn't have many problems generally anyway, and even the companies offering marginal programs can make a lawn look

pretty good. But, if we have more problems to worry about, the quality lawn care company's work will really stand out."

Lawn renovation in drought-damaged areas should be getting increased attention. White, however, says care should be taken in meeting the increased demand.

"A lot of people will be looking for renovative work in the spring," he says. "We had a terrible experience with spring renovations last year. So, if people want renovative work, they'll have to wait until August. What we'll probably do is put them on some sort of minimum maintenance program until early fall."

McPheeters' American Lawn

Bill Fischer



began offering renovations last season. "We couldn't have started at a better time," he notes.

Bill Fischer of Spring Green, Plainfield, Ill., offers a similar thought: "The people who haven't been on lawn care may turn to it, remembering the problems they had last summer."

Last summer's drought? Emmett Rustenburg of Grassman Lawn Plan, Waterloo, Ill., says it was no big deal. "We didn't seem to have too much of a problem. I think business is going to be better than ever."

So the great Midwest drought is history, even though its implications are reaching well into 1984. As most LCOs agree, it pays to "make hay while the sun shines," but they also agree that two extremely dry summers in a row will not help matters any.

But such are the continuing problems for industries such as the lawn care industry that rely so heavily on Mother Nature for success.

—Ron Hall

FLOWABLES

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PRODUCTS



New mower line at turf convention

Jacobsen expanded its line of rotary mowers to cover virtually all market segments, from 20-inch through 72-inch, with the introduction of new walk or ride models at the 55th International Turfgrass Conference and Show in Las Vegas earlier this year.

The new machines are called Commercial 32, 36, or 50 (for inches of cut). They can be ordered with 8, 11, or 16 hp gas engines, and can also be converted to riding rotaries. Seven cutting heights can be selected, from 1-inch to 4-inch in 1/2-inch increments.

Circle No. 201 on Reader Inquiry Card

Trimmer features new carburetor

Hoffco's GT160T trimmer features a newly designed carburetor which has mechanical advantages which eliminate choking, guessing, and flooding.

The GT160T monofilament trimmer now comes with a Walbro carburetor which has a "peep window" that allows the operator to visually determine if the correct fuel measurement has been primed into the carburetor, simplifying the starting procedure, thus making it possible to save on fuel consumption.

The lightweight GT160T unit is powered by a 15.4cc Fuji-Robin engine with a 42-inch, patented, flexible drive shaft.

Circle No. 202 on Reader Inquiry Card

Turfgrass resists insects, diseases

J. & L. Adikes, Jacklin Seed Co., International Seeds, Inc., and Vaughan's Seed Co. announce the introduction and availability of All*Star perennial ryegrass for use by professional lawn care companies.

Doyle W. Jacklin of the Jacklin Seed Co. claims that All*Star is an excellent turfgrass variety with superior resistance to sod web-

worm and other damaging turf insects. The grass also has improved disease resistance to leaf spot, large brown patch, and crown rust, Jacklin noted.

Circle No. 203 on Reader Inquiry Card

Portable aerator is lightweight

Feldmann Engineering and Manufacturing Co. recently introduced a completely portable and extremely maneuverable walk-behind lawn aerator.



The lightweight aerator features a choice of two different styles of aerating tines in the 25-inch aerating swath, Model 1700 and Model 1800. The tough star or claw tines slice the sod allowing needed air, water, and fertilizer to reach grass roots, while promoting thatch deterioration for healthy, lush, green lawns.

The Feldmann line also features garden tillers, homeowner lawn aerators, portable post hole augers, and ice fishing equipment.

Circle No. 204 on Reader Inquiry Card





'Mighty mover' now available

The Beck Corp. of Elkhart, Ind., is offering the Mighty Moover, a rugged, easy-loading, easy-towing single or tandem axle equipment hauler with bed lengths from 11 to

20 feet and load capacities up to five tons. The Mighty Moover is available in eight sizes.

The hauler is constructed of heavy-gauge steel-plate body with steel tubing crossmembers. A low bed height and steel mesh ramps make loading and unloading fast, easy, and safe. It can be towed behind a car or a pick-up truck.

The ramps feature a durable hinge and pin locking assembly and loading stabilizers. Axles and rims are industrial quality.

Circle No. 205 on Reader Inquiry Card

New induction setup keeps engines cool

Gas engine models of the 1984 Cushman Front Line Mower will be equipped with a new clean air induction system designed to ensure cooler engine operation.

Cushman engineers said the new design extends the required interval for engine clean-out, and helps protect the engine from overheating by filtering cooling air before it reaches the engine fan and cooling fins.



"The use of a rear discharge deck mower requires more effective means for keeping engines clean," says engineering product manager Loren Hansen. "The mower engine is located in the path of dirt and debris from the mower deck. Unless the operator follows a careful clean-out schedule, engine cooling fins can plug up quickly and cause engine overheating."

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Which makes it the perfect engine for tough commercial lawn care applications. And top-of-line consumer products.

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The 187 I/C comes with a big list of heavy-duty components. Cast iron bores for better wear and longer cylinder life. Cobalite-faced valves and seats for up to five times longer life. Heavy-duty replaceable DU bearings. Plus an instant-action mechanical governor that responds immediately to changing power demands.

And it gives you extra cylinder displacement without extra weight. In fact, our 187 weighs six lbs. less than most competitive models.

EXTRAS ON THE OUTSIDE.

You also get a special dual-

element air cleaner, a double filtering system that lets only the cleanest air through to the carburetor. And Magnetron[®] ignition, a maintenance-free electronic system made for the life of the engine.

EXTRA QUIET.

The 187 is a part of the new Briggs & Stratton "super quiet" family. It comes with a range of features that make it the quietest in its size range. The tolerance between piston and cylinder, for example, is so fine we've practically eliminated piston "slap." And we mounted a special pinion gear to the shaft to further reduce noise.

So when you're looking at engine options—whether it's OEM or replacement power—don't overlook the Briggs & Stratton 187 I/C. The extra-ordinary lawn mower engine.

For details, call your Briggs & Stratton dealer. Or write Briggs & Stratton, Industrial/Commercial Division, P.O. Box 702, Milwaukee, Wisconsin 53201.



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Mowing performance, capacity improved

Walker Manufacturing announces several improvements to the Walker Mower which will improve both the machine's mowing performance and capacity.

The large 6.7 bushel grass catcher has a "Powerfil" delivery



spout which packs the catcher full even when mowing long, wet grass. A new 42-inch rear discharge deck is now available with the grass catching system, making a complete line of 36-inch and 42-inch rear or side discharge decks to fit on the basic tractor.

Walker is now powered by the Honda G400 industrial engine featuring long life construction and reliable performance for commercial applications.

Circle No. 207 on Reader Inquiry Card

Tall fescue's green receives high mark

Turf trail tests conducted by Rutgers University conclude that Mustang, developed by Pickseed West and Rutgers University, exhibits the deepest green color among 19 tall fescue cultivars.

Mustang was given a color rating of 7.2 on a 9-point scale. The turf trial was seeded in September, 1983 at Adelphia, N.J., and was mowed at two inches. The color ratings were the average of three separate ratings by two individuals on Dec. 15, 1983, according to the Rutgers report.

Circle No. 208 on Reader Inquiry Card

TOOLS, TIPS, TECHNIQUES

Say goodbye to drums

The 55-gallon drum has been the backbone of shipping bulk chemicals for years, but Don Benham, owner of Benham Chemicals in Walled Lake, Mich., told an audience at the recent Michigan Turfgrass Conference it's time to phase the drums out.

"Even if you have met all state and local regulations on rinsing drums and using the rinse in your spray mix, the sight of 55-gallon drums stacked outside is a red flag to today's

chemical-conscious public," Benham said.

Benham suggested lawn care companies and other large users of pesticides create a bulk storage system (preferably enclosed) and receive chemicals by tank truck.

"Many landfill owners refuse the drums even though they are properly rinsed," Benham said. "No special registration is required for bulk storage as long as you don't repack the chemical in small containers."

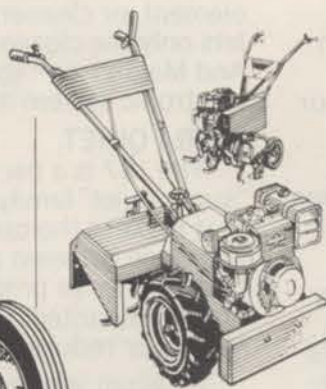
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Mixing for lawns a snap with this

Agro-Chem, Inc., says customers deserve individualized consideration, and one way the lawn care industry can provide it is with a Basic 4 Injector.

This is a 50-pound unit, which—when mounted on existing spray equipment—will automatically inject from one to four products into a spray hose at any dilution.

The Basic 4 Injector is designed to be placed between the pump and hose of most all types of power spray units used for applying agricultural, horticultural, and lawn care products. With this unit you can mix four separate concentrate chemicals, individually or in any combination with the other chemicals, and water.

Agro-Chem said the injector allows spraying which can be individually programmed according to the requirements of each lawn. All products are accurately mixed and diluted with water, and accurate meter readings record each application.

Circle No. 209 on Reader Inquiry Card

Sickle bar mower is for tall grass

Sensation Power Equipment Division, Gilson Bros., recently introduced a sickle bar mower to its line of heavy-duty commercial lawn maintenance equipment.

The mower, with a 5 hp Briggs & Stratton engine, is designed to mow tall grass and weeds in com-



mercial lawn maintenance applications while providing maximum handling ease, durability and low maintenance.

The unit has unlocking drive wheels for easy transportation and both side and height adjustment.

Circle No. 210 on Reader Inquiry Card

New products make plug aerating easy

Lawn Masters, Inc., recently added two refinements to its Westmac plug aerator: a unit of weights for use in more difficult soils and a "Trail Hitch" for use when one-man trucks are deployed for servicing.

In no more than 30 seconds, one man can unplug the Westmac from the vehicle's rear bumper, raise the high-speed swivel wheel and it is ready for plugging.

The "Trail Hitch" is designed so that backing up of the vehicle does not cause jack-knifing. The hitch replaces the need for a transporting trailer and/or two men required to life the Westmac on and off truck beds.

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APRIL 1984

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☐ Mowing/maintenance lawn care company

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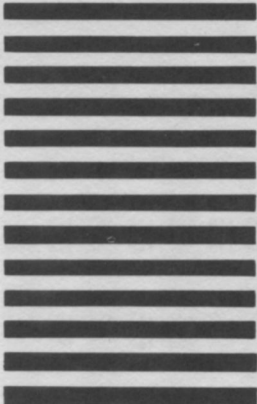
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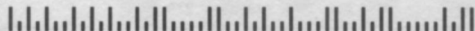
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MARKETING IDEA FILE



48-inch mower is designed for pros

The new 48-inch Ranger mower was "designed with the commercial operator in mind," according to a release by Exmark Manufacturing Co., Inc.

The new heavy-duty walk-behind mower with a 48-inch cutting base is powered by an 11 hp Briggs & Stratton engine, or an optional 11 hp Honda engine and features easy maneuverability in all types of terrain. The mower is also equipped with finger tip controls and protective front deflectors which ensure operator safety.

The 48-inch Ranger comes with one-piece, lift-type blades made of tempered steel. An optional riding sulky turns the Ranger into a riding mower.

Circle No. 212 on Reader Inquiry Card

New sprayer is put on the market

Friend Manufacturing Corp. has unveiled a new Kadet three-point hitch-mounted sprayer which features a 110-gallon fiberglass tank with two easy-read level indicators. The rugged oversize suction strainer has its own shut-off valve and easy off cap. The sprayer is mounted in a rugged galvanized dipped steel frame that allows easy access to all components.

The Kadet is available with four pump sizes from 8 gpm/300 psi to 14 gpm/550 psi, allowing the Kadet to be used for gun spraying, weed control, row crop spraying (with row crop dry booms up to 33 feet) and pressure washing.

Anti-corrosion features and field-proven ideas have virtually eliminated downtime due to nozzle plugging.

Circle No. 213 on Reader Inquiry Card

New aerator is for small lawns

A new three-hole plug aerator is being marketed by Salsco Manufacturing Co.

The camshaft-type walk-behind has a 3 hp Briggs & Stratton engine with 6:1 gear reduction.

It aerates with holes 5½ inches apart and 2¼ to 2½ inches deep. The machine is 22 inches wide.

The new Salsco aerator, a scaled-down version of the company's popular six-hole plugger, is perfect for small lawns in urban settings, according to company president Sal Rizzo. Its suggested retail price is also less than the larger model.

Circle No. 214 on Reader Inquiry Card

Advertising in print

If you plan on taking out any newspaper or magazine ads this year, there are some tips to remember when writing copy.

The tips were offered by Bedding Plants, Inc., in a recent newsletter. They are:

- Solid lines of capital letters or italics are difficult to read, and should be avoided;
- Black type on white is easier to read than the same copy on a dark background. Studies show that readership drops for reversed type.
- Short sentences and paragraphs are easier

to read than longer ones.

- Type sizes smaller than eight-point or larger than 12-point are difficult to read when used in body text.

- The optimum length of a line for easy reading is 50-55 letters.

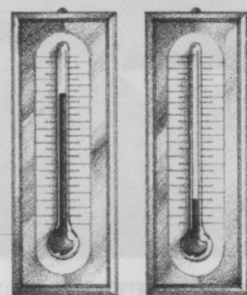
When composing your advertisements for the print media, remember that *readability* is the ease in which a page can be read, and that *legibility* is determined by the speed at which the reader recognizes the letters.

NORTHROP KING'S GALWAY WILL CHANGE YOUR THINKING ABOUT TALL FESCUES.

Until now, most tall fescues have come up short.

They've failed under extreme temperatures. And fallen victim to disease.

But now there's Galway from Northrup King. A versatile, fine-leaved tall fescue that maintains a dense weed-free turf years after ordinary tall fescues thin out.

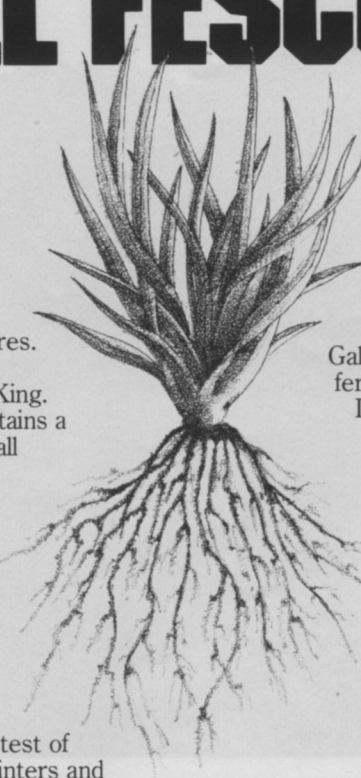


Improved performance against disease and extreme temperature.

In development, Galway passed the test of fierce Minnesota winters and sweltering Midsouth summers.

It passed the test at several northern and southern universities, too, ranking among the best turf-type tall fescues available.

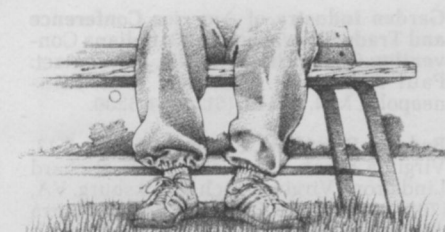
Tests have shown that it won't succumb to brown patch or net blotch. And that its improved shade tolerance makes it well suited for use under trees and in other low-light areas.



Low maintenance turf with a high maintenance look.

Galway requires only limited amounts of water and fertilizer to produce an attractive, dark green turf.

It grows slower, which means less mowing. And its improved fine-leaved texture improves density and uniformity.



It is recommended for athletic fields, parks, playgrounds, commercial and public turf areas, boulevards, embankments and home lawns. New, fine-leaved Galway from Northrup King. It'll change your thinking. Because, in the world of tall fescues, it stands above them all.



Ask your Northrup King distributor about Galway tall fescue. Or write Northrup King Medalist Turf Products, P.O. Box 959, Minneapolis, MN 55440.

Circle No. 118 on Reader Inquiry Card

DATES

Landscape Industry Show, April 4-6, Convention Center, Long Beach, CA. Contact: Bob Gouley, California Landscape Contractors Association, 1419 21st St., Sacramento, CA, 95814. (916) 448-2522.

Southeastern Turfgrass Annual Conference, April 16-17, Rural Development Center, Tifton, GA. Contact: Dr. Glenn Burton, University of Georgia Coastal Plain Experiment Station, Tifton, GA, 31793. (912) 386-3353.

Southern California Turfgrass Council Turf and Landscape Institute, April 23-25, Convention Center, Anaheim, CA. Contact: Ed McNeill, 1000 Concha St., Altadena, CA, 91001. (818) 798-1715.

Arizona Turf and Landscape Conference and Trade Exhibit, May 3-5, Ramada Inn-McDowell Road, Phoenix, AZ. Contact: Dr. W.R. Kneebone, Department of Plant Sciences, University of Arizona, Tucson, AZ, 85721. (602) 621-5323.

Florida Turf Update and Field Day, May 17, University of Florida, Gainesville, FL. Contact: Dr. Charles H. Peacock, 1523 HS/PP Bldg., University of Florida, Gainesville, FL, 32611. (904) 392-1832.

North Carolina Turfgrass and Landscape Field Day, May 23, NCSU field plots, Raleigh, NC. Contact: J.M. DiPaola, 1126 Williams Hall, NCSU, Raleigh, NC, 27650. (919) 737-2657.

Tennessee Turfgrass Management Research Field Day and Equipment Show, May 29, University of Tennessee, Knoxville, TN. Contact: Dr. L.M. Callahan, Ornamental Horticulture and Landscape Design, University of Tennessee, Knoxville, TN, 37901. (615) 974-7324.

Southern California Turfgrass Council annual meeting, June 18, Michael's Restaurant, City of Commerce, CA. Contact: Ed McNeill, 1000 Concha St., Altadena, CA, 91001. (213) 798-1715.

The Lawn Institute annual meeting, June 26, Marriott Hotel, Denver, Col. Contact: Elliott Roberts, The Lawn Institute, County Line Road, P.O. Box 108, Pleasant Hill, TN, 38578. (615) 277-3722.

University of Massachusetts Turfgrass Field Day, June 27, South Deerfield Turfgrass Research Station, South Deerfield, MA. Contact: Dr. Joseph Troll, Dept. of Plant and Soil Sciences, Stockbridge Hall, University of Massachusetts, Amherst, MA, 01003. (413) 545-2353.

International Lawn Garden & Power Equipment Expo, July 23-25, Kentucky Fair and Exposition Center, Louisville, KY. Contact: Judy Wegenast, P.O. Box 37130, Louisville, KY, 40233. (502) 366-9592.

Control of Weeds and Ornamental Insects and Diseases course, Aug. 9-10, Stephenson Training Center, College Park, GA. Contact: W.E. Blasingame, P.O. Box 87188, College Park, GA, 30337. (404) 762-0194.

Hardware Industry Week/National Hardware Show, Aug. 8-11, Contemporary Resort Hotel, Orlando, FL. Contact: William P. Farrell, AHMA, 931 Plum Grove Rd., Schaumburg, IL, 60195. (312) 885-1025.

Garden Industry of America Conference and Trade Show, Sept. 11-13, Indiana Convention Center, Indianapolis, IN. Contact: Paul Anderson, GIA, Box 1092, Minneapolis, MN, 55440. (612) 374-5200.

Bedding Plants Inc. Conference, Oct. 7-13, Virginia Beach, VA. Contact: Dr. Richard Lindstrom, Virginia Tech, Blacksburg, VA, (703) 961-6723; or Charles Elstrodt, Sierra Chemical Co., (804) 425-5739.

Professional Grounds Management Society Conference and Trade Show, Oct. 8-9, Marriott Hotel, Worcester, MA. Contact: Kevin Lyons, PGMS New England Branch, College of the Holy Cross, Worcester, MA, 01610.

Commercial Grounds Maintenance Short Course, Oct. 30-31, Stone Mountain State Park, Stone Mountain, GA. Contact: Gilbert Landry Jr., University of Georgia, College of Agriculture, Athens, GA, 30602. (404) 542-5350.

Professional Lawn Care Association of America Conference and Trade Show, Nov. 12-15, Curtis Hixson Hall, Tampa, FL. Contact: Jim Brooks, PLCAA, P.O. Box 70455, Marietta, GA, 30007. (404) 977-5222.

COST CUTTINGS

Booklet available free

Quality Circle Institute has printed in booklet form information titled "Quality Circles: Answers to 100 Frequently Asked Questions."

Through the question-and-answer format, this booklet succinctly describes quality circles—their Japanese and American history, objectives, organization, implementation and techniques. Their cost effectiveness, their difference from other programs and their status accorded by labor unions is discussed.

The necessary training and consulting are also described in "Quality Circles," which—when requested—is absolutely free. It involves no cost, no obligation nor visit from a salesperson.

Quality Circle Institute, a California-based organization, has printed and issued nearly 250,000 copies of this booklet. It is available free of charge by sending your name and address to: Quality Circle Institute, 1425 Vista Way, Airport Industrial Park, P.O. Box Q, Red Bluff, CA, 96080. Phone number of the institute is (916) 527-6970.

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secticide, a liquid. Use recommended rates and follow label directions.

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About the TEFRA...

The primary objective of 1982's major federal tax bill, the Tax Equity and Fiscal Responsibility Act (TEFRA), is to increase governmental revenues. And few taxpayers have been able to escape the impact of the vast array of changes included in the TEFRA, according to the Wholesale Nursery Growers of America newsletter.

Perhaps the most dramatic changes concern retirement plans and benefits. Restrictions on

plans for the self-employed have been reduced. If you haven't yet, you should check with your accountant or tax lawyer.

In addition, some favorable cost recovery rates for property placed into service in 1985 and 1986, which were established in 1981, have been eliminated by TEFRA.

Under prior law, the WNGA notes, a business could apply the investment credit against the first \$25,000 of tax, plus 90 percent of any tax liability above \$25,000. Under TEFRA, the 90 percent limit is reduced to 85 percent.

For research

Penn State seeks money

A team of faculty and scientists at Penn State University is developing a sizable research project to determine how landscape management affects ground water quality, and they're looking for funding to get the job started.

"We believe that our investigations could begin to produce significant results within a one to three-year period," Notes Dr. Thomas L. Watschke, project coordinator.

Although Penn State is providing start-up funding, the total cost of the project is estimated at \$320,000.

Watschke says the water quality research is needed in light of growing concerns with our water supplies, the growth and increased visibility of the lawn care industry, and the fears of environmentalists.

"Based upon past research we continue to be confident about the productive relationship which seems to exist between well-landscaped surfaces and the quality of water emanating from those areas," Watschke notes. "We are hopeful that the research we propose to undertake will document the safety of landscape management inputs to our groundwater supply."

The researchers—a team with expertise in agronomy, agricultural engineering, entomology, horticulture, and plant pathology—will focus on a variety of sloping plots containing differing landscape schemes. Irrigation capable of simulating both normal and excessive rainfall is been installed for each plot.

ALCA will visit Hawaii

from page 21

Dendron, San Ramon, Cal.; Richard Akerman of Oregon Landscape Maintenance, Tigard, Ore.; David Frank of Frank Landscape Contracting, Germantown, Wisc.; Melanie Reinhold Sawka of Reinhold Landscaping, Flat Rock, Mich. and Tom Garber of Colorado Landscape, Wheat Ridge, Col.

Keynote speaker at the week-long conference was Somers H. White of Somers H. White Company Management Consultants, a former state senator from Arizona. Former U.S. Secretary of the Interior Stewart Udall addressed an Environmental Awards luncheon.

On the final day of the conference, the Arizona Landscape Contractors Association took members on a tour of the Desert Botanical Gardens, the Zoo Drip Irrigation Project and the Arizona Biltmore.

The 1985 convention will be held Jan. 20-24 at the Kona Surf Resort, Keauhou-Kona, Hawaii.



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Circle No. 116 on Reader Inquiry Card

THE LAST WORD

Regulation—whose fault?



From those who make a living watching the legislative process, the message is clear:

Politicians of the '80s will deal with protecting and improving ground water quality. And pesticides, fertilizers and chemicals in general will be further regulated to affect that goal.

As a pesticide- and fertilizer-dependent industry working in the urban/suburban setting where potable water is of grave

concern, this environmental "issue of the '80s" must be one of our most important concerns. It may be too late to expect that further regulation can be prevented.

Intensive studies have already taken place or are active now in various parts of the country to quantify the issue and to determine sources of ground water contamination in the agricultural setting.

Last July, the College of Agri-

culture at Pennsylvania State University initiated a three-year, \$320,000 study to learn about water quality from both run-off and infiltration resulting from simulated urban fertility and pest management activities. The New York State Department of Environmental Conservation has many years worth of experience studying and monitoring the effect of pesticides, fertilizers, agricultural waste and other chemicals on water quality. Many, many more examples of this type of research exist.

Studies such as these could provide us with a defense; or they could render us defenseless.

Question: Why do we get regulated? Why can't we just go about our own business, hacking out a living without government getting in our way?

Tell me, if you can, of just one significant piece of regulatory legislation from a state, town, county or the Federal government that has not been the result of society trying to protect itself from someone else's actions—intentional or not.

Okay, sometimes the facts are a little fuzzy, but at least a significant mass fear was present in every situation.

What we are up against might be our own fault. Not intentionally, but nevertheless, our fertilizer and pesticide usage (which could increase five-fold in the next decade or two as the industry grows) make for terribly good finger-pointing targets. True or not, they are going to be suspect.

What can we do? No clear answer here, but the quick and dirty advice is to dramatically reduce the amount of pesticides and soluble/leachable nitrogen we use.

Jerome Faulring

Jerome Faulring
Hydro-Lawn
Gaithersburg, MD

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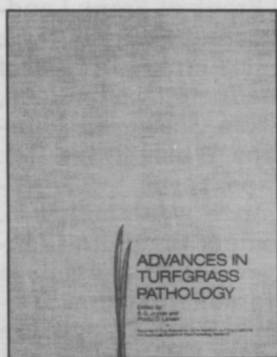
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New electrical hose reels for sale. Will hold 400 ft. + of 1/2" hose - 300 ft. + 3/4" hose. \$375.00 each. GSI Distributors Box 221, Horsham, PA 19044. Phone: 215-822-1226. 4/84

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8	1971	IHC	1700	1125	Bean 20	700'	2	10,500
9	1971	IHC	1700	1125	Bean 10	350'	1	9,000
11	1970	IHC	1700	850	Bean 10	350'	1	7,500
12	1968	IHC	1700	850	Bean 10	350'	1	7,000

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TECHNICAL SALES REPRESENTATIVE opportunities for regional fertilizer specialists covering a several state geographic area. Previous fertilizer or technical turf product experience preferred. Growing company, salary commensurate with experience + commissions. Reply in strictest confidence to Personnel Director, R.F. Specialist, Lakeshore Equipment & Supply Co., 20005 Lake Road, PO Box 16915, Rocky River, Ohio 44116. 4/84

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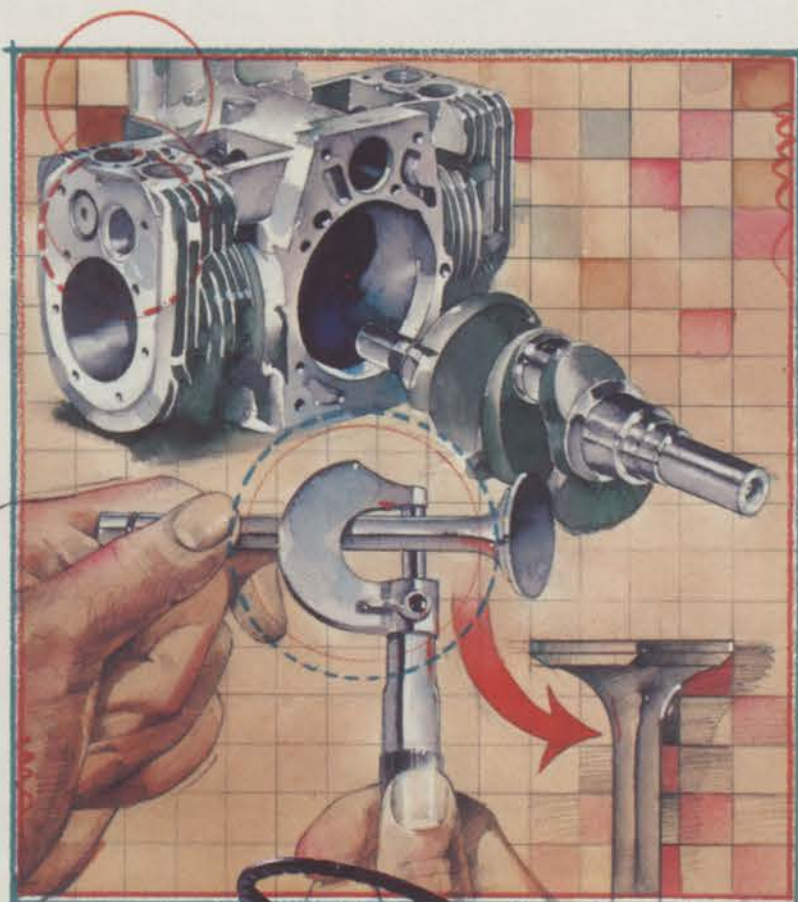
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