

# LAWN AND LANDSCAPE **ALA** MAINTENANCE

JANUARY 1989 • \$2.50

## Cutting a Path to the Top

Sam Russo is Enjoying  
the Fast Track to Success in the  
Mowing Maintenance Industry.

ALSO IN THIS ISSUE:

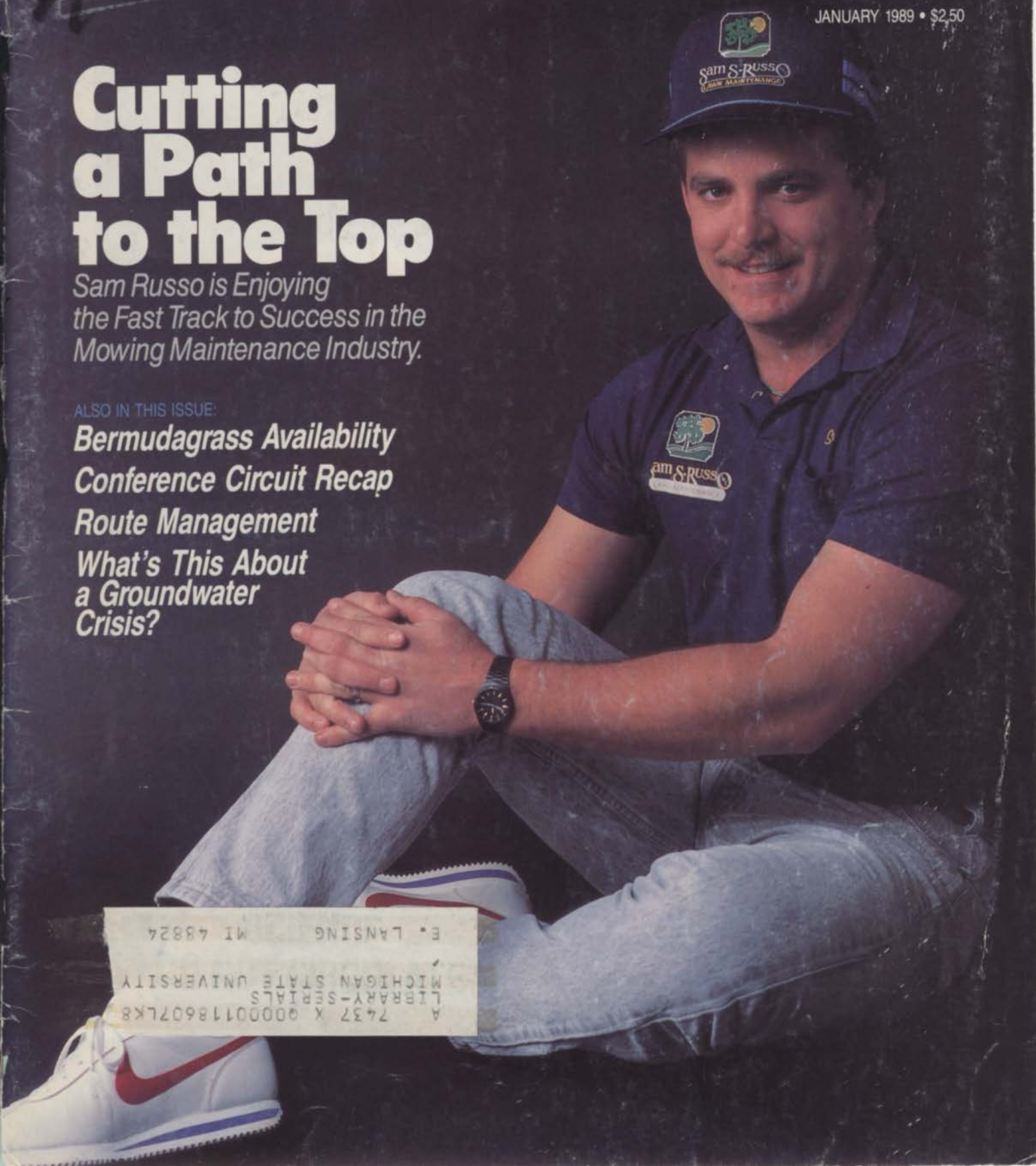
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Discriminating turf managers are beginning to realize that a balanced plant nutrition approach can deliver the quality dark green turf that the consumer desires.

Cover photo by Richard Steele, Tom's River, N.J.



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# EDITOR'S FOCUS

SOMETHING EXTRAORDINARY IS happening in Bayville, N.J. After just six short years in the mowing maintenance industry, a young entrepreneur has turned a small family-owned business into the state's largest.

Sam Russo of Sam S. Russo Landscaping Co. has taken a vision and developed it into an innovative full service landscape company whose primary focus is mowing. Initially targeting retirement communities, Russo has developed a route system which mixes efficiency and team work with quality results.

"Our first goal is to keep every community as happy as we can," Russo said. "We always treat people the way we want to be treated."

Dedicating nearly one crew to every retirement community ensures prompt service — even during inclement weather. While setting up his company structure, Russo developed a system designed to avoid backlogging whenever possible. For



instance, after a rainy day a community doesn't have to wait for mowing services because the contractor got backed-up at the other end of the cutting cycle.

"To accomplish this, we had to have in-

dividual equipment and manpower for each community that we signed. This way we could personally attend to every community equally," Russo said.

While showing incredible growth in six years, Russo's business strategies indicate that he's just as eager to maintain quality customers as he is to attain them.

"Some of the guys get frustrated with me because they think we should be growing faster," he said. "But I remind them that we're still cutting every community we started."

Russo is a man who truly enjoys what he's doing. This desire rubs off on his employees and reflects dramatically in the work ethics of the company. While only modest in terms of his own success, Russo is also a credit to the professionalism of the mowing maintenance industry as a whole. He should be proud.

For more insights into Russo and his New Jersey-based landscape company, turn to page 22. — *Cindy Code*

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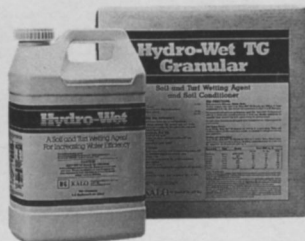
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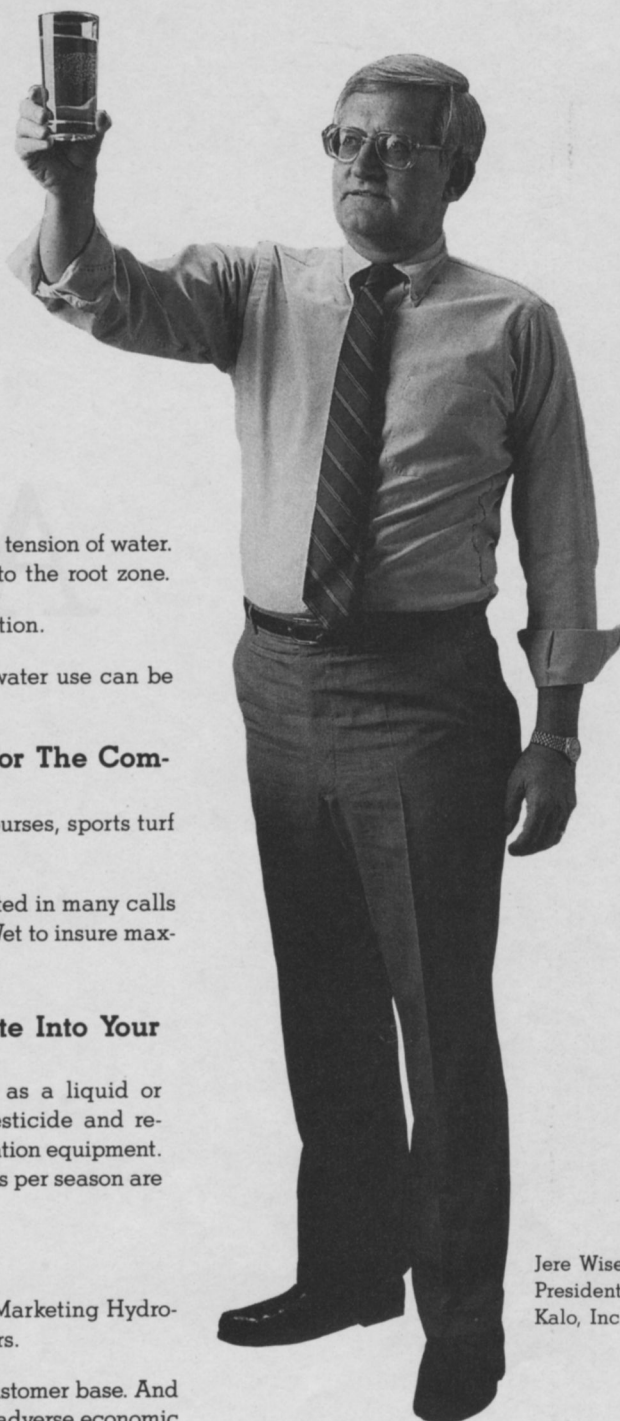
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# CALENDAR

## JAN. 17-19

The Virginia Turfgrass Council Conference and Trade Show, Richmond Centre, Richmond, Va. For registration and information call the VTC office, 804/340-3473.

## JAN. 18

Professional Turf and Landscape Conference, Westchester County Center, White Plains, N.Y. Contact: John Cockerill, 475 Central Ave., White Plains, N.Y. 10606; 914/428-6443.

## JAN. 23-25

Midwest Regional Turf Conference and Show, Adams-Mark Hotel, Indianapolis, Ind. Contact: Jo Horn, Dept. of Agronomy, Purdue University, West Lafayette, Ind. 47907; 317/494-8039.

## JAN. 25-27

1989 American Sod Producers Association Mid-Winter Conference, Marriott Hotel, San Diego, Calif. Contact: ASPA,

1855-A Hicks Road, Rolling Meadows, Ill 60008; 312/705-9898.

## JAN. 29 to FEB. 1

Landscape Professional Development Seminar, Lake Buena Vista, Fla. Walt Disney World in conjunction with the Florida Nurserymen and Growers Assoc. Contact: Walt Disney World Co., Seminar Productions, P.O. Box 10,000, Lake Buena Vista, Fla. 32830-1000; 407/828-1330.

## FEB. 3

The Second Annual Landscape IPM Conference, Trinity University, San Antonio, Texas. Contact: John Goolsby, 512/834-9359 or Betty Hughes, 512/821-5143.

## FEB. 21-23

Western Pennsylvania Conference & Trade Show, Pittsburgh Expo Mart/Radisson Hotel, 101 Mall Blvd., Monroeville, Pa. Contact: Thomas Watschke, Penn

State University, Dept. of Agronomy, 405 Agric. Admin. Bldg., University Park, Pa. 16802; 814/863-1613; or Pennsylvania Turfgrass Council, P.O. Box 417, Bellefonte, Pa. 16823-0417; 814/355-8010.

## FEB. 21-22

The Second Annual Ohio State University Professional Lawn Care Seminar, Holiday Inn on the Lane, Columbus, Ohio. Emphasis on the principles of agronomy, entomology and plant pathology. Contact: Sue White, 614/292-7457 for course content or Sherry Shulok, 614/292-4230 for course registration.

## FEB. 27-28

The Penn-Del chapter of the International Society of Arboriculture's educational symposium titled, "The Cash Flow of Trees," Hershey Lodge and Convention Center, Hershey, Penn. Contact: Sara Pilling, 29 Garrett Ave., Rosemont, Pa. 19010; 215/525-7331.

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# LETTERS

## READERS GIVE ALA/MAINTENANCE RAVE REVIEWS

YOU ARE TO BE COMMENDED AND congratulated for expanding your format and your focus. It's great and we're looking forward to exciting reading in the future.

*Ronald Kujawa  
President Elect  
Assoc. Landscape  
Contractors of America*

What a superb article about Jerry Faulring and Hydro Lawn in *ALA* magazine. Very professional, very impressive — the best I've seen about any individual and lawn care company in any trade journal. *ALA* needs to be complimented.

*Don Burton  
Lawn Medic  
Bergen, N.Y.*

I continue to get very positive feedback about your article. Clearly, I had no idea

how impressive your project would be at the outset. You should be PROUD!

I am proud of the piece and again thank you for allowing me to be a part of a great "new" magazine.

*Jerry Faulring  
President  
Hydro Lawn  
Gaithersburg, Md.*

We're all enthusiastic about your magazine's appearance, look and new name. The magazine's look and contents are top-notch. We look forward to receiving future issues.

*Jordan Fox  
Account Executive  
Bader Rutter & Associates*

Your magazine has arrived! The industry needed a new leader and *ALA* is it.

I feel extremely proud being a part of

your premiere issue. Writing for several of your issues has been rewarding but now with the new look, articles take on a new prestige.

The quality of *ALA* will continue to increase as more professionals take advantage of the communication vehicle you provide to the industry.

Keep up the good work!

*Dave Jones  
Director of Training  
Lawn Doctor Inc.  
Matawan, N.J.*

*ALA/Maintenance* magazine welcomes letters to the editor. If you would like to comment on anything you read in this month's issue of *ALA/Maintenance* magazine, write to us at 4012 Bridge Ave., Cleveland, Ohio 44113. *ALA/Maintenance* reserves the right to edit letters for reasons of space or clarity. ■

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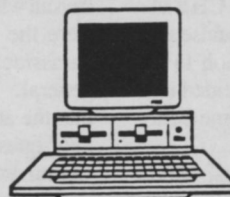
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## MOBAY RESEARCH CENTER TO SPEED NEW PRODUCT PROCESS

Bayer USA's Mobay Corp. recently opened a new multi-million dollar Biochemistry Research Center near Stillwell, Kansas.

The 48,000-square-foot facility will be operated by Mobay's Agricultural Chemicals Division. The research center, situated on the 300-acre Mobay Research Park, is dedicated to the study of agricultural chemicals and their relationship to plants, animals and the environment.

Completion of this state-of-the-art facility enables Mobay and Bayer to evaluate experimental compounds, and to meet the Environmental Protection Agency's reregistration requirements for crop protection chemicals.

In addition, it allows Mobay to participate more extensively in an established cooperative program with Bayer and a Japanese affiliate, Nitokuno, to help facilitate the interchange and worldwide use of research data.

The facility houses nearly 50 research professionals and the delicate instrumentation needed to conduct thousands of



The new Mobay Biochemistry Research Center near Stillwell, Kan.

hours of testing required before an experimental compound can receive federal registration for commercial use, according to Don Flint, biochemistry manager for Mobay's Agricultural Chemicals Division.

The Biochemistry Research Center is equipped to carefully trace the course, or fate, of a chemical compound through the food chain. Highly sophisticated instruments and procedures identify how plants and animals metabolize a given compound, how much of the material remains at each stage in the food chain, and how quickly it degrades. Biochemists also

trace the fate of the material in the environment. Only those compounds which are proven safe for the user, to the consumer and the environment are ultimately cleared for commercial use.

The state-of-the-art complex features a unique modular design to accommodate the special needs of five separate research groups: three assigned to study the metabolism and environmental fate of insecticides, fungicides and herbicides; one

group specializing in synthesis of test chemicals and analytical standards; and one group responsible for contact residue data and reporting.

## RYAN AERATOR WINS ENGINEERING DESIGN AWARD

The Ryan® GATM30 turf aerator has been selected by *Agricultural Engineering* magazine as one of "The Agricultural Engineering 50" outstanding innovations in product or systems technology for 1987.

"The AE 50" recognition program is conducted each year by *Agricultural Engineering* magazine, published by the American Society of Agricultural Engineers. The competition is designed to emphasize the important role of new products in transferring technology to the marketplace for application by a wide spectrum of users in the food and agriculture field.

Hundreds of equipment makers and component/material suppliers from many different industries submitted nominations for the award. The top 50 developments were selected by a nationwide panel of engineering experts.

The Ryan GA30 features several design innovations, including the fact that the operator rides on the unit and can adjust aeration core spacing while "on-the-go." Core spacing is variable, so the GA30 can be used for a wide range of aerating jobs.

Ryan products are manu-

## CHEMLAWN TO FIGHT AD TRUTHFULNESS IN COURT

CLAIMS THAT ChemLawn Corp. provides false and misleading information to its customers will be decided in a New York State Supreme Court trial.

Both the Columbus, Ohio-based ChemLawn, and the New York attorney general's office had sought a summary judgment in each of two lawsuits filed in the state supreme court. However, Judge Francis Pecora denied both motions, and set the attorney general's case for trial.

The truthfulness claims stem from a lawsuit filed early last year by New York Attorney General Robert Abrams, alleging that ChemLawn provides false information concerning pesticides to its customers through advertising.

The attorney general's suit was preceded by a ChemLawn

lawsuit which claimed that they were the object of continued harassment by the attorney general. The lawsuit stated that the attorney general publicly questioned the safety of ChemLawn's lawn care services, and privately threatened ChemLawn with litigation over discussions of safety in its public information brochures, according to Stephen Hardyman, ChemLawn's director of public and environmental affairs.

ChemLawn's lawsuit has taken a back seat to the state's, and may or may not be initiated following the state Supreme Court trial, according to Debbie Strohmaier of the company's public and environmental affairs office.

A trial date has not yet been set, but ChemLawn officials are optimistic about their chances

in court.

"We definitely have a story to tell," Strohmaier said. "We're optimistic; we've got science behind us."

The attorney general's office has said that it's not opposed to the use of pesticides, but thinks ChemLawn has responsibilities under the law to properly warn customers of the potential risks from pesticides.

More specifically, the attorney general said that ChemLawn's advertising implies that its applications are:

1. Safe and free from risk of harm.
2. Are safe or safer than use of common household products such as baby aspirin or coffee.
3. Do not cause harm to "non-target" plants and animals.

ChemLawn has not made any changes in its advertising since the court battle began.



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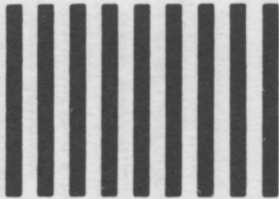
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### **TRIUMPH APPROVED FOR USE ON SANDY SOILS IN FLORIDA**

The sandy soil restriction label found on Ciba-Geigy Corp.'s Triumph® product was recently modified by Florida state regulators to allow for application on most sand-based soils.

Although the label modification was most recently approved in Florida, Ciba-Geigy is optimistic that similar changes will soon be approved in all Southeastern states, according to Doug Houseworth, technical support manager. Houseworth estimated the modifications will be approved in Louisiana, Alabama, Georgia, South Carolina and North Carolina within 90 days.

"That timetable may be optimistic, but the states are very receptive to it," he said. "I've already talked with Georgia — they want the same label as Florida."

The Florida label modification allows Triumph to be used on 90 percent of the



soils in Florida. The product cannot be applied to beaches, Houseworth said.

Ciba-Geigy is working closely with the USDA Soil Conservation Service and the Florida Department of Agriculture and Consumer Services to identify further the types of soils on which Triumph can be used.

Ciba-Geigy originally agreed to the sandy soil restriction on its product in order to get Triumph approved by the Environmental Protection Agency. Since then, additional soil movement studies have been conducted.

Eventually, Triumph will be approved for use on all sandy soil types, according to Houseworth. Ciba-Geigy recently conducted additional movement studies in Florida, New York and New Jersey. The soils in the three states are representative of almost all the soils in the United States. Results of the tests won't be avail-

able until April.

The manufacturers of Triumph have also received news in the last several months that the product is available for grub control on golf course greens, tees and aprons and sod farms in 15 states including Alabama, Connecticut, Illinois, Iowa, Mississippi, North Carolina, Pennsylvania, Virginia, Maryland, West Virginia, South Carolina, Tennessee, Indiana, Michigan, Louisiana, Ohio and Florida.

Previously, it had been restricted to use on home lawns.

A granular form of Triumph is also in

the works, and is expected to receive label approval in time for use this year.

Three other modifications to the Triumph label in Florida include: the water volume has been changed from three gallons per 1,000 square feet to "apply in sufficient water volume to provide uniform coverage;" the watering-in statement has been changed to read, "As soon as application is complete, irrigate treated area with one-half inch water;" and crickets, grasshoppers, billbugs, millipedes and ants (including fire ants) are added to the label.

The watering-in requirement gives ap-



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plicators a little more leeway in the ongoing question over watering-in responsibilities, Houseworth said. In addition, Ciba-Geigy has been conducting dislodgement studies to determine exactly how much watering-in is actually needed for such products.

#### NEW TALL FESCUE PLANT SET FOR FALL DISTRIBUTION

A revolutionary tall fescue named Shortstop, is currently in the initial phase of production with commercial availability expected this fall, according to officials at Pickseed West Inc., Tangent, Ore.

Shortstop is a true dwarf, turf-type tall fescue that represents a breakthrough in tall fescue breeding efforts, according to Jerry Pepin of Pickseed. At Pickseed's research station in Oregon, Shortstop has exhibited the lowest and slowest growth habit of all the varieties tested. Shortstop has performed with an equally high degree of success at university test centers across the country, rating one of the best varieties for overall turf quality and color, according to Pepin.

It's ability to produce a dense, uniform turf in a variety of climatic and soil conditions makes Shortstop ideal for home

lawns, athletic fields, parks, golf course roughs and low maintenance areas.

For more information contact Pickseed West Inc., Tangent, Oregon 97389; 503/926-8841.

#### ECOLAB STOCK REPORTED TO BE 'COMPELLING'

Johnston, Lemon & Co. recommends stock in St. Paul, Minn.-based Ecolab Inc. (ECL), according to a recent report in *USA Today*.

ECL stock is a "compelling investment" at current levels because the shares should be selling for \$30 to \$36 each, but have been knocked down by "unwarranted" concern about earnings at the company's recently acquired ChemLawn lawn-care business, according to the brokerage. Second quarter sales for ChemLawn were down about 4 percent in 1988.

While ECL's "very capable" management turns ChemLawn around using tactics that have been successful in its other businesses, it has strong positions in several niche markets to fall back on, according to Johnston. It predicts ECL's long-term earnings growth to be 15 percent to 20 percent a year.

#### SLUDGE FERTILIZER MAY CONTAIN ASBESTOS

Significant traces of cancer-causing asbestos from sludge fertilizer may be collecting on home lawns, agricultural lands and golf courses, posing health risks, according to a recent article in the *Wall Street Journal*.

Researchers at Cornell University in Ithaca, N.Y., reported that they found asbestos in treated municipal sewage, a common ingredient in some fertilizers. Donald Lisk, professor of toxicology and plant science at the university, said that the group's findings raise safety questions about using treated municipal sludge as fertilizer.

Lisk said that while the Environmental Protection Agency prohibits use of sludge fertilizer if it contains dangerous concentrations of such carcinogenic materials as copper, zinc, arsenic, mercury, nickel, lead or PCBs, the EPA regulations don't cover asbestos in fertilizer.

A spokesman for the EPA, which recently gave out awards for the creative use of sewage sludge, said it isn't considering any regulation at this time.

Lisk said Cornell scientists tested sludge from 15 different New York communities and from five other cities —

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Baltimore, Cincinnati, Dallas, Los Angeles and Philadelphia. He said the group found that the amount of asbestos in sludge ranged from trace amounts to 1 percent of total weight. He said about 25 percent of the sludge, a powdery residue from waste water treated in municipal treatment plants, is used as a soil-conditioning fertilizer for farmlands, golf courses and greenhouses. The rest is put in landfills or dumped in the ocean.

The researchers concluded that asbestos can survive current sewage treatments, but aren't sure how asbestos is ending up in the sewage.

#### NEW MSU LAWN CARE PROGRAM GETS UNDER WAY

Michigan State University and the lawn maintenance industry's first school dedicated to the academic and on-the-job training of lawn care professionals is now under way.

Cliff Jump, director of the school's agricultural technical department, said 12 students have been accepted for the first 18-month program which began mid-September.

"We're pleased in terms of the number of people we have. We're off and running," Jump said. "We've had good business and industry support."

The establishment of the program was largely a result of donations from companies in the industry. The long-term success of the program will depend on a good academic year and good placement of interns, he added.

Eric Miltner, coordinator of the new program, said about two-thirds of the students had some experience in the lawn maintenance industry, while the others are coming into the program with a more golf-oriented background. The average age of the students is 20, but the program is not limited to college-age students. One 40-year-old has enrolled in the program.

Representatives of MSU's Department of Crop and Soil Sciences and the Institute of Agricultural Technology school, joint sponsors of the program, eventually hope to see 40 students enrolled in the school at one time.

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

The program is not designed as a feeder school for a four-year program, but instead boasts a curriculum designed to offer students a combined academic and internship program that prepare them to go straight into the field.

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

most lawn care professionals.

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

Jump said he is looking forward to raising the level of awareness and education in the lawn maintenance industry, and

hopes the program can measure up to industry expectations.

"From the interest we've seen around here, there's a tremendous demand for quality students; especially around the Midwest," Miltner said.

Most of the courses will be taught by MSU faculty, but outside instructors will be brought in to teach classes which have been specially designed for the new program.

Miltner received his bachelor's and master's in agronomy from the University of Georgia and is working toward a Ph.D in turf management at MSU. ■

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# ASSOCIATION NEWS

PLANS FOR THE 13th ANNUAL Associated Landscape Contractors of America student field days are now under way. Milwaukee Area Technical College will host the conference April 7-9.

The ALCA-sponsored clinic is a three-day competitive event among students majoring in horticulture programs from colleges and universities across the coun-

try. The students have a chance to compete in events which are directly related to the skills necessary in the horticulture industry, such as landscape design, sales presentation and surveying.

The program also includes an evening social event to allow participating students to meet and visit with contractors in the landscape industry.



## FOR MORE INFORMATION CONTACT...

### ALCA

405 N. Washington  
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There is also time set aside for students to interview with landscape contracting firms.

In 1987, and again in 1988, the New York State Turfgrass Association contributed \$15,000 to support turfgrass research at Cornell and the New York State Agricultural Experiment Station. Many of the

funds are eligible for matching funds programs with Cornell.

This commitment represents a recognition of the importance of continued turfgrass research by associations and industry professionals alike.

The donations were funded by contributions to the NYSTA's grant program. A variety of golf course organizations contributed more than \$6,000 to the program in 1987.

Industry is also supportive

(continued on page 18)

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of research. In the past year, \$18,250 has been donated by industry to support turfgrass research programs at Cornell University and the Long Island Horticultural Research Laboratory in Riverhead, N.Y. Some of the research topics are: the evaluation of turf species for use under shaded conditions; soil wetting agents and turfgrass growth; and the effect of N, P and K on the water use of Kentucky bluegrass.

The contributing industries are J & L Adikes, Aquatrols Corp. of America, The Fertilizer Institute, Loft's Seed Co., Milwaukee Metropolitan Sewerage District, Nor-Am Chemical Co., O.J. Moer Research Foundation, the O.M. Scott Company and W.A. Cleary.

In addition to supporting research at Cornell, NYSTA has also awarded a \$2,500 grant to Dr. Michael Villani, NYSAES/Cornell University. This grant is to support his research on soil insect ecology/turf entomology.

The Professional Lawn Care Association's first in a series of seminars on recruiting and hiring was recently held in St. Louis, Mo. About 13 people attended the successful seminar, according to

Barry Troutman, PLCAA's director of education.

The recruiting and hiring seminar takes the attendee through a full course on selecting and hiring employees. From the design of the application to the job offer, the course touches on every aspect of finding the right employee for your company.

Three more recruiting and hiring seminars will be held throughout January and February. Classes are limited to 20 people per session. Class will start Jan. 23 in Philadelphia; Feb. 6 in Hartford and Feb. 15 in Orlando.

The course is \$215 for PLCAA members and about \$265 for nonmembers.

PLCAA is also offering a train-the-trainer series designed to take an intense and comprehensive look at the principles of training. The two-and-a-half day series will be offered Jan. 23-25 in Chicago, Feb. 6-8 in Philadelphia and Feb. 13-15 in Detroit.

Upon successful completion of the workshop, each participant will become a certified PLCAA trainer. Classes are limited to 24.

The training workshop is \$395 for members and \$455 for nonmembers. The registration fee includes materials, video and four meals.

The first meeting of the newly formed Association of Professional Landscape Designers will be Feb. 18 in Bethesda, Md. More than 100 landscape designers from 14 states have expressed interest in this new national professional design group, according to Dee Kruschwitz, public information chairman and treasurer for the association.

Some of the associations' goals are: to educate the public to the importance of good design, to upgrade the visibility and credibility of the profession, to establish standards for membership and to encourage linkage with all landscape related groups.

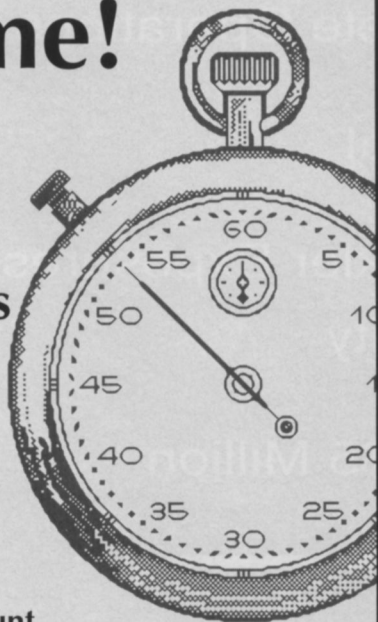
The Bethesda meeting will be held in conjunction with a two-day symposium on landscape architecture and design titled "Leaving no Stone Unturned III," Feb. 17-18, at the Bethesda Holiday Inn. The keynote speaker at the symposium will be Scott Girard, chief landscape architect for Disneyworld (Magic Kingdom and Epcot), Euro-Disneyland and Tokyo Disneyland.

Donna Swansen of Ambler, Penn. was elected the first president of APLD and Margaret Connors, director of programs and education for the Massachusetts Horticultural Society was elected vice president. Swansen and Connors co-founded the APLD. ■

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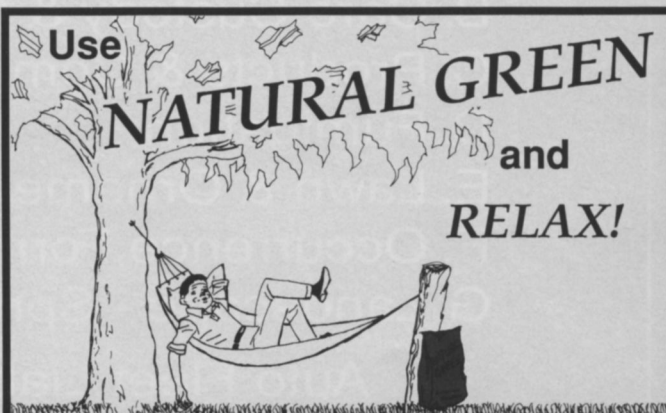
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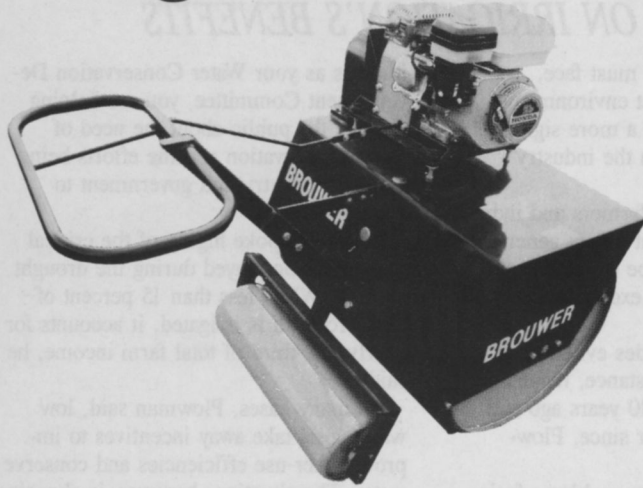
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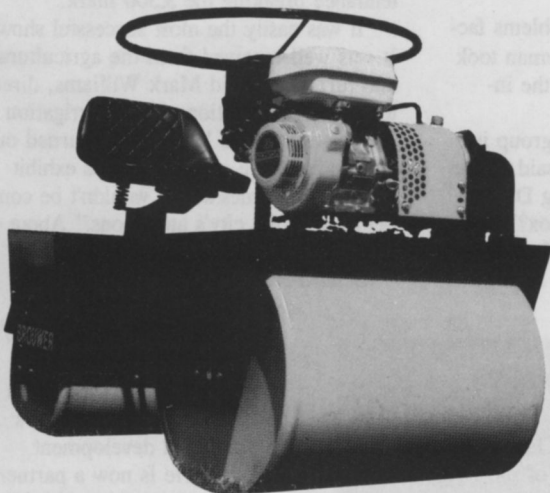
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## FOCUS ON:

### IRRIGATION

#### PUBLIC EDUCATION NEEDED ON IRRIGATION'S BENEFITS



Photo courtesy of Weathermatic

IN ORDER FOR IRRIGATION TO survive as a powerful force in the lawn and landscape industry, maintenance professionals must convince the public that its benefits far outweigh its harmful effects.

This was the message directed to more than 500 attendees of the Irrigation Association's Ninth Annual meeting by R.D. Plowman, administrator of the U. S. Department of Agriculture Research Service.

"Water shortages will continue to cause a decline in irrigated acreage," Plowman said. "In parts of Arizona and Texas the mining of groundwater has forced many farmers to stop irrigating crops. And wherever water-use priorities become an issue, people will win out over crops every time."

While water shortage problems are a

realization the industry must face, Plowman cautioned that environmental concerns are becoming a more significant issue — an issue which the industry needs to address.

"The second reality farmers and industry must adapt to is that a new generation of the public needs to be convinced that irrigation's benefits far exceed its harmful effects," he said.

Statistical data provides evidence of these problems. For instance, irrigated acreage peaked about 10 years ago and has been declining ever since, Plowman said.

While citing the many problems facing the United States' irrigation industry, Plowman also said that the solution, as far as irrigation problems are concerned, is obvious.

"No matter how you cut it, the solution is to increase water-use efficiencies on irrigated land. Efficient irrigation systems target water to the crops when they need it," Plowman said. "Less water applied in the field means less movement of soil between rows, less tail water runoff, less leaching of chemicals and salts through the soil and less mining of groundwater."

In addition to the serious problems facing the irrigation industry, Plowman took the opportunity to congratulate the industry on its successes.

"It is to your credit that this group is heeding the call to action," he said. "The theme of your meeting, 'Making Deserts Bloom: Panacea or Pandora's Box?' indicates to me a strong degree of environmental consciousness. Through such in-

itiatives as your Water Conservation Development Committee, you are helping educate the public about the need of water conservation and the efforts being made in industry and government to achieve it."

Plowman spoke highly of the critical role irrigation played during the drought of 1988. While less than 15 percent of U.S. cropland is irrigated, it accounts for nearly one-third of total farm income, he said.

In many cases, Plowman said, low water costs take away incentives to improve water-use efficiencies and conserve water. The situation, however, is changing and will be one of concern in future state and federal legislation.

"Political debate reflects a healthy concern and a willingness to work toward solutions, but we can't stay on the sidelines," he said. "When science, technology and good management principles are left out of the debate, the political solutions often fail."

While Plowman was an obvious hit at the Irrigation Association's November conference, there were plenty of other highlights. One of which was record attendance breaking the 3,500 mark.

"It was easily the most successful show. It was well-received from the agricultural and turf side," said Mark Williams, director of communications for the Irrigation Association. "Las Vegas really turned out to be a plus. We compressed the exhibit and meeting times so we wouldn't be competing with the city's attractions." About 265 exhibitors participated in the show.

Richard Hunter of Hunter Industries, San Marcos, Calif., was elected the 32nd president of the Irrigation Association. Hunter entered the irrigation industry in 1974 with Toro's research and development division. He is now a partner in Hunter Industries with his brother and sister.

His father, Edward Hunter, founded Moist-O-Matic in 1952 and is an Irrigation Association Award winner.

The 10th Annual Irrigation Association Conference and Show will be Nov. 12-15 in Anaheim, Calif. ■

#### WATER CONSERVATION CONCERNS MOUNTING

A LEGISLATIVE BILL TO promote water conservation through proper landscape irrigation will be a priority of the California Assembly this year.

The general purpose of the legislation is to require cities and counties to administer programs by which irrigated landscapes are made water conserving in nature. The bill is in its preliminary stages and was authored

by California Assemblyman Steve Clute.

Steve Swenerton of the Toro Co., Riverside, Calif., and Bill Pogue of the Irrometer Co., Riverside, Calif., are representing the interests of the Irrigation Association as the bill develops, according to Mark Williams, director of communications for the Irrigation Association. Swenerton and Pogue

met with Clute, and outlined the concerns of the irrigation industry.

Talk of the bill follows in the footsteps of a statewide conservation program recently announced in California. It's designed to save water used for irrigating urban landscapes and agriculture; and is expected to encourage residents to make more effective use of water.



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# Sam Russo: Cutting A Path to Success in Mowing

**D**ESPITE EARLY ACHIEVEMENTS IN THE MOWING maintenance industry, Sam S. Russo is still not completely comfortable with the word success. Perhaps that's part of his charm.

After running Sam S. Russo Landscaping Co., Bayville, N.J., for six years, Russo could easily be termed an overachiever by anyone's business standards.

At full capacity, Russo's company has seven five-man crews and four two-man vacuum trucks cutting lawns at 12 retirement communities. With each crew averaging between 250 and 300 lawns a day, the company cuts just under 2,000 lawns per day. Each community averages about 500 homes per community with lots ranging between 4,000 and 5,000 square feet.

Not bad for a 28-year-old who more or less fell into the lawn and landscape maintenance industry.

"So many landscapers move along doing so many jobs one year, losing them and moving to another location to start all over again. I must be doing something right," he concedes. "Still, I never considered myself successful. I just think you should treat people the best you can with the budget you have to work with."

Every complaint the company receives is logged and personally attended to. "We average less than 1 percent complaints in our communities," Russo said.

Though mowing is Russo's forte, he brands his business as a full-service landscape company offering edging, trimming, fertilizing, insect and weed control — anything the customer needs.

Before Russo Landscaping got off the ground, Russo worked as a videotaper, taping the insides of pipelines in New York City until a severe motorcycle accident in 1982 forced him to take another look at his professional career.

It was during rehabilitation that he got his first taste of mowing. To strengthen his legs, Russo began helping a friend cut lawns. "It began as therapy and turned into a vision," he explained. "Prior to that I had no real interest in the field."

With the help of his dad, a pickup truck and several mowers, Russo got his start in the landscaping business in 1982. Sam S. Russo Landscaping Co. was incorporated the same year, and Russo signed his first commercial contract in 1983 — Holiday City West, an adult retirement community. Russo's first contract turned out to be a winner as he's still responsible for that property today.

"Our first goal is to keep every community as happy as we possibly can," Russo said. "We do that by answering all of our complaints properly. We treat every problem or occurrence that comes up with top-level regard."

"Sometimes it means giving a little. If that's what it takes to keep our customers happy, then that's what I've done," he said.

From the onset, Russo has maintained the attitude, "Walk before



Sam S. Russo handles landscaping projects as well as mowing. Photo: Stephen Stacy.





you run." And apparently, it's paid off. At a pace of about two new communities per year, Russo has gradually built his company from a \$150,000 a year business to more than \$2 million in 1988. In that time, he hasn't lost one of his commercial contracts and is now considered the largest mowing maintenance contractor in New Jersey, and said to be one of the largest in the United States.

"One of the things that we're looking at is to continue this pace of adding one or two communities a year, and never having to backtrack — never having to leave what we're already doing."

In 1983, revenues jumped to \$400,000. In 1984, the company added two more commercial contracts, bringing the years' revenues to \$800,000. Three contracts were added in 1985, bringing revenues to \$1 million. In the next two years, two contracts were added each year, generating revenues of \$1.5 million in 1986 and 1987. By the 1988 season, the company was going strong with 12 commercial contracts, bringing in more than \$2 million.

As communities were added, so were employees. Russo's general foreman, Mike Walsh, has been with the company since its inception. Seven other foremen have been added to run one crew each of five men.

Russo's labor force is about 60 people, but due to turnover, he goes through 80 workers in the course of a year. He sees little to no turnover in his management staff.

All foremen are employed year-round, however, most crew members are laid off for about two months during the off-season. Foremen generally make at least \$12 per hour after working at Russo for three years. Crew members generally start at \$5 an hour depending on their responsibilities.

If, after three years, a crewman doesn't become a foreman it's not because the opportunities aren't there, it's because they don't want the responsibility, he said.

Russo's company primarily targets retirement communities, but is beginning to pursue contracts from condominium complexes as well. Although the company accepts residential and government jobs, the retirement communities were initially targeted because the properties didn't have fences or retaining walls, making it ideal for Russo's creative mowing techniques.

Russo's mowing system is set up so the mowers follow one another

*The driving force behind  
Sam S. Russo Landscaping,  
Bayville, N.J.  
Photo: Stephen Stacy.*



in perfect lines, driving from one end of the complex to the other. A crew works like this: two crewmen ride mowers in the back, one in the front and one on the sides. When the catchers are

full, the men dump the grass out by the street where two men in a truck pulling a vacuum come and suck up the grass in a matter of minutes.

A separate truck is also on

hand to drive around and fix sprinkler heads or other problems. "As I got bigger, it benefited me. I was able to regulate crews better," he said.

Family still plays an impor-

tant role in Russo's business. With his mom, Joan, serving as treasurer, his wife, Sue, secretary and his dad, Sam — a 27-year employee of Ciba-Geigy — vice

(continued on page 26)

## THE ROAD TO SUCCESS IN THE MOWING MAINTENANCE INDUSTRY

SAM S. RUSSO ATTRIBUTES MUCH OF HIS SUCCESS to his family, staff and simple work ethics.

"I just think you should treat people the best you can with the budget you have to work with," he said. "They'll remain happy, because we cared."

With virtually no professional advertising, Russo's company has achieved success because of four things: honesty, sincerity, dependability and ambition.

"You have to do an honest day's work for a dollar; no quick-rich gimics," he said. "You have to provide a service which stands out. It might cut your profits momentarily, but in the long-run, it spells success. You don't get away with cheating."

Although the need for professional landscaping has grown dramatically, sooner or later it's going to peak and only the well-established companies will survive, he said. That's when quick-rich gimics will come back to haunt you.

To help professionalize the business and bring local pricing up, Russo has toyed with the idea of starting a New Jersey grass cutters association. He said the association would set guidelines and standards for mowing contracts, hopefully promoting the industry somewhat like a Better Business Bureau.

Initially, Russo's pricing strategy was simply to remain com-

petitive. Something like a profit margin wasn't worked into the formula. Gradually, however, Russo began figuring in a profit margin until it became just as much a part of the budget as labor and equipment: one-third labor, one-third equipment and one-third profit.

"I was always sure I would never lose — I would always have a profit," he said. "Consequently, with no downtime, I now can turn more than a one-third profit."

Russo hopes to add security to his company by insisting on three- to five-year contracts, rather than holding annual negotiations.

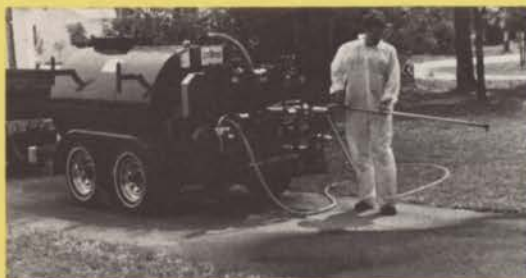
Innovation is another area responsible for the success of Russo Landscaping. From the crewmen, to the machinery to the service, Russo continually tries to improve his product.

"We've spent the past six years perfecting methods of properly servicing communities that are unmatched in the lawn maintenance profession," he said.

Among them are the crew system of one foreman to every five employees ensuring fast, safe performance from each crew member; offering a variety of services to maintain a manicured landscape year-round; good communication systems for fast response time; and state-of-the-art equipment maintenance facilities.

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president, Russo can keep his hands-on management style working.

"I'm a field person. I like to spend as much time outside as I can," he said.

More recently, however, Russo has had to don a suit and tie in conjunction with meetings to retain and attain new business.

Until now, Russo has gained his reputation and business through word-of-mouth. But this year, Russo will venture into the world of advertising. The company is in the process of developing a color brochure to show potential customers what his company has to offer, as well as what it has accomplished in six short years. As reinforcement, he will also advertise in telephone directories.

With the brochure, Russo expects to see the company's biggest explosion of growth. By the early 1990s, he plans to be servicing 20 communities with a staff close to 100. Once he reaches that goal, Russo wants

to level off growth and maintain his business.

Russo also hopes that his company brochure will encourage the signing of three- to five-year contracts. "I hope it serves as a transition into multi-year contracts," he said.

As the demand for mowing maintenance services increases, Russo notices increased competition in his area, but said he doesn't mind. In fact, he prefers it.

"When you're good at what you do, there are no real competitors," he said. "I prefer to look at them as associates." An unusual situation also puts him in the position to help his competitors.

Because of the large number of mowers Russo Landscaping uses — about 60 — Russo started a power equipment business to handle his company's service needs. The business, Bay Holly Inc., also serves as a Walker dealership, where he stocks three parts to every piece of equipment on hand. He also serves as a dealer for Snapper, Feldmann, The Green Machine

and Giant Vac.

More recently, Russo bought Ace Mowers, a local small-engine repair shop, which will benefit Russo's equipment demands as well as that of his competitors.

"There's enough room for everybody. If there isn't, we're doing something wrong," he said.

As his business continues to grow in leaps and bounds, Russo keeps a familiar motto in the forefront of his mind, "Keep things simple. Don't let things get complicated." It's a saying passed on to him from Bob Walker of Walker Manufacturing, and one he'll never forget.

And for a man with such a successful company, his strategies are fairly simple. What it all boils down to is being happy with himself and his business.

"I'm in it for the long haul, not a short-term basis. I'm doing the things I need to be here tomorrow," he said. "The day I'm satisfied with the way operations are running, I'm finished."

In the following interview, Sam Russo shares the ins and

outs of running his mowing maintenance business.

**Q** How long does it take each crew to do a community?

**A.** A crew consists of two Walker lawnmowers in the backyard, one Walker mower in the front and one Walker mower doing the sides. That crew should take home between 200 and 300 lawns, depending on the size of the community, a day. With seven crews out there, we're doing just under 2,000 lawns a day. That's when we're strictly on grass.

**Q** What does a crew do when they're not cutting?

**A.** In the spring and fall we do aerations and seedings. In summer we primarily cut lawns. In the winter, we do snow removal. But cutting is always our primary business. We try not to get sidetracked. We make sure that all of our cutting is done, and all of our communities are happy and satisfied. Then, if there's excess personnel we'll venture in-



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In addition, all of our machines are annually taken apart, painted and restored to their original condition before springtime. We have some 60 machines that we're going to be doing this year at a rate of about four a week. Every nut and bolt, and every nook and cranny is gone over.

**Q** How big is the landscape portion of your business?

**A.** The demand for our landscaping jobs is increasing every year. We are probably only satisfying about 10 percent of our landscaping demand right now, because our claim is

that we take care of our communities' cutting first. That's what brings our bread and butter in for the longest duration of the season. When we have all those operations caught up then we'll venture into our landscaping. Or on rainy days, we'll do landscaping.

Right now, we're also taking care of most of the renovations for a local Lawn Doctor franchise. I started working for him back in 1983, doing all of his renovation work, aerations, thatchings and seedings and I've been doing them all right up to the present. We probably handle 400 to 500 lawn renovations a year for the franchise.

**Q** How long does your cutting season last?

**A.** Our cutting stopped around the end of November. However, some of our communities decided to add two or three cutting cycles at the end of the year, providing them with a fall cleanup. The extra cycles pick the leaves right up off the lawn, in addition to cutting the lawn

down for winter.

More and more communities have caught on to that idea, and are calling us for additional mowing cycles. If we time it right, and they structure it so they have two or three cuttings throughout the fall season, they'll be no need for a fall cleanup. So even though we really stopped cutting about a month ago, we're still cutting and cleaning up. Our cutting season starts April 1 and ends maybe Nov. 15. Then we'll pick up the leaves with the mowers until about Nov. 30.

**Q** How do you instill company pride in your employees?

**A.** Whenever I give an interview, I always try to mention them. I'm famous in meetings for always saying "we." I use the word "we" because I couldn't do it by myself. I think I have the cream of the crop — the best bunch of guys out of any other landscaping company in the country. That revolves around my mom being the treasurer, my wife being the sec-

retary and my dad as vice president. And that relieves me of all worries as far as the office is concerned. With that being the core — a family-run operation — it allows me to spend as much time in the field with my general foreman as I possibly can. I wouldn't be able to do that if I didn't have my family running the office.

**Q** Do you own all of your equipment or do you lease it?

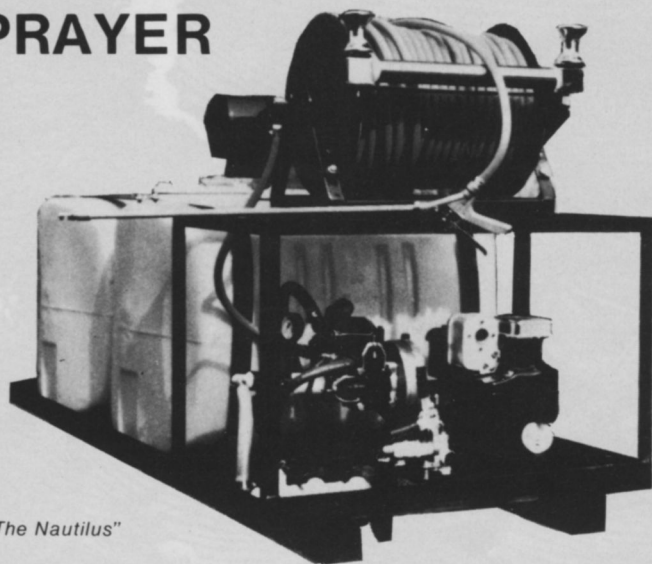
**A.** We own all of our equipment outright. That was one of the things I set up in the structure of this business. By owning all of our equipment, including the facilities that we work out of, it put me in a market where I was able to ... well, it put me in the easy seat. I structured everything for a rainy day and gained my largest stronghold by owning my own equipment.

**Q** What has been the most dramatic change in your  
(continued on page 70)

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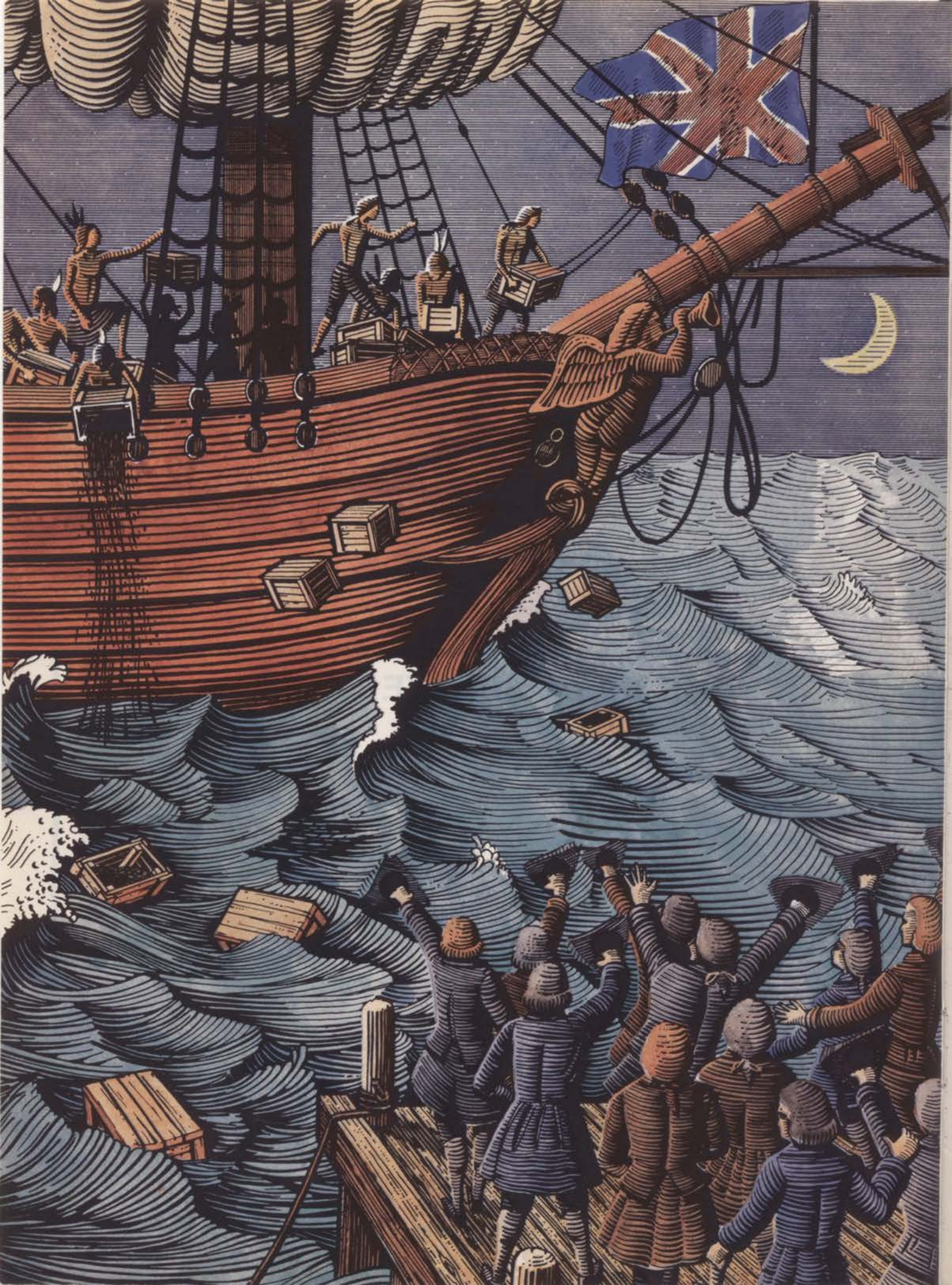
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# What's This About a Groundwater Crisis?

**W**ITH HALF OF THE nation dependent on groundwater for drinking, it's not surprising that the threat of groundwater contamination by pesticides and fertilizers used in farming and lawn care has emerged as the hot environmental topic in recent years.

With more than 90 percent of Americans living in rural areas using groundwater for drinking, it's understandable that fear of contamination of this fragile resource is a particularly emotional issue. As one Senate Agriculture Committee staff member put it

— there just isn't enough money to fix the groundwater once it's contaminated.

A survey of experts from the federal government, industry and universities indicates efforts to prevent groundwater from contamination will receive high priority over the next decade. However, the efforts now aim primarily at defining the problem and identifying sources of contamination rather than regulation. Meanwhile, attention increases on education and training for turfgrass managers and farmers to prevent groundwater contamin-

ation.

Until recently, there has been little interest and virtually no funding for research into the potential for contamination from pesticides and fertilizers used in the lawn maintenance industry. For that reason, little is known about the impact of pesticides and fertilizers used by commercial turf applicators, according to experts.

However, early reports from university researchers, "are very positive" for the lawn maintenance industry, according to Jim Wilkinson, executive director of the Pesticide Public Policy

## PREVENTIVE MEASURES NEEDED TO AVOID CONTAMINATION

SINCE IT MAY BE TOO COSTLY TO REVERSE groundwater contamination, researchers at the Environmental Protection Agency emphasize preventing pesticides and fertilizers from entering invaluable water supplies.

While work continues to define the groundwater contamination problem and identify sources of contamination, EPA scientists are placing much attention on education and training in the use of pesticides and fertilizers in lawn care.

In May, the EPA's Office of Pesticide Programs introduced its first extensive training package, "Protecting Groundwater: A Guide for the Pesticide User," which includes 63 slides and a lengthy manual. Though the training package relates more to agriculture, it deals with many common principles that also apply to lawn care, according to Chuck Reese, chief, certification and training branch, Office of Pesticide Programs.

The principles include properties of pesticides and soil, site conditions and management practices, such as application methods, rates and timing and preventive measures, he explained. At the same time, workshops designed to develop groundwater management plans are being held in each state by the EPA's regional offices.

The training package may be purchased at the Cooperative Extension office in each county for \$75.

Work is also under way to produce materials on integrated pest management, a more sophisticated approach to turfgrass management that promotes less use of pesticides and fertilizers.

Within the EPA's Program Communication Branch, the Office of Pesticide Programs works on an array of books, brochures, videos and workshops on integrated pest management including:

- A video training film for the turfgrass management in-

dusty. This film, designed for grounds superintendents and contractors, is planned for release next fall.

- Regional workshops, which include a total package of training accompanied by a field manual. University experts from around the nation will make the presentations, which EPA hopes will attract participation from groups such as the Professional Lawn Care Association of America and the Golf Course Superintendents Association of America.

- A brochure designed to help the public choose a professional lawn care company.

"Our ultimate goal is to get out public information," said Anne Leslie, a biochemist who has recently completed a book, "Integrated Pest Management for Turfgrass and Ornamentals." The book will soon be published by the government printing office.

Leslie explained the book is a collection of technical papers on alternatives to use of pesticides and the cultural management techniques that contribute to better turfgrass.

Leslie said industry can "do a lot more monitoring of pests." Early lawn care policies promoted spraying the whole lawn for pests rather than spraying based on specific need. "They're (lawn care specialists) now scouting, looking for the pests and determining if it is at a damaging level," she said.

Examples of these alternative cultural or biological controls include cutting grass at a higher level to shade out dandelions, cutting more frequently and leaving the clippings as nutrients and never removing more than the top third of the grass blade, Leslie said.

"Integrated pest management is more sophisticated, information intensive and tends to take more manpower, but in terms of cost, it is very cost effective," she added.



Foundation.

"We are learning more and more every day, and what we are learning is that fertilizers and pesticides used on lawns do not pose a risk to groundwater contamination," Wilkinson said.

"When fertilizer and pesticides are applied in agriculture they are applied to bare or fallow soil with no crop growing," he explained. In lawn care application, he said, the live organic matter and thatch beneath the turf and dense and fibrous root system play a role in mitigating leeching.

One of the foremost researchers in turfgrass management, Michael Sullivan, an agronomist at the University of Rhode Island, said "there needs to be a great deal more work and education" in this area.

"Now people (applicators) are beginning to question what they are doing themselves. Lawn care trucks are very obvious," Sullivan said. "There needs to be a great deal of sociological and technological research done."

For example, he explains, "researchers are looking at improved grasses that need less nutrients and pesticides." The question is, according to Sullivan, "how do you tell a homeowner about the potential environmental impact of the application?"

Sullivan predicts research will focus on "prescriptive" application of pesticides and fertilizers. This approach to lawn maintenance would use "minimal nutrients and pesticides and still provide that lush green vista."

Though Sullivan declined funding for his work from industry to avoid a perception of bias, he said "the lawn care industry for the most part is trying to do quite a bit to educate themselves and the public about sound groundwater protection practices.

"They are not selling a chemical but a service. If they can produce the same service with less pesticides, they will."

In that vein, the single most important concern lawn maintenance operators must address is "the need for education of applicators themselves to minimize the potential for contamination," according to Wilkinson, who called upon the industry to help educate the public on the relationship between lawn care and groundwater quality.

Wilkinson explained that potential groundwater contamination from pesticides and fertilizers used in lawn care "is a relatively new issue" just now surfacing.

He suggested lawn care operators take the following actions:

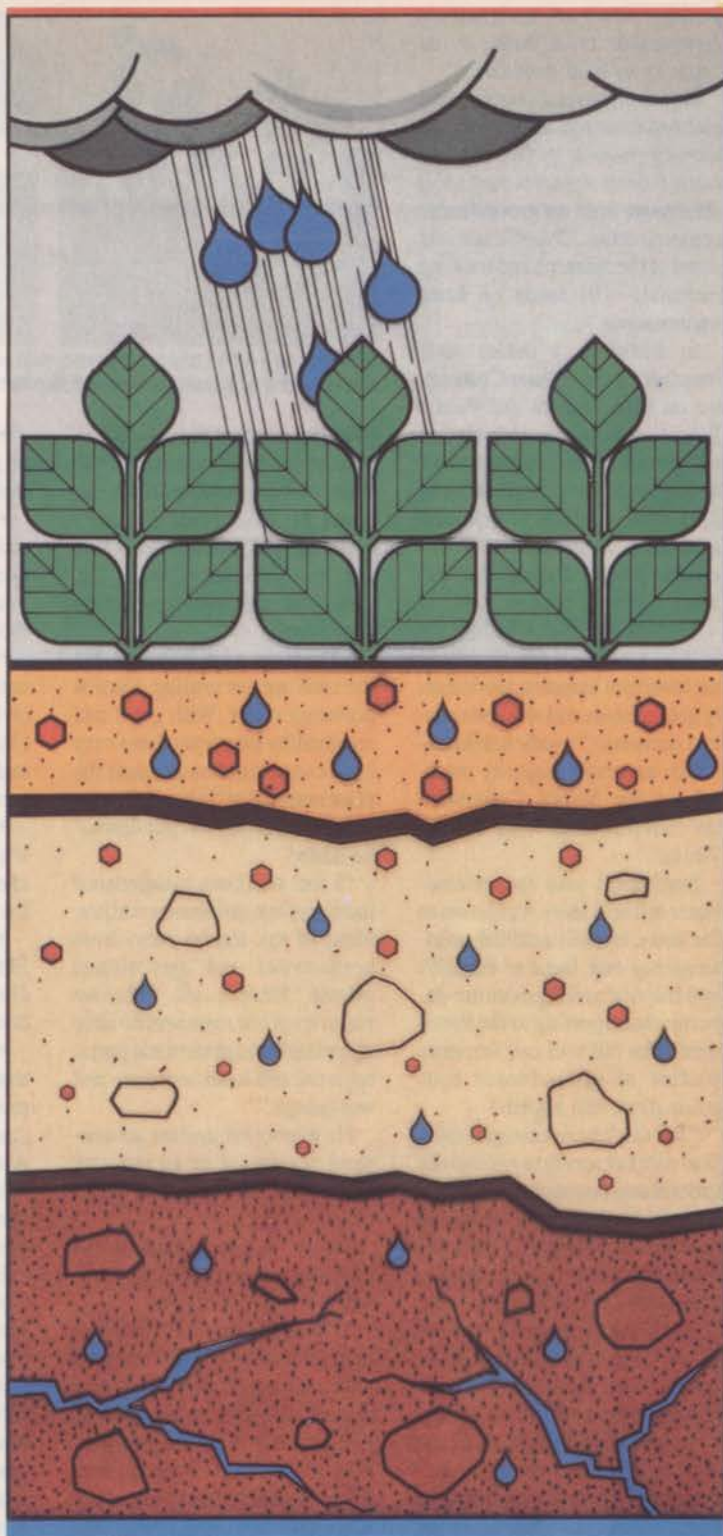
- Minimize or avoid the excessive use of nitrogen fertilizer in pesticides.

- Utilize slow-release forms of nitrogen fertilizer, leading to less potential for groundwater contamination.

- Use fertilizer at the times of year when the grass can most efficiently use it—using less fertilizer in the fall.

- Make sure pesticides and fertilizers don't get left on impervious materials, such as sidewalks, driveways and streets.

Anne Leslie, a biochemist at the Environmental Protection Agency, agrees little is known about the impact of pesticides and fertilizers used in lawn care. Her



By observing some simple precautions, applicators can reduce the risk of agricultural chemicals reaching groundwater. Illustration: Institute of Food and Agricultural Sciences, University of Florida.

research focuses on turfgrass management.

"The bottom line is that we have practically no information and very few studies (on groundwater contamination from turf pesticides) because it is not a priority," Leslie said. Agricultural land and turfgrass don't have the same characteristics, she said. "A



healthy stand of turfgrass is comparable to a forest in its capacity to hold pesticides."

However, several ongoing and planned research, education and training projects by the EPA and other federal agencies may soon shed more light on groundwater contamination. EPA officials said some of the research and training materials will focus on lawn maintenance.

In addition, a senior staff member of the Senate Committee on Environment and Public Works predicts major legislation on groundwater quality will be approved by Congress early next session. Nan Strockholm said such a groundwater bill nearly passed during the last session.

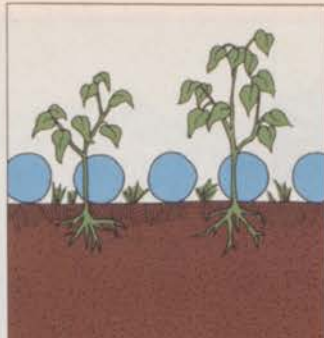
"I think there is a feeling we will be looking more closely at the lawn care industry, particularly golf courses and to a lesser extent domestic," predicted Strockholm, associate majority counsel on the Senate Committee on Environment and Public Works.

Strockholm said the groundwater bill will leave regulation to the states, but will establish an interagency task force of the EPA and Interior and Agriculture departments reporting to the President. The bill will call for more studies of groundwater contamination, she added.

"We don't have enough statistical data to know how serious the groundwater contamination problem is. We have local instances that are very serious," the staff member explained. For example, "there are 2,000 families on Long Island drinking treated or bottled water" due to contamination of groundwater from the pesticide aldicarb, used on potato plants. Despite vague information concerning groundwater contamination from pesticides applied to turf, commercial applicators are generally environmentally conscious because of their knowledge of turfgrass management and service orientation.

"Good grounds and good grounds management help control groundwater contamination," said Allan Shulder, executive director of the 1,500 member Professional Grounds Management Society.

Shulder pointed out that a survey by the State of Connecticut revealed that commercial ap-



The industry offers products which help water reach the rootzone before it evaporates or is lost due to runoff. Illustration: Aquatrols Corp. of America.

plicators account for only 6 percent of the pesticide use in the state, while homeowners account for 61 percent and agriculture for 33 percent. This survey was conducted when the state was considering posting regulations.

"There are a lot of stories that the stuff we are putting down is polluting water. With good turf and healthy plants you have very little contamination because the plant material will absorb 95 percent of anything you put down," he added.

"I feel we (lawn maintenance industry) are environmentalists. Most of the abuses stem from homeowner and agricultural misuse," Shulder said. "The vast majority of our members do keep up to date through the trade press, regional and local seminars and workshops."

He cautioned against government regulation of an industry rather than of the use of pesticides.

Major developments in the EPA's examination of the groundwater problem include:

- The 1988 Interim Report, Pesticides in Groundwater Database, indicates that 77 pesticides used in agriculture were reported in groundwater in 39 states. However, if the data is limited to confirmed, quality data of known or suspected field use origin, the results indicate that 46 pesticides were reported in groundwater in 26 states.

The report further reveals that 18 of the pesticides were reported in groundwater at levels equal to or above proposed or established health advisory levels. Seven of these pesticides have either been banned or are under severely restricted use. The health advisory levels have been developed for 62 pesticides as part of the national survey of pesticides.



- The two-year national survey of pesticides in drinking water wells.

- Release of the first of two training packages for pesticide users with work on a second, package of "tried and true methods" to be released in 1990.

- Preparation of a video, manuals and workshops focusing on less use of pesticides and fertilizers on turf through biological and cultural turfgrass management practices.

- Groundwater data call-in, which gains environmental chemistry data on pesticides in the registration process.

- Release early this year of the EPA's Agricultural Chemicals in Groundwater: Proposed Pesticide Strategy.

- Continued EPA support for a state-by-state well head protection program spawned by the 1986 amendment to the Safe Drinking Act. A New Orleans conference on well head protection last month drew 300 state and local officials from across the country.

In addition, federal officials view the passage of the Federal Insecticide, Fungicide and Rodenticide Act amendment in the last session of Congress as significant. It mandates evaluation of the reregistration of older pesticides over the next 10 years, which will yield \$10 to 12 million a year for work on groundwater contamination.

Research, education and training concerning groundwater quality now has "higher priority" than a few years ago, according to Patrick Holden, leader of the Groundwater Team in the EPA's Office of Pesticide Programs.

"We're still trying very hard to define the parameters and how significant the problem is," Holden said. But, he added, resources under the Reagan ad-

ministration "are very, very tight."

Other measures in the bill designed to protect groundwater quality weren't included in the final amendment because "it was just too hot to handle during an election year," he speculated.

Holden recalled "that it wasn't until 1979 that people became aware pesticides had the potential to enter groundwater." He said the perception that pesticides would fully degrade and dissipate "was the kind of thinking critical to the development of pesticides."

In the early 1980s researchers began to detect pesticides through "hot spots" such as Long Island and California. States began to do monitoring studies and found pesticides in groundwater, generally at low levels.

"Certainly within the next three to five years we will know more," he predicted.

Strockholm said Congress is "quite concerned" about the presence of pesticides in groundwater, partly due to public concern. However, she doesn't foresee development of national standards for groundwater quality.

There are maximum contamination levels for pesticides in drinking water mandated by the Safe Drinking Water Act. The act, which was reauthorized in 1986, identified more than 50 pesticides and has established maximum contamination levels for six. These standards only affect community wells with 20 or more hookups, according to Holden.

Tom Watschke, a Penn State University agronomist, warned against making premature judgments that lawn care pesticides and fertilizers are contaminating groundwater. He said studies of both runoff and infiltration from home lawns are nearing completion and results may be presented early next year.

One study is on water quality research funded by the Department of Interior's U.S. Geological Survey, and the other is the Northeast Regional Research Project funded by the U.S. Department of Agriculture. The latter project involves researchers from Penn State, Rhode Island, Cornell, Maryland and Virginia. — Michael Marcellino

Marcellino is a free-lance writer based in Cleveland, Ohio.



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# Superdome Setting Site for Several PLCAA Firsts

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**A** NUMBER OF firsts were accomplished at the Professional Lawn Care Association of America's recent Superdome trade show in prelude to this year's 10th anniversary celebration.

The arena setting of the Superdome was unique to the PLCAA convention circuit, certification credits were given to lawn and landscape maintenance operators in more than 20 states for attendance at the convention's seminars, the association sold more island space than ever before — with a significant increase in equipment exhibitors and a last-minute silent auction to benefit the association's defense fund raised more than \$22,000.

All of this, notwithstanding the 1,301 attendees and 185 exhibitors, made the New Orleans show quite a success, according to Jim Brooks, PLCAA executive vice president.

"It was another successful show, generally speaking," he said. "I think attendees enjoyed it a great deal, and it was one of

the prettiest shows we've had."

Brooks did admit receiving mixed reviews from the show's record number of exhibitors.

"Some felt it wasn't as good a show as it has been in previous years, while others thought it was great," he said. "We kept traffic constant, but they weren't necessarily appearing in large groups. We've sent a survey to exhibitors, but we have no definitive summary yet."

Some equipment exhibitors took advantage of the "full service" atmosphere and made a larger-than-life splash at the show, creating concern among some manufacturers of chemicals. "They were climbing all over the equipment," complained one exhibitor, who asked not to be identified.

While reviews of the show were as varied as those of a movie playing in a local theater, many attributed exhibitor concerns to the size of the Superdome. The massive size of the Superdome created a deceiving atmosphere for judging crowd size.

More than 46,000 net square feet of space was allocated to the 185 exhibitors, giving exhibitors

larger booth spaces and increased room between exhibits. Attendees also had the luxury of walking through wider aisles to get to the items they wanted to see.

With more exhibit space devoted to equipment manufacturers than in previous years, attendees trying to visit a variety of booths may have also limited their time at any one booth.

"My company's getting ready to add mowing to our services and I really needed to spend my time with the mowing guys," said one attendee.

For competitive reasons, other attendees said, they had to start thinking about adding new services to their business operations, which meant spending less time at any one booth.

Of the 185 exhibitors, about 68 were equipment manufacturers, 57 were chemical manufacturers and the remaining offered a variety of products from seed to marking flags.

The demand for more equipment knowledge intensified at the outdoor demonstration where more than 350 gathered to gain hands-on experience with mowers, aerators, sprayers, asphalt

## PLCAA MEMBERSHIP FEES MAY INCREASE

THE 1,300 OR SO MEMBERS OF the Professional Lawn Care Association of America may soon be paying substantially higher dues.

Jim Brooks, PLCAA executive vice president, said such a recommendation is currently under review, and may be decided on as early as February. If an increase is approved by the board of directors, it would go into effect July 1. The PLCAA year runs from July to June.

Brooks said money raised from the

increase in membership dues would be placed in the issues management fund — previously known as the defense fund.

Brooks anticipates some membership attrition due to the higher fees, but hoped that if handled properly, PLCAA members would understand and accept the increase.

Beginning this year, PLCAA intends to substantially increase lobbying efforts in the federal government, expand its role as primary spokesperson at all

levels of government, obtain additional legal counsel to interpret and respond to legislative issues, increase its presence at the federal agency level including the Environmental Protection Agency, Department of Transportation and the Occupational Safety and Health Administration, increase support and assistance to local and state organizations to understand and combat unrealistic ordinances, and reallocate and increase PLCAA resources both in revenue and personnel to accomplish its strategic plan.



sealcoaters and more.

In New Orleans, nearly 18 hours — including three at the outdoor demonstration — were devoted exclusively to exhibitors. Despite that record number, Brooks said, the board will reassess the number of trade show hours and may decide to pare them down in order to attract more people to the exhibit area at one time.

Planning the next show will be a particularly challenging task due to the location of the show — Las Vegas. Show hours will have to be scheduled so as not to compete with the lure of the city, Brooks said.

Attendee involvement throughout the show was enough to spark the auction of more than \$22,000 worth of products from about 28 different companies during the silent auction.

PLCAA's first silent auction brought show attendees and exhibitors together to share in fund raising for the association's defense fund. Boards were placed at each participating exhibitor booth on which bidders wrote their price for a particular product. At the close of the show, the highest bidder bought the product, with proceeds going to the PLCAA fund.

The association's defense fund, or issues management fund as it will be referred to in the future, benefits the whole industry as it strives to promote the services of lawn and landscape maintenance operators in a positive light.

The silent auction will be held again in Las Vegas. Elanco, Ciba-Geigy and Dow Chemical were the top exhibitor participants in the auction.

**CERTIFICATION CREDIT.** About 75 people attending the

educational sessions received state certification credits, previously not available through attendance at PLCAA's well-regarded educational track.

Barry Troutman, PLCAA director of education, said all 50 states were contacted prior to the New Orleans show and about 22 states were interested in granting credit — primarily in the agronomy track of the educational program.

"We should be able to expand on this in the coming years. It's something we've talked about doing. This year exceeded my expectations," Troutman said. "It makes the show more attractive to attendees and keeps PLCAA in front of state regulators as an educational association."

Keynote speaker Ron Zemke, author of the best-selling book "Service America! Doing Business in the New Economy," gave attendees a talk they could relate to.

The flamboyant Zemke kept the crowd of about 400 laughing as he recounted stories from his experiences in the service industry.

Zemke made sure lawn and landscape operators were not alone in their quest for high quality service. He said service-oriented jobs today represent 75 percent of the jobs in America, and 71 percent of this nation's gross national product. In addition, 80 percent of the start-up companies in the country are service-oriented.

From there, Zemke went into a discussion on customers and the difference good customer service can mean to a business.

"At any given moment, 25 percent of your customers are upset and unhappy enough to stop doing business with you. However, only 4 percent will complain," he

## NEW PRODUCTS ON TAP FROM MONSANTO

**FULL-SCALE PRODUCTION OF DIMENSION,<sup>TM</sup>** A new herbicide for both pre and postemergent control of annual grasses and broadleaf weeds in both cool and warm season grasses, is expected by 1990.

Monsanto Co. announced its new product at the Professional Lawn Care Association of America's recent trade show in New Orleans. Dimension is just one of a variety of products the company plans to develop and market in the next decade.

Monsanto was recently granted an experimental use permit for Dimension by the Environmental Protection Agency.

Some unique features of the systemic herbicide include giving the applicator flexibility to apply the product pre-emergently to weeds or postemergently for control of crabgrass or foxtail among others, according to Dave Duncan, product development director for the industrial and residential division of Monsanto.

Dimension is said to be water insoluble, unlike anything currently on the market, Duncan said. Because of its extremely high unit activity, only 1/4 to 1/2 pound is needed per acre.

"A little goes a long way, and it's not any more potent to organisms," he said.

Other products Monsanto will be bringing to the market include MON 12,000 for control of yellow and purple nutsedge in both cool and warm season grasses, several turf and ornamental fungicides and new insecticides of natural origins.

A new fungicide may be available as early as 1993 for control of key diseases such as brown patch and dollar spot. Duncan said it will be a real benefit to turf managers because it will not cause build-up of resistance by organisms.

The product developments are linked to a market opportunity assessment committee Monsanto established to fill the needs of its customers and the industry. As a result, the new products are being designed to help lawn maintenance operators build their businesses.

"There were so many opportunities being proposed to us, both in and out of our company. To deal with the inquiries, we felt it was time to set up a system," Duncan said.

The company also hopes to develop a selective herbicide for all weeds for the benefit of simplified weed control.

told the crowd. "If customers have had a good experience with you, they will tell two to four people. However, if they've had a bad experience, they'll tell six to 12 people."

Zemke couldn't emphasize enough the importance of quality service — from the owner of the company on down to the operators carrying out the service.

"Make sure that every person dealing with the customers understands your service strategy because you're only as good as your customer thinks," he said. "Remember, the cost of creat-



## ANTI-PESTICIDE SPEAKER DRAWS A CROWD

PRE-CONFERENCE controversy surrounding the selection of an anti-pesticide speaker for the Professional Lawn Care Association of America's pesticides panel discussion, turned into curiosity as a packed room listened attentively to what Pam Crocker-Davis had to say.

Crocker-Davis works with the Washington State Department of Ecology where she is heading a project called Environment 2000. Formally, she was the state coordinator of the Audubon Society's lobbying efforts.

"I always agree to speak to groups like yours because I think that there is an unfortunate them and us mentality growing in this country around the issue of pesticides," she said. "And I think that mentality is both dangerous and unnecessary. So I feel it's imperative that all of us take every opportunity that we have to speak with each other."

"There is no them. There is no us. The range of opinions about pesticide use, both for it and against it, is massive."

Because pesticide users and anti-pesticide advocates will never see eye-to-eye on pesticide usage, Crocker-Davis suggested that pesticide management, rather than pesticide use, be dealt with.

"I want to stress again and again, we should deal with pest management rather than pesticides. I think we can find more common ground by looking at the management strategies," she said. "It would be a shame if the controversy kept the technology from evolving in a logical way. If you accept that changes in pest management are going to occur, I hope you can also accept the fact that they are not always bad, and not always inflicted upon you by certified



Crocker-Davis.

bleeding-heart-Bambi-lovers like me."

According to Crocker-Davis, common threads can be found throughout the pesticide reform movement including the following:

- Citizens concerned about pesticides believe the regulatory system created to protect them from unsafe pesticides has failed.

- Citizens concerned about pesticides do not believe that in many cases adequate health information exists. Or even if it exists, that it is accessible to support declarations of safety.

- Given the highly politicized nature of both the regulatory and the scientific debate surrounding pesticide use, many citizens are beginning to believe that the only positive resolution to the controversy lies in looking at new pest management strategies.

"Again, I want to stress to you that there's a big difference in the minds of citizens relative to risks if they are voluntary or involuntary," she said. "Tobacco and alcohol are voluntarily ingested."

Following Crocker-Davis, Tom Adamczyk, department chief of the fungicide/herbicide branch of the Environmental Protection Agency, said there will always be data gaps in pesticide registration because it's a constantly dynamic process.

In recent years, Adamczyk said, he's seen very few companies going to the EPA with high toxicity products. He also emphasized that EPA registration simply means that the product does not have any unreasonable adverse effects.

Crocker-Davis was the second person selected to represent the "alternatives to pesticides" portion of the pesticides panel discussion. PLCAA's first choice, Mary O'Brien, a representative of the Northwest Coalition for Alternatives to Pesticides, was removed from the panel because she was deemed too close-minded.

PLCAA Executive Vice President Jim Brooks said it was good to hear Crocker-Davis' point of view. "It was a healthy atmosphere — she wasn't a radical."

ing customers is as much as 400 percent higher than retaining customers."

To foster a sense of pride in your business, Zemke said, it's important to make employees feel they're a part of the organization, and that their contributions are needed. Give them pats on the back and let them know when they've done a good job.

"Make the most of each opportunity," he said. "Manage each moment like it's your last opportunity."

Prior to the keynote speech, the ninth annual conference and show was dedicated to the memory of James and Karen Marria and William Fisher.

The Marrias were two of 28 people killed in the Continental Airlines plane crash last November in Denver. The couple was returning home to Boise, Idaho, from the PLCAA show in San Antonio, Texas. Jim Marria was president of the PLCAA in 1986.

William Fischer died last January after a bout with cancer. Fischer was the founder of Spring Green Lawn Care Corp., Naperville, Ill., and was president of the PLCAA in 1984.

A Marria/Fischer Foundation has been established by the PLCAA. Its fund-raising goal for 1989 is \$100,000. Russell

Frith, immediate past president of the PLCAA, will serve as president of the foundation. Money for the foundation will be raised through various seminars and symposiums, according to Troutman, who will serve as the foundation's secretary/treasurer.

Once a significant amount of

money has been raised, it will be used to fund various active research projects, Troutman said. Bruce Augustin, LESCO Inc., will chair the foundation's issues committee, responsible for setting the educational and research focus for the group and Jerry Faulring, Hydro Lawn Inc., will chair the fund raising committee. Mary Fischer, wife of the late Bill Fischer and Ruth Yursa, sister of the late Jim Marria, will act as honorary board of directors to the foundation.

"We'll do things with the money that they (Marrias and Fischer) would have wanted to do," Troutman said.

Another first at the New Orleans trade show was a "town meeting" held by representatives of the PLCAA for members of the association. It was designed to inform the membership of current and upcoming issues the PLCAA is involved in, and to give



The outdoor demonstration remains a popular PLCAA event.

(continued on page 38)



# When Lawn Doctor franchises move up to TURFLON, broadleaf weeds take a fall.



"TURFLON is more effective on the broadleaves that the competition is missing."

Russ Frith, president  
Lawn Doctor,  
Matawan, NJ

If "easy" weeds were the only ones cropping up in customers' lawns, 2,4-D would handle the job. But that's not the case. You need a tough product to keep tough weeds down. Maybe that's why you should move up to TURFLON® herbicide.

## The real problem with lawn care.

"Weed control is the most important problem," explains Russ Frith. And as president of one of the nation's most successful lawn care franchisers, he ought to know. In explaining how TURFLON has worked for Lawn Doctor, Russ says, "It does a better job on the tough to control weeds."

## Prove it for yourself.

How do franchisers who use it justify broadcast spraying TURFLON at about \$9.50 per acre? "Reduced callbacks," Russ says. He adds that independent Lawn Doctor operators select their own products. Most are skeptical of TURFLON until they prove for themselves that it does a better job of controlling tough weeds. "Many who use it full service started with spot (spraying)."

Finally, Russ says one word describes the experience Lawn Doctor franchises have had using TURFLON: "Excellent."

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For a winning season against annual weeds, put our Team products to work for you.

There's a Lebanon fertilizer with Team formulation to meet every turf care need.

- ◆ Country Club 19-4-6 (3.2 WIN) with Team™ 1.155%
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- ◆ Lebanon Pro 15-5-5 (4.5 SCU) with Team™ 1.155%
- ◆ Lebanon Pro 6-0-18 (All Chemical) with Team™ 1.155%
- ◆ Lebanon Pro 26-3-8 (5 SCU) with Team™ 1.54%

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## PLCAA

(continued from page 36)

those attending the show an opportunity to ask questions.

According to Frith, a key area of concern to the PLCAA is the legal and legislative area—namely, posting and prenotification regulations required in one form or another in nearly a dozen states, with more undoubtedly to follow.

Other issues which will receive increased attention throughout the year are groundwater contamination, watering-in requirements, OSHA regulations, the transportation of hazardous materials and worker protection standards.

One of the goals of the association for 1989 is to develop a strong public relations network. The plan calls for introducing the PLCAA to the gene-

ral public, and developing a network of local media sources and PLCAA representatives to inform the media about timely issues, according to Rick Steinau, a PLCAA board member. Any member can volunteer to serve as a PLCAA contact to the media.

PLCAA plans to have at least 35 key members acting as local media sources in various areas across the country. PLCAA will also issue 15 to 20 generic press releases throughout the year. The releases will primarily emphasize the benefits of hiring a professional LCO. Although controversial issues will not be tackled initially, the news releases will have a "hook" in them to create an issue for media attention, according to Steinau. —Cindy Code

The author is Editor of ALA/Maintenance magazine.

## WOUNDED CONVENTIONEER SLOWLY RECOVERING

A NEW YORK LAWN MAINTENANCE OPERATOR is slowly recovering from a critical gunshot wound to his side, suffered while attending the PLCAA show in New Orleans.

Richard Mailander, 28, of Lawn Patrol in East Meadow, N.Y., was shot in the left side by an armed robber while he was entering the lobby of the Hyatt Hotel. The Hyatt served as headquarters for the PLCAA convention.

While there were many anxious moments for the Mailander family in New Orleans, Mailander is now home and recovering well, according to his father, Frank Mailander. "It was a traumatic experience for all of us. He was very lucky he wasn't killed. The bullet nicked his spine," he said.

Although on his way to recovery, Mailander still has a long road ahead of him. His father said more tests and various medical procedures await his son, probably keeping him out of commission until at least the spring season.

The shooting occurred at 7:05 p.m. when Mailander, his wife Bonnie, 28, and four other family members were on their way to PLCAA's Early Bird reception, held the first night of the convention.

A man in his twenties approached the Mailanders and demanded Bonnie Mailander's purse. The man grabbed the purse before firing point blank at Mailander with a 9mm pistol.

Witnesses said the gunman fled down the street in a waiting get-away car. The gunman has never been caught.

Frank Mailander said his son received excellent treatment by the hospital and everyone involved with his care. PLCAA Executive Vice President Jim Brooks and Past President Russ Frith visited Mailander in the hospital.

"It (arrangements by PLCAA) reflects the kind of outfit it is," Frank Mailander said. "I hope the people who belong to PLCAA and those who join PLCAA realize what they're getting."



# When Jim Gourley moved up to TURFLON, callbacks in Kenosha went down, way down.



**"Our resprays have decreased by almost 50%."**—

**Jim Gourley, owner  
Lawn Masters,  
Kenosha, WI**

If you're like most LCOs using standard three-way herbicides, there are days when you wish the phone wouldn't ring again. Callbacks and cancellations can really get you down. Well, maybe it's time you moved up to TURFLON® herbicide.

#### **One good reason to switch.**

"We switched to TURFLON because we were having too many resprays," explains Jim Gourley. And after 22 years in the business, he's happy with the results: "Our records show that we do have much better weed control and many fewer resprays this year than we've ever had."

#### **You'll save money in the long run.**

"Yes, we pay more for TURFLON," Jim says. "But when I figure how much it costs us per respray, it's saving us lots of money. And that justifies the extra cost."

Jim adds that there's another reason he can't afford to make too many callbacks. "When you have to go out and do a respray, you're taking a chance on losing that customer."

Isn't it time you moved up to a better herbicide for better weed control? Call us to find out more. 1-800-373-4DOW (4369).

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# Successful Show Sets The Stage for Future Growth

## GREEN TEAM '88

Mary Jones  
St. Petersburg, Fla

## ATTENDEE

## ATTENDEE

**A**LLAN SHULDER, executive director of the Professional Grounds Management Society, said he was satisfied with the numbers posted at the third annual Green Team Conference and Show, but said he wants more.

So much more, that PGMS and the American Landscape Contractors Association, joint sponsors of the event, will try to double the size of the trade show this year.

Despite strong competition from the sunny, warm weather of Orlando, Fla., the Green Team show attracted about 500 attendees — reaching attendance figures set in its first year. Ninety-one exhibitors filled 11,600 net square feet of space, but Shulder hopes the trade show will fill twice that space in November.

"We're pushing for a much larger show," he said. "We're shooting for 22,000 net square feet of space. With the location (St. Louis, Mo.) and facility, it's feasible."

Shulder estimated that the St. Louis Convention Center is probably within an hour and a half flying time of about 70 percent

of the U.S. population. With better marketing and even better educational sessions, Shulder said, he's optimistic about a larger show.

Although exhibitors were satisfied with the attendance the first day of the show, they suffered a letdown the second day when sunny Orlando lured the crowd away.

"When the educational sessions broke on Sunday, the weather was so good, the attendees took off. The vast majority didn't go to the trade show," Shulder said. "There's so many side attractions, it's difficult to hold people."

Despite that, a Green Team steering committee decided that Orlando was a good place to hold a conference, because attendees were encouraged to come and bring their families, according to Martha Lindauer, ALCA director of communications. On the other hand, Walt Disney World did prove to be a distraction to some.

The area was initially selected because it is such a showcase of horticulture, she added.

Although attendance was not dramatically heavy throughout the two-day trade show, about 95 percent or more of the atten-

dees were buyers. Shulder said that most of those attending the Green Team show are company owners and managers of large facilities such as schools, universities and parks.

"Most of those attending have a good-sized budget and are responsible for almost the entire budget," he said.

Almost one-third of the show's exhibitors were equipment manufacturers, less than one-third were chemical manufacturers, about eight were nursery wholesalers and the remaining were parts and supply companies.

Shulder said he's interested in attracting more nurseries to the show because of their tremendous potential in the grounds management market.

Quality educational seminars, for which the Green Team show has become known, did a good job of holding attendees' attention. The workshops were sponsored by three groups — the exterior landscape contracting division and the landscape management division of ALCA and by PGMS.

Although the sessions were designated with a sponsoring organization, the seminars were open to all attendees, according

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## TRADE SHOW TALKS CONTINUE

TALKS CONTINUE ON THE POSSIBILITY of PGMS and ALCA joining forces with yet another organization, to provide a larger industry show and eliminate what appears to be an overabundance of trade shows.

PGMS Executive Director Allan Shulder said the "door is definitely open" if someone or some organization would like to join them in future shows. A

year ago, talk centered around the possibility of the Professional Lawn Care Association of America joining PGMS and ALCA, but the idea appears to be stalled.

Shulder said talks are still open with PLCAA, the Irrigation Association and several other associations. "We're still very much interested in getting together with other organizations," he said.

"Something's got to be done to eliminate so many shows."

Shulder would not elaborate on when such a merger would take place, but said the possibility is always there.

This year's show also marks the end of the original commitment between PGMS and ALCA, but doesn't mean the two will give up the Green Team concept.



# When Tim Doppel moved up to TURFLON, his bottom line followed.



"The first year we used TURFLON, we realized a \$1,200 savings on service call costs."—

Tim Doppel, president  
Atwood Lawncare, Inc.  
Sterling Heights, MI

Keeping a lid on expenses becomes more and more important as your business continues to grow. Do things right, and profits will rise while the cost of servicing each new customer falls. If that's the kind of lawn care firm you want to run, maybe it's time you moved up to TURFLON® herbicide.

#### **When more is less.**

"Even though the product costs more, I still end up saving money by using TURFLON," explains Tim Doppel. And he has three years' worth of documented results to prove it pays to broadcast spray TURFLON at about \$9.50 per acre. "The first and foremost advantage of using TURFLON is its effectiveness. It works."

#### **Reducing callbacks and cancellations is the key.**

"The first year we used TURFLON, we had a 20 percent reduction in callbacks and that has held steady over the years," Tim says. "We've also seen an increase in customer retention in the three years we've been using TURFLON."

And using TURFLON has one more advantage, Tim adds. It's the reason he's been able to reduce callbacks and cancellations: "My customers are happier."

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## Green Team

(continued from page 40)

to Lindauer.

A good mix of seminars were offered including controlling substance abuse in the workplace, decking and patios, landscaping with ornamental grasses, pricing for landscape management profit and natural vs. artificial turf.

Both Disney sessions — "Disney's Commitment to Professional Horticulture and 'Management Disney Style'" — were real crowd pleasers. An extremely enthusiastic crowd greeted keynote speaker Katy Moss Warner, general manager parks/horticulture at Disney. Her talk on Disney's commitment to professional horticulture ran parallel with that of the landscape and grounds maintenance professionals.

The highly motivational discussion provided attendees with a chance to re-evaluate their operations and apply some of Disney's principles to their company.

The second Disney seminar



Equipment was a hot commodity at this year's show.

provided a similar opportunity for attendees to learn how Disney creates and reinforces commitment and pride among the 22,000 members of the Walt Disney World cast.

Speaker Frankie Turner told the crowd that the key ingredient in managing a staff is to make them feel like an integral part of the company from the first day.

"Cast members (employees) are treated as we are expected to treat the guests," Turner said.

Employees are also encouraged to share their ideas with management through focus groups, opinion polls and exit interviews.

One of the conference highlights, "Breakfast With Champions," is sure to be repeated at future shows. The breakfast was held for about an hour and a half each morning and was designed to bring together industry leaders and show attendees for a discussion about industry trends and problems.

Tom Garber and Judd Grigg, chairmen of ALCA's landscape management division and ALCA's exterior landscape contracting division respectively, were the forces behind the daily breakfasts.

A similar session, the executive forum, brought a group of varying sized companies together to discuss their experiences in landscaping. Both sessions were so successful that attendees were talking about them well into the afternoon.

"They discussed solutions to problems that everyone's going through and introduced the larger companies to the smaller contractors," Lindauer said.

At the conclusion of the show, three Green Team optional tours were held of the boardwalk and baseball park, the Disney nursery and behind the scenes at Disney. Although the tours were held on the Monday morning following the conference, the tours were well-attended, Lindauer said.

The fourth annual Green Team conference will be Nov. 10-13 in St. Louis, Mo. ■

# This Is What PGMS Is Doing For The Grounds Manager



If you haven't checked out the Professional Grounds Management Society recently, then you're in for a surprise. We're offering a bundle of new benefits that make joining PGMS more rewarding than ever! Here's what we've been up to and how you can benefit:

**ANNUAL CONFERENCE AND TRADE SHOW** - The yearly forum bringing together grounds managers, top speakers, and suppliers for the sharing of knowledge and ideas.

**NEWSLETTERS** - A newsletter is mailed monthly to keep members current on the affairs of the Society and the latest developments critical to successful grounds management.

**CERTIFICATION** - Voluntary peer review of acceptable competence to enable you to become a Certified Grounds Manager.

**RETURN OF DUES PROGRAM** - All renewal dues will be credited to your return of dues account. Upon retirement all renewal dues paid by you will be refunded.

**INSURANCE** - Included in your membership fee of \$5,000.00 accident and dismemberment insurance.

No matter how large or small your operation, **PGMS** is your source for the best, most meaningful grounds management information and help. Your membership investment goes to work for you immediately — that's the PGMS promise. Join now and grow with us!

**AWARDS** - Members are recognized for outstanding achievement in grounds management. Annual Grounds Maintenance Awards Contest.

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Profitability Begins With  
Effective Route Management



area frequently used by people and animals.

And with CHIPCO® SEVIN® brand SL, you not only get effective control of the white grub complex, but 27 other turf pests, as well. Including tough ones


like chinch bugs, billbugs, armyworms, and sod webworms.

Ask your chemicals supplier for CHIPCO® SEVIN® brand SL carbaryl insecticide.

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# Profitability Begins With Effective Route Management

**W**ITH MORE AMERICANS HAVING LESS TIME TO care for their yards, lawn and landscape maintenance operators are placing greater attention on the efficient delivery of services to old and new customers alike.

And maintenance operators, as well as computer specialists, agree the key to delivering service profitably is effective route management.

"It's one of the factors that make the difference between being profitable and unprofitable," said Tim Doppel, president of Atwood LawnCare, Sterling Heights, Mich. The suburban Detroit operator developed a management system about five years ago that defines a route as one day's work for a truck. "Makeups are easier, and you know where the job is located," he said.

The attention on effective route management to increase efficiency and profit comes from both inside the professional lawn and landscape maintenance industry, and from specialists in accounting and management systems.

Using computers as a basis for an effective route management system is widespread among mid-sized and larger companies, and may be on the horizon for smaller companies.

One route management accounting company, The Systems Co., is beginning to place greater attention on personal computer-based systems for small, but growing lawn and landscape maintenance operators — including many that began as "mom and pop" operations, explained Jess Williams, president of the Memphis, Tenn.-based company.

The Systems Co. began designing an accounting system for the professional maintenance industry about three years ago. Williams said the company drew from its experience providing route accounting

systems and services for such delivery industries as wholesale grocery and industrial laundry.

The dispatch-type routing system "eliminates the need for someone to write information down, look it up and key it into the computer," he said. With just a name and address, the system locates the customer, or potential customer, in a company's geographic area. It also allows data recall of atypical information, he added.

"It's like a note pad. You can recall that information, and it makes for better customer relationships," Williams said.

To improve efficiency and create a virtually paperless office, technicians at Greenlon Lawn Care in Cincinnati, Ohio, are using hand-held scanners to input service information into







*Route management plays an integral role in your company's effectiveness. Photo: Dow Chemical Co.*

the company's central computer. Company President Rick Steinau says the scanners read bar codes which enable them to track the time elapsed during application, chemicals used, and even driving time.

"It downloads a day's worth of work in six seconds, and eliminates the need for a person entering stacks of invoices," he said. "It's a very, very fast system, providing a thorough customer history. The computer does the grunt work."

"Small companies can use this too. It's a great record keeping system," Steinau said. He pointed out, however, that there is a learning curve involved with the scanners. "It would be a terrible product to use if you have a high turnover (of employees)."

Though Bosie, Idaho-based Perma-Green uses a computer at its headquarters for invoice processing, "the technician then designs his own route," according to Gary Clayton, company vice president of operations. The computer generated invoices are fed to the company's seven locations in Idaho, Utah and Washington, where the specific route is then designed.

Clayton said the company considers effective route management as "one of its highest priorities." He emphasized, however, that due to variables such as weather and turf conditions, route management is "more of an art than a science." It relies on the technician's judgment in designing his route based on his knowledge of the area.

Organization, planning and daily communication with technicians are the ingredients in successful route management at Ryan Landscape Industries, a commercial landscape company in Carmel, N.Y.

Company President Patrick Ryan said he started the company three years ago to fill a void he saw in the New York area for dependable lawn and landscape maintenance services to condominium complexes, corporate parks and industrial facilities.

"Planning and organization are priority number one. We want our customers to know that our company is organized in its approach to the landscape business. There is no room for a haphazard approach," Ryan emphasized.

Ryan Landscape operates three eight-member crews, each directed by a landscape manager, who in turn report to the supervising manager — Darren Ryan, Patrick's brother. "The company is only



## AT R.B. STOUT PERFORMANCE, COMMUNICATION ARE KEY

GROWING CUSTOMER INTEREST IN THE TIMING and nature of lawn and landscape maintenance services is the primary reason the industry is placing greater attention on route management, according to Terry Seebach, spray division operations manager of R. B. Stout Inc., Akron, Ohio.

"Routing has changed dramatically because the homeowner wants to be more aware of when you're coming and what you're doing," he said.

R.B. Stout has "initiated a call-ahead policy, and is using a computer system to help set up the routes more effectively — by areas, zip codes and quadrants. This helps spray technicians to run routes more efficiently, and generally tightens the route," Seebach said.

In business for 40 years, and one of Ohio's largest landscape maintenance companies, R. B. Stout specializes in serving condominiums, state and federal government grounds and homeowners.

The company's approach to route management is shaped by its emphasis on performance and customer communication. "The computer system prevents overloading a route. We're concerned with quality, not quantity. We always knock on the (homeowner's) door, or go to the business office first," Seebach explained.

"Years ago you would load a truck and wouldn't come back until it's empty, but that's gone because the customer demands personal service," he added.

However, no matter how sophisticated a routing system is, elements such as changing weather, employee absence and

equipment breakdowns can't be foreseen. This is why Seebach and other lawn and landscape specialists emphasize that route management is more art than science.

In the event of employee absence, the company tries to fill in the same day with an extra swing man. If not, the job may have to wait until the next day, which may be complicated by customer preference or completion deadlines often required by government customers.

Scheduling landscaping work often differs from the higher volume lawn maintenance, in that a job may take several days or a week. Seebach said scheduling landscaping requires more internal communication. In many cases, R.B. Stout's services may include landscaping, mowing and spraying all on the same property.

Seebach emphasizes these basic principles in route management:

- Don't overload a route.
  - Call ahead.
  - Communicating with customers is something you can't do enough of.
  - Use of a computerized management system brings greater efficiency and flexibility, and allows a company to respond to customer demands for more information.
  - In lawn maintenance, schedule by areas and days, providing same day service — a day which the customer prefers.
  - Use the computer to design tighter, more efficient routes.
- Even the best planning can't eliminate scheduling problems. When all the planning is said and done, Seebach said, "we have mother nature to contend with."

as good as the people who work for me," Ryan said. The company "looks for reputable people with no less than two years experience."

Work schedules are designed at a weekly planning meeting of a five-member committee, which includes the supervising manager, three landscape managers, and Ryan, the 25-year-old company president. "Something might happen to throw off the schedule. This makes the little things that happen easier to contend with," he said.

The supervising manager plays a critical role in maintaining the work schedule, visiting each job site daily at varying times. Communications are also enhanced by the installation of two-way radios in all trucks. In the event of an equipment breakdown, the supervising manager often takes care of the problem while the crew continues its work.

At Ryan Landscape, computers don't play a role in route management, but are used for billing and keeping records of pesticide and fertilizer applications.

One indicator of the competitive importance of route manage-

ment is that some companies, including ChemLawn Corp., the largest lawn maintenance operator in North America, is reluctant to comment about its route management strategy. However, a company spokeswoman said ChemLawn is expanding its use of a dispatch-type system developed by two of its 166 branches located throughout 46 states and Canada.

Mark Kelley, vice president of production for the Dayton, Ohio-based Leisure Lawn Inc., calls route management "half the lifeblood of the organization. The management of that route is key. We reroute every year."

But Kelley declined to discuss specific details of the routing method Leisure Lawn uses in its nine locations across the Midwest and the South. "We've placed a lot of attention in this area for the greatest possible efficiency." The company used an outside programmer to develop its computerized routing system.

More than 200 lawn maintenance operators are now using the Lawn Assistant, a route management software system introduced only two years ago by Real

Green Computers, Walled Lake, Mich. Part of the interest in the system stems from its ability to "prenotify" customers.

This feature may become more important as states, such as New York, require companies to notify customers before making chemical applications, said Joe Kucik, company president.

The Lawn Assistant approach is based on what Kucik describes as the "day code system." In this system, routing is set up not by geographic area but by driver or truck. "Then you break each day of work up in that route, call it a day code and give it a number." Companies with 300 to 4,000 customers are using the Lawn Assistant route management package, he added.

Orkin Lawn Care, Atlanta, Ga., drew from its parent company's experience in delivering pest control services to develop its own "dynamic routing system" over the past three years.

"The beauty of our system is that it allows us, at the end of each week, to run an unserved accounts list, and then on Saturday we can service them without affecting our schedules," explain-

ed Sam G. Lang, Southern operations manager.

"This is the first year that everyone is up and running" on the new scheduling system, according to Lang. It is a stand-alone system that each manager uses for his own scheduling.

"We worked with our own computer people here putting together a needs list four years ago, and scheduling was one of them. We've been refining it for three years now," recalled Lang.

The more sophisticated systems in various customized versions are replacing the traditional hard cards, Lang explained. The cards were placed in route bins and technicians manually routed these cards at the beginning of the rounds.

Regardless of the specific route management system used by a company, Doppel of Atwood LawnCare said it's important to "keep jobs as close together as possible. You don't want to go to the four corners of the earth every single day." — Michael Marcellino ■

The author is a free-lance writer based in Cleveland, Ohio.



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# Renewed IPM Research Continuing at a Steady Pace

.....  
***These concerns, whether real or imagined, must be addressed by the lawn maintenance industry.***

**I**NCREASED DEMAND for high quality turfgrasses throughout the United States has placed new demands on pest control operators, turf managers and those involved in pest management research. While new products and approaches are constantly being investigated for implementation into turf management programs, some of the greatest improvements in turfgrass pest control result from a review of current philosophies.

The concepts of Integrated Pest Management have been around for quite some time now, and have been used successfully in many agricultural commodities. The use of IPM in turfgrass, however, has been a more recent introduction.

Many concepts are similar to the use of IPM in field crops, but one significant difference in turfgrass is the use of aesthetic rather than economic thresholds. Although the two are, in the strictest sense the same, the aesthetic threshold can be very difficult to measure and refine.

New concerns by homeowners and environmentalists over the risks of pesticide use on turf are prompting a renewed look at IPM in turf to reduce pesticide use. These concerns, whether real or imagined, must be addressed by the turfgrass industry. Pest management programs designed to reduce environmental hazards while maintaining excellent pest control, must be implemented. The biggest stumbling block on the path toward effective IPM programs in turf is that we still lack much of the necessary information for scouting, thresholds and prediction.

The trend for increased emphasis on fine turfgrass lawns and landscaping has prompted increased interest in research, not only from the turfgrass industry, but also by colleges and universities. Many land-grant universities have expanded or are considering some reallocations to meet the research and extension needs of the growing turfgrass industry in their respective states.

In many states, the turfgrass industry has become a major agricultural commodity. A recent survey in North Carolina found the value of turfgrass to exceed \$750 million, making it one of the most valuable of all crops in that state.

This increased emphasis at colleges and universities has provided us with much of the information we need to implement effective IPM programs that produce acceptable pest management, yet minimize adverse environmental effects. Continued progress on IPM with both goals in mind is critical to the continued growth of the turfgrass industry.

Even though we still lack some important thresholds and predictive capabilities for many insect pests, many of us can improve our pest control success by reviewing basic insect control management strategies.

The key to successful insect management on turf is the incorporation of these strategies into your overall plan. Even the best of insecticides will perform poorly if improperly applied. The better we refine our insecticide use, the more effective control we obtain.

**DIAGNOSIS.** The first step to effective control is diagnosis. There are several reasons for proper diagnosis including making sure

you are in the right category of pests.

Symptoms from many pests may look similar and can easily be confused. You should never make a treatment for an insect based solely on damage symptoms. Even if you didn't mistake a disease or nematode problem for insect damage, you could very possibly implicate the wrong insect. Even though many insecticides are quite broad-spectrum, a single treatment might not solve the problem because the application technique and timing for each particular insect pest is important for obtaining good control. Simply limiting the problem to insects won't necessarily guarantee good results from an insecticide application.

The final reason for not relying solely on damage symptoms is that many insects are quite mobile and may damage an area and then leave.

**SCOUTING & THRESHOLDS.** We are somewhat limited in this area in turfgrass entomology, but some progress has been made, and research is continuing. Scouting can include such techniques as a soapy water drench irritant (sod webworms, mole crickets, cutworms), digging up flaps of sod (white grubs) or floating (chinch bug). These vary with your location and potential pest problems.

When scouting, remember to check at the edge of the damaged area and not right in the middle of it. Insects will likely be along the edge where there is still good grass. It is also a good idea to check thin spots because some insects are attracted to these areas. Thresholds vary with the location and pests. More importantly they vary with the purpose and value of the turf.



Homeowners will have different tolerances for damage than fairways, tees and greens. Studies in the Northeast indicate healthy turf can tolerate as many as six white grubs per square foot. However, a cool season grass grown further South may not be able to tolerate summer drought if that many grubs are allowed to feed on the root system in the spring and fall.

In addition, an area that has a lot of traffic or other stress may require a lower threshold. Contact the appropriate extension agent in your area for available thresholds. Don't expect thresholds or scouting techniques for all insects, as work is still under way on many of them.

Even though thresholds are not developed for all insect pests, we should be encouraged to scout for insects, and treat only when the potential for a problem exists. The concept of preventive treatments, though convenient for turfgrass managers, may be a concept that will soon need to be abandoned.

A good example of this is with white grub management. These insects can be scouted for during late summer and treated on a timely basis with almost no risk that the insect will suddenly get out of hand and result in serious damage. By following this approach, many treatments over large areas can probably be avoided saving time and money while maintaining customer satisfaction.

These are general observations for improving turfgrass insect management. The remainder of this article will focus on specific



approaches to improve overall insect management with the use of insecticides. While not applicable to all turf maintenance situations, they can be incorporated into many pest control programs with little cost or effort.

**TIMING OF APPLICATION.** The rate of pesticide applications may seem fairly straightforward. Unfortunately, we occasionally see the philosophy that "if a little works fairly well, then a lot will work better." The rates recommended on labels are the ones determined to be efficacious.

The major problem we encounter in rate of application is with equipment calibration. I cannot overemphasize the need to properly calibrate and constantly recheck the output of application equipment. Poorly calibrated equipment may be the biggest single reason behind pesticide failures. A low rate of application results in poor insect control, while over-application can result in the previously discussed problems as well as phytotoxicity.

While calibrating equipment, check the nozzles for alignment and proper spray pattern. When spraying, check your distribution and watch for overlap and even application.

Another critical component of effective insect management in turf is timing of the insecticide application. Two aspects of timing are of concern. First, is timing in association with active or susceptible stages as based on the insect's life cycle. The second is timing in association with the daily activities of the insect.

The first is important for many insects. Unfortunately, the first indicator of white grubs in the soil, for example, is often a mole problem. Moles are most active in the spring as they search for white grubs and other food. But when white grubs are discovered in the spring, they have been feeding since they hatched last August. They are now large and more difficult to control.

Soil temperatures are still cool in the spring, so the insect's metabolism is slower and the insecticide will not perform as well. In some situations, the insecticide is not applied until late spring, at which time the grubs may be pupating and are relatively unaffected by many insecticides.

The proper time to treat for grubs is late in the summer just

*Insecticides must be watered in for most below-ground pests. (above) Below-ground pests are troublesome because the insecticide must be moved to the insect, opening the door for outside influences.*

.....  
**When calibrating equipment, check the nozzles for alignment and proper spray pattern.**



after hatching. The grubs are smaller and easier to control, and the soil temperatures are warm so the insect's metabolism is high and insecticides work quite well.

In addition, you are controlling potentially damaging populations before they have had a chance to feed on the turf roots for several months.

The other aspect of timing that needs to be considered is the time of day you should apply an insecticide based on the insect's activity. Insects such as cutworms, sod webworms and mole crickets are active during the night and insecticides are most effective if applied late in the afternoon.

This late afternoon application is appropriate for several reasons. Late afternoon treatments avoid exposing the insecticide to harmful radiation from the sun immediately after application. On golf courses and some other recreational areas, late afternoon applications will reduce the risk of exposure to people prior to drying. Finally, and most importantly, by spraying late in the afternoon fresh application of the in-

secticide will await the insects as they become active that evening.

**INSECTICIDE PLACEMENT.** Similar to proper timing of the insecticide application, proper placement is also important. Turfgrass insect pests can basically be broken down into two categories: above-ground pests and below-ground pests.

Above-ground pests include cutworms, armyworms, chinch bugs and spittlebugs. Below-ground pests include white grubs and mole crickets. It is essential to direct the insecticide application to the area where it will be most effective.

Treatments for above-ground pests should be sprayed on the foliage and allowed to remain there. Some exceptions to this are certain insecticides with labels requiring watering-in of the product immediately following application. Below-ground pest control usually requires an immediate irrigation to wash the insecticide down into the thatch and soil where it can be effective against the target pest.

One-half inch of water is usually recommended for watering-in. Unless the label states otherwise, insecticides applied for above-ground pests should not be watered-in. The insecticide should be allowed to dry on the foliage where the insect will contact or ingest it. The longer one can wait following application before irrigating, the better residual activity.

It is also important not to mow for several days after application. Mowing and collecting the clippings will remove much of the foliage that was treated, and reduce the effectiveness of the insecticide treatment.

**SPRAY WATER.** The water used to apply an insecticide and the amount of spray per 1,000 square feet can have a significant impact on insecticide efficacy. Alkaline hydrolysis of pesticides is being discussed more commonly by lawn maintenance operators and pesticide manufacturers. Alkaline hydrolysis is simply the breakdown of a pesticide when mixed in water with

a higher pH (alkaline).

Recent studies have shown that any spray water with a pH of 7.7 or higher can potentially cause alkaline hydrolysis of some pesticides. Spray tank water with a pH as high as 9 is found in some areas of the country. Insecticides vary considerably in their susceptibility to alkaline hydrolysis, but a general rule of thumb is that any spray water with a pH above 7.7 should be buffered. A number of buffering agents are commercially available.

The most frequent impact of high pH spray water may be reduced residual activity of the insecticide. Some initial efficacy can also be lost. The greatest concern for lawn care operators mixing a tank in the morning can be insecticide which has broken down by late afternoon. Carbaryl, for example, has a half-life of 24 days at a pH of 7.0 and a half-life of 1 day in water with a pH of 9. Several other insecticides, such as trichlorfon, can be quite susceptible to alkaline hydrolysis.

When in doubt have spray  
(continued on page 54)

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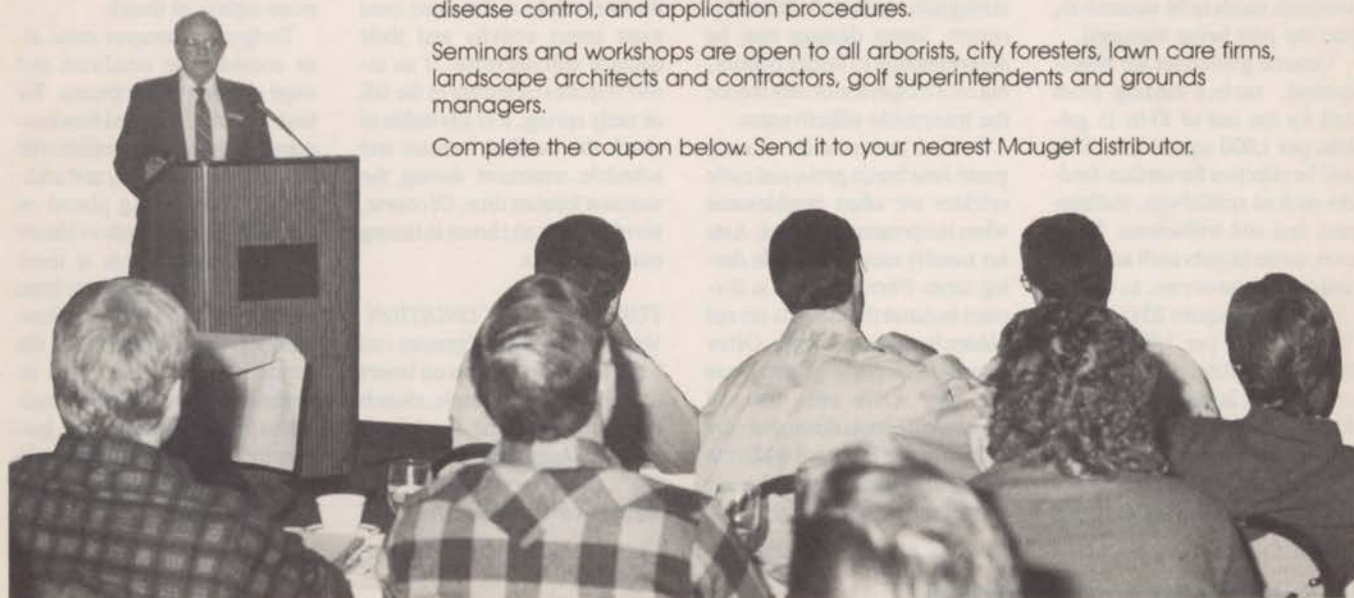
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water checked with a pH meter. There is also a "universal pH strip" paper which is on the market for testing water quickly and accurately.

The number of gallons of spray mixture applied to an area can also contribute to the performance of an insecticide. This can vary with the type of turf, whether the insecticide needs to be watered-in, and the pest being managed.

General guidelines for above-ground, surface-feeding pests call for the use of 10 to 15 gallons per 1,000 square feet. This will be effective for surface-feeders such as spittlebugs, leafhoppers and sod webworms. However, some insects such as armyworms and cutworms, as well as chinch bugs require 20 to 30 gallons of water per 1,000 square feet to get optimum control. Of course, if a large area were infested with armyworms, it might not be practical to even attempt applying that much water over several acres. The point is that

with surface-feeding insects that remain down in the thatch, use as much water as practical.

#### **SOIL AND AIR TEMPERATURE.**

The activity of insects and insecticides can dramatically be affected by both the air and soil temperatures. We usually associate insect problems in turf with hot summer temperatures, but we often see insect problems occurring early in the spring and persisting late into the fall. When this occurs, insect damage may be severe enough to justify control, but cool temperatures may reduce the insecticide effectiveness.

Several insects such as ants, green June beetle grubs and mole crickets are often troublesome when temperatures are cool. Ants are usually most noticeable during times when the grass is dormant because the mounds are not hidden by the lush growth. Other insects, like mole crickets, are not very active once the soil temperature cools down, but may remain active in the fall while the soil is still warm, but after air temperatures are cool.

As long as the insects are active, insecticides will provide some control, but one should never expect the same efficacy from a product applied at 60 degrees Fahrenheit, and the same product applied at 80 degrees Fahrenheit.

A good rule to follow is not to treat if nighttime temperatures are going to fall below 60 degrees Fahrenheit. Below this temperature most insecticide activity will decline, while at the same time most insect activity and their damage will decrease. If an insect requires treatment in the fall or early spring, it is advisable to check the weather forecast and schedule treatment during the warmest forecast time. Of course, we often have no choice in timing our treatments.

#### **TURF TYPE AND CONDITION.**

Various types of turfgrasses can have significant effects on insect abundance. For example, chinch bugs and two-lined spittlebugs prefer St. Augustine, and burrowing sod webworms prefer tall fescue in dry weather. Knowing

which insects show up where can help you plan for potential problems. At the same time, understanding the turf type can aid in your approach to effective management.

In heavy thatch producing grasses it is advisable to take steps to reduce the potential for insecticide binding to the organic matter. As a general rule of thumb, those insecticides with low water solubility will generally bind more tightly to thatch.

Turfgrass managers must also consider the condition and stage of grass development. We have already discussed how economic thresholds are flexible with the desired turf quality and additional stresses being placed on the plant. There is little evidence that turf under stress is more susceptible to phytotoxicity from insecticide applications. However, it is important to check the product label for use of any insecticide on newly seeded stands. Some level of phytotoxicity, burning or yellowing is common with many insecticides applied to newly seeded stands.

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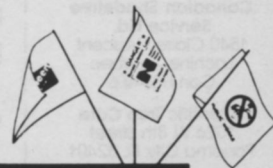
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## INSECTICIDE RESISTANCE.

For years we have read about resistance to a number of insecticides used in agriculture. The increased incidence of this problem has resulted in the loss of some products, serious crop losses and a change in philosophy for protecting many crops. Although we have yet to see real problems with insecticide resistance in the management of turfgrass insect pests, many questions arise concerning this topic.

Our concern for the development of insecticide resistance in turfgrass insect management is not nearly as acute as that for agricultural crops. Turfgrass insects are often managed over a very small area as compared to their total range. As a result, a large portion of the population may not come in contact with an insecticide application and this population acts as a large dilution to those that are exposed and survive. In addition, many turfgrass pests such as white grubs have one year or longer life cycles so the selection pressure to develop resistance is

very small.

Despite the relatively low selection pressure on many turfgrass insect pests, there have been several cases of insecticide resistance by turf insect pests. For many years, insects such as white grubs were controlled with the chlorinated cyclodiene insecticides such as chlordane and dieldrin. These lasted up to 10 to years, but after 20 years of use and continued exposure, resistance was developed by various grub species.

Turfgrass managers and pest control operators are encouraged to use insecticides wisely. Treat when necessary and avoid preventive treatments if possible. The fewer times each year you expose insects to a pesticide, the lower the chance for developing resistance. Use of cultural, biological and mechanical control approaches as substitutes, or to augment insecticides also help.

There has also been some discussion of rotating to different classes of compounds each year. For instance, using carbamates

one year and organophosphates the next. This practice is good advice although there is no data to back up its effectiveness in retarding the development of resistance.

Recently, a lot of attention has been focused on microbial degradation of soil insecticides for insect control. Any time an insecticide is applied to the soil, microorganisms begin to feed on the compound and slowly assist in its breakdown. This is a natural process and prevents the accumulation of unwanted levels of pesticides in the soil. However, under certain conditions and continued use of the same pesticide it appears these microorganisms can increase to detrimental levels. When this occurs the microorganisms are so abundant that the insecticide is broken down rapidly and is rendered ineffective.

It is important to remember two things about microbial degradation. First, is that many reported, but unconfirmed, cases of microbial degradation are the result of poor application, calibra-

tion, timing or assorted other problems, and not really microbial degradation. Second, is that such degradation problems are just one more reason to use insecticides as curatives rather than preventives.

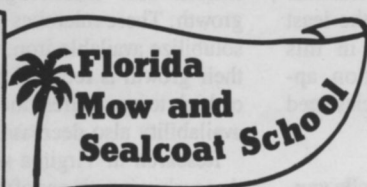
**CONCLUSIONS.** Many factors influence the effectiveness of an insecticide application. Using pesticides wisely and efficiently, as well as the use of cultural practices (i.e. dethatching) and biological control (i.e. resistant varieties) will preserve the effectiveness of current pesticides while reducing their effect on the environment. The future will undoubtedly see an increase in the regulation of pesticide use on turfgrasses. By adapting skills and techniques to use pesticides intelligently, we may limit the future restrictions and better prepare ourselves for the upcoming changes. — R.L. Brandenburg

*The author is an extension entomologist at North Carolina State University, Raleigh, N.C.*

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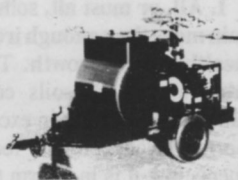
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# Preparing a Balanced Diet For Turf and Ornamentals

Interest in the plant nutrient iron has grown dramatically in the last few years. More and more turf management specialists are realizing that this element, long overlooked, can be a vital part of growing as well as providing the dark green quality turf that consumers demand.

In order to understand how to use iron, one must first realize that it is *one* of the essential elements for turf and ornamental growth. We have long recognized the three primary elements: nitrogen, phosphorus and potas-

To carry our questioning one step further, what do our customers want from us as turf management specialists? Do they want:

- A balanced plant food diet applied to their lawns?
- Freedom from applying fertilizers and chemicals to their lawns?
- Dark green, weed-free turf?
- Status of having someone else take care of their lawn?

All of these reasons are true to one degree or another, but two things stand out:

- The customer *demand*s a dark green turf.
- We have always utilized nitrogen to provide that color.

While one of the basic reasons for lawn care is to provide a dark green weed-free turf, the means to achieve this goal are changing.

Discriminating turf managers are beginning to realize that a balanced plant nutrition approach can deliver the quality dark green turf that the consumer desires with fewer nitrogen applications. Iron has been one of the least understood elements in this balanced plant nutrition approach, and some fallacies need to be explained.

**1. All, or most all, soils contain more than enough iron for healthy plant growth.** This is true, almost all soils contain amounts of iron far in excess of normal plant growth requirements, but it is in a form that is unavailable for plant use. Soil tests will seldom, if ever, show an iron deficiency, but plants grown on these soils will show a very strong response to iron applications. Deficient? No. Unavailable, Yes.

**2. If the soil has an acid pH then the natural iron will be available.** Again, this has some truth, but for every unit increase in soil pH above 4.0, there is a

1,000-fold decrease in iron solubility. The turf grown on acid soils may never exhibit the classical iron chlorosis, but almost always will respond to an application of iron.

**3. Most turf will not respond to an application of iron.** False. While the rates required to show a turf color response vary, in almost every case that no response occurred, it was demonstrated that either the turf was unable to respond due to lack of moisture, or that the iron rates were too low.

Most plants have an iron response threshold and if this rate is not met or exceeded, then indeed there is *no* response. Applications of the needed rate, or in excess of it, will produce an almost immediate color enhancement.

**4. The only time iron should be applied is early in the year.** False. Optimum iron responses occur when temperatures are either too low or too high for optimum soil microorganism growth. These microbes help to solubilize available iron, and if their growth is retarded by low or high temperatures, then iron availability also decreases.

Research in Virginia showed that early winter is one of the best times for iron applications because it improves color through the winter and into the spring. Iron may be applied when temperatures are too warm for application of conventional nitrogen sources, and will generally give significant color responses.

Can iron be substituted for nitrogen to enhance color? And if so, to what degree? While there has not been a lot of research into these questions, an article "Foliar Application of Nitrogen and Iron to Kentucky Bluegrass" by A.K. Yust, D.J. Wehner and T.W. Fermanian of the University of Il-



A quality Northeast lawn using a Kentucky bluegrass, perennial ryegrass mix.

sium, as essential. And while every book ever written about turf management goes into great length about frequency, rates and methods of applications of these elements, we are still several years away from understanding the full use of the secondary and micro-nutrient elements in the role of total plant nutrition.

As a turf manager, have you ever thought about *why* you apply nitrogen to turf? Is it because:

- Everyone else is doing it?
- It is a part of a total plant nutrient diet?
- It makes turf a dark green color?
- It is one of the cheapest materials available?



# COLOR RATINGS OF KENTUCKY BLUEGRASS

DATE (Days after application)

Treatment †	1980					1981				
	3 Oct (1)	8 Oct (6)	15 Oct (13)	22 Oct (20)	1 Nov (30)	7 Nov (36)	14 Nov (43)	6 Dec (65)	4 Apr (184)	13 Apr (193)
Check	5.7	6.0	6.0	6.0	6.0	6.3	5.0	5.0	4.3	6.7
1 FeS	7.3	6.7	6.3	6.3	6.0	6.0	5.0	5.0	4.3	6.7
2 FeS	7.7	7.0	6.0	6.3	6.3	5.7	5.3	5.0	4.0	6.3
4 FeS	7.3	7.7	8.0	7.0	7.0	7.7	7.0	7.0	6.0	8.3
1 FeC	7.3	8.0	6.0	6.3	6.0	6.0	5.7	5.3	4.3	7.0
2 FeC	7.7	7.7	7.3	7.3	7.3	7.3	7.0	6.7	5.0	7.0
4 FeC	8.3	8.7	8.3	8.0	8.0	7.7	7.0	7.0	6.0	8.0
25 N	6.0	6.3	6.3	7.0	7.0	7.0	6.3	6.0	5.0	7.3
25 N/1 FeS	7.7	7.3	7.0	7.3	7.3	7.3	6.3	6.3	5.7	7.7
25 N/2 FeS	7.7	7.7	7.3	7.7	7.7	7.7	7.3	6.7	6.0	7.7
25 N/4 FeS	8.0	8.0	8.0	8.0	8.0	8.0	7.0	6.7	5.7	8.0
25 N/1 FeC	7.7	8.3	8.0	7.7	7.7	7.3	6.7	7.0	5.7	7.7
25 N/2 FeC	7.7	8.3	8.0	8.0	8.0	8.3	7.7	6.7	6.3	8.0
25 N/4 FeC	8.3	8.7	9.0	9.0	8.3	8.7	8.3	8.0	6.7	8.0
49 N	6.3	7.3	7.3	7.7	7.7	7.7	7.7	7.3	5.7	8.0
49 N/1 FeS	7.0	7.7	7.3	7.3	7.7	8.0	7.0	7.7	6.0	8.0
49 N/2 FeS	7.3	7.7	7.3	7.0	7.3	7.7	7.0	7.3	5.7	7.7
49 N/4 FeS	7.7	8.0	7.0	7.3	7.7	8.0	8.3	8.0	6.0	8.0
49 N/1 FeC	8.3	8.3	8.0	8.0	7.7	8.0	8.3	8.0	6.0	8.0
49 N/2 FeC	8.3	9.0	8.7	8.3	8.7	8.3	8.3	8.0	6.3	7.7
49 N/4 FeC	8.7	9.0	8.7	8.7	8.7	8.7	8.7	8.0	7.0	8.3
CV (%)	7.2	6.7	8.5	7.2	7.4	7.0	8.0	8.2	9.4	6.9
NL ‡	NS	**	**	**	**	**	**	**	**	**
NQ ‡	NS	NS	*	**	**	**	NS	NS	**	NS
No Fe vs. Fe treatments	**	**	**	**	**	**	**	**	**	NS
Chelate vs. Sulfate	**	**	**	**	**	**	**	**	**	NS
FeSL	NS	**	**	NS	*	**	**	**	*	**
FeSQ	NS	NS	NS	NS	NS	NS	NS	NS	NS	*
FeCL	**	**	**	**	**	**	**	**	*	**
FeCQ	NS	NS	NS	NS	*	*	NS	NS	NS	NS

\*\*\* Significant at 0.05 and 0.01 levels, respectively. †Treatment code FeS = iron sulfate; FeC = iron chelate; 1, 2, 4 = 1.1, 2.2, 4.5 kg Fe ha. 25, 49 = 25, 49 kg N ha. ‡L = linear component, Q = quadratic component, CV = coefficient of variations.

Reprinted from Agronomy Journal Vol 76 Nov-Dec 1984. Yust et al: Foliar app. of N & Fe to Bluegrass.

Color rating of Kentucky bluegrass treated with Fe and N fertilizer combination on Oct. 2, 1989. Color rating is the mean of three replications rated on a 1 to 9 scale with 9 = to dark green and 1 = to light yellow.

Illinois, Urbana-Champaign, provided some excellent data for cool season grasses. On a soil with a pH of 5.9, they demonstrated that substantial increases in color were achieved with applications of iron, both as single additives and as combined with nitrogen (urea). The combination of iron with the nitrogen gave a color and length of response basically equal to almost twice the nitrogen levels when the nitrogen was applied alone.

It was demonstrated that iron can elevate color while lowering nitrogen levels. However, care should be taken in substituting iron for nitrogen because if conditions exist for sustained rapid turf growth, the plants may exhaust the quantities of available iron as a result, the color may fade permanently.

On warm season turf, even

less data has been published than for cool season turf. A recent article on "Centipede Response to Foliar Application of Iron and Nitrogen," by R.N. Carrow, B.J. Johnson and G.W. Landry Jr., of the University of Georgia was published in the Agronomy Journal, Vol. 89, pgs. 746-750 (1988). The observations in this article parallel those found by Yust, Wehner and Fermanian on cool season grasses, although the centipede grass did show much more inclination to phytotoxicity than did the bluegrass.

It is interesting to note that the phytotoxicity found on the centipede grass was the exception rather than the rule. Rates far in excess of that used on the centipede grass have been demonstrated on other turf and ground covers with little or no toxicities.

More research is planned on both warm season as well as cool season turf, and it is hoped that substantial data will soon be available concerning iron substitution for nitrogen while maintaining acceptable color levels. Research will be broadened to include other iron sources and color duration with these sources.

As more information becomes available, it is hoped that iron will provide an increased role in balanced plant nutrition, and will assist in maintaining the turf color and quality that the turf management profession demands. — Neal Howell

The author is product manager of specialty fertilizers for LESCO Inc., Rocky River, Ohio. He was formerly plant nutrition product manager in charge of iron products for PBI Gordon.



# FOCUS ON: LANDSCAPE

## 212 PROJECTS VIE FOR CLCA LANDSCAPE AWARDS



GREENIT LANDSCAPE INC. OF Sylmar, captured the 1988 Sweepstakes Trophy for the best landscape project in California, the California Landscape Contractors Association recently announced.

CLCA judges selected Greenit for its landscape installation at the Brody residence in Bell Canyon, a secluded community near the southeastern corner of Ventura County. The firm landscaped 100,000 square feet of the four-acre estate, which is located in the Santa Susana

Mountains with a panoramic view of the San Fernando Valley.

Included in the project are 132 trees, more than 1,500 shrubs, a wide variety of ground cover and flowers and 30,000 square feet of lawn. The focal point of the landscape is a 40-foot high *Ficus retusa* (Indian laurel fig) in the center of a circular driveway.

Douglas Hanover, president of Greenit, said the landscape was intended to maximize the view from the French provincial mansion on the property. Trees, for example, are spaced widely apart and away from sight lines to the valley below. The contractor also pointed out that many shrubs are fire resistant, especially those on the property's slopes.

The project, which took eight months to complete, was designed by landscape architect Greg Toland.

According to Rick Myers, chairman of CLCA's awards program, 212 projects were submitted for consideration throughout the state — the second highest total in

the 33-year competition. Most of these entries were victorious in local competitions earlier in the year, he said.

Myers indicated the judges spent two weeks traveling the state, visiting every site in order to name winners in each of 27 residential and commercial categories, plus eight special awards.

The President's Trophy for best residential project was awarded to Cal-West Nurseries Inc., Yorba Linda for the William Lyon estate in Trabuco Canyon, an Orange County gated community. Cal-West installed 283,000 square feet of landscaping around two ponds, a waterfall and a winding driveway. The designer was Greg Grisamore.

Koyama Landscaping of Temple City took the Judges Award, which goes to the best residential landscaping under \$40,000, for an oriental garden at the Enelow residence, Santa Monica. The project was designed by Takeo Vesugi Associates of West Covina, and consists of a pool, Japanese-style waterfall, intricate stonework, 25 giant bamboos, three black pines trained in the bonsai style, several additional trees and many colorful perennials.

The Ben Slade Award for overall landscape maintenance went to Cagwin & Dorward of Novato for work at the Pacific Bell SRV Administrative Center in San Ramon, with design by Michael Painter & Associates, San Francisco. The site encompasses 34 landscaped acres and combines advanced irrigation technology with many varieties of water-conserving native plants. Maintenance on the grounds is performed six days a week by a full-time staff of up to 12 workers.

For the entry judged best in all commercial categories, the Jere Driscoll Award went to South Shores Landscape of Mission Viejo for landscaping at the Seaclyff Estates/C-5 Models, a series of condominiums in Huntington



CLCA presented its highest honor, the Sweepstakes Trophy, to Greenit Landscape Inc. of Sylmar for landscape work at the Brody residence in Bell Canyon, (above). South Shores Landscape of Mission Viejo took the Jere Driscoll Award for its garden at the Seaclyff Estates, a series of condominiums, (top left). Photos: CLCA.



Beach. The designer was Presburger & Associates, Calabasas Park.

Although this garden covers only about one acre, it uses virtually every major element available to the landscape trade: pool, decks, ponds, waterfalls, bridges, manmade and natural boulders, lawns, numerous trees and plants and many varieties of brickwork and paving materials.

The San Diego Zoo's Tiger River Trail earned Ecosystems Imagery Inc., Cardiff the Special Effects Trophy, which recognizes best use of unique methods, materials and/or special artistic effects.

The zoo exhibit mixes tropical animals and plants in a three-acre rain forest replica. Among its features are a high-tech fog-creating system and an intricate irrigation network to substitute for the 100-plus inches of rainfall common to rain forest ecosystems.

Thom Maxwell-Miller of Ecosystems Imagery designed the project's landscaping along with the zoo's Chuck Coburn.

The Excelsior Award, which recognizes special talent by a new CLCA member, was awarded to Tierra Linda Landscaping, Martinez, for landscape installation at the Park Street Landing in Alameda. The landscape combines drought-tolerant plants and lawn with water-saving technologies such as low gallonage nozzles, pressure compensating devices and a dual program controller.

The Humanitarian Award went to Haruo Yamashiro of Gardena for the Patio Garden at the Japanese Cultural Institute's senior housing complex, Torrance. This award recognizes the best project in which more than 50 percent of the total labor and materials are donated.

In addition to special trophies, 49 other awards were granted by CLCA. The program's biggest multiple winner was Lehmann Landscaping Co., San Mateo, which took four regular awards.

Additional multiple winners were: Blue Sky Designs, Half Moon Bay, 3; Redwood Landscaping, Santa Rosa, 3; Herbert S. Frank & Son of Belmont 2; Jensen Corp., Cupertino, 2; Koyama Landscaping, Temple City, 2; Lafayette Tree & Landscape, Lafayette, 2; Mission Landscaping Services, Santa Ana, 2; Kim Parker Associates, Milpitas, 2; John J. Shooter Inc., Menlo Park, 2; Western Landscaping, San Mateo, 2; and Wirsch Rock Art, Rancho Cordova, 2.

CLCA is the nation's oldest and largest organization of licensed landscape and irrigation contractors. Also included in the association's membership are landscape architects, landscape suppliers, educators, public employees and students.

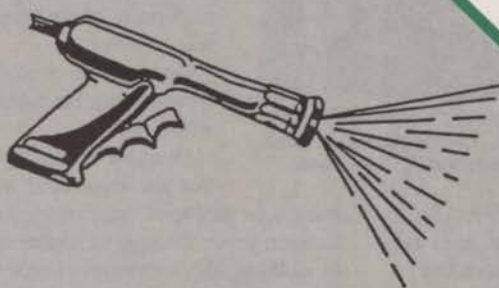
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# FOCUS ON: SEEDING

## SELECTING AND MAINTAINING QUALITY BERMUDAGRASS



Widely adapted to the southern warm (WH) climatic region. Performs better in semiarid (WSA, TSA) regions if irrigated. Some cultivars extend into the transition (T, TSA) zone.

THE FOLLOWING TIPS SERVE AS an introduction to the bermudagrasses as they contribute to the development and maintenance of an attractive lawn.

Bermudagrasses do especially well throughout the upper South from middle Georgia to eastern Oklahoma, and throughout lower elevations of the southwest. In southern Florida and along the humid Gulf Coast, bermudagrasses are well-adapted, but other warm season grasses are often easier to care for.

Bermudagrasses grow only in warmer

weather as long as water and adequate fertilizer nutrients are available. At the approach of frost, bermudagrasses slow in growth rate and turn off-color, eventually turning brown. Dormant bermudagrasses easily become infested with winter weeds which destroy the uniformity of the brown off-season cover.

Under extreme cold, less winter hardy bermudagrasses winter kill.

Dormant bermudagrasses that are overseeded with fine

fescues or perennial ryegrasses retain a uniform green throughout winter months. In addition, the wintergrass keeps weeds out. In the spring, bermudagrasses revive from winter dormancy and resume growth and green color — usually sometime in April.

Bermudagrasses are:

- attractively fine-textured and deep-colored
- tolerant of varying soil conditions
- moderately resistant to drought, salt air and wear

- not shade tolerant
- not frost tolerant, but they recover quickly upon return of warm weather;
- not highly susceptible to diseases or insects;
- difficult to keep from flower beds and other garden borders.

Bermudagrasses spread by both runners and rhizomes. Their vigor helps make a thick lawn in a hurry. It also helps crowd out weeds and bring about rapid recuperation following any blemish.

Because of a relatively high demand for water and fertilizer nutrients, bermudagrasses are generally classed as having high maintenance requirements. Because of rapid growth rates, they require frequent mowing.

An application of fertilizer about once a month is desirable. One pound of nitrogen per 1,000 square feet is required. A complete fertilizer applied according to soil test recommendations is advised.

In the Southeast, sting and lance nematodes may weaken bermudagrass roots, but nematocides help improve turf quality. In the Southwest, the Eriophyid mite is controlled by use of a miticide and fertilizer.

Spring deadspot of bermudagrass throughout the transition zone causes

blemishes that are difficult for the grass to heal in.

Combinations of fungicides and insecticides have helped prevent this die back. Bermudagrasses take clipping well even at heights as low as one-half inch. An upper limit of one-and-a-half inches is advised.

These grasses form thatch readily so control measures are desirable. Irrigation is programmed to fit the needs dictated by soil and climatic conditions. Hot, dry weather and sandy, coastal plain soils increase the need for watering.

Common bermudagrass is propagated from seed. Hybrid bermudagrasses are finer-textured and more dense sod formers that must be propagated from living shoots. They are more costly to propagate. *The Lawn Institute.*

## 1989 BERMUDAGRASS SEED FORECAST

FINALLY, AFTER SEVERAL seasons of an apparent oversupply of bermudagrass seed, the industry is now in a position more in line with usage, according to Farmers Marketing Corp., Phoenix, Ariz.

Because the industry is no longer in a position of oversupply, the cost of bermudagrass to lawn and landscape maintenance operators is on an upswing.

Last year, common bermudagrass was selling for \$1.50 to \$1.70 a pound. This year that figure may increase to over \$2 per pound, according to Farmers Marketing.

Users of common bermudagrass will be in for a surprise this year, as NuMex Sahara bermudagrass seed makes its

debut.

The product is the first seeded bermudagrass developed since common was developed more than 30 years ago. NuMex Sahara is said to provide good turf quality and color, is shorter growing, dense and has shown less stunt mite damage in New Mexico State University tests.

The product will be available only in limited quantities.

The reduction in the bermudagrass supply was brought about by several factors. First, and probably the main cause of a reduction in bermudagrass acreages, has been an influx of Japanese buyers into the U.S. hay market, including bermudagrass hay, according to Farmers Marketing. For several months, Japanese firms have

been contracting bermudagrass hay at levels around \$100 per ton.

As a result, some growers have been able to harvest approximately five tons of hay per acre. Due to the rather low cost of water in the production areas, these farmers are able to bring in more revenues from hay than they could from fall seed production.

Secondly, because of the increases in wheat market values, many farmers have taken out old stands of bermudagrass and replanted with wheat.

Before NuMex Sahara, Guymon, a cold-tolerant bermudagrass developed at Oklahoma State University, was the most recent bermudagrass developed.



FOR MORE INFORMATION ABOUT THE PRODUCTS DISPLAYED IN THIS ISSUE, CIRCLE THE READER SERVICE NUMBERS OF THE ITEMS THAT INTEREST YOU.

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| 3 | 11 | 19 | 27 | 35 | 43 | 51 | 59 | 67 | 75 | 83 | 91 | 99  | 107 | 115 | 123 | 131 | 139 | 147 | 155 | 163 | 171 | 179 | 187 | 195 | <input type="checkbox"/> Extension Agents, (Federal, State, County Regulatory Agencies),<br><input type="checkbox"/> Agronomist, Schools, Colleges, Universities, Library, Trade Associations<br><input type="checkbox"/> Others (please describe) _____ |
| 4 | 12 | 20 | 28 | 36 | 44 | 52 | 60 | 68 | 76 | 84 | 92 | 100 | 108 | 116 | 124 | 132 | 140 | 148 | 156 | 164 | 172 | 180 | 188 | 196 |  |
| 5 | 13 | 21 | 29 | 37 | 45 | 53 | 61 | 69 | 77 | 85 | 93 | 101 | 109 | 117 | 125 | 133 | 141 | 149 | 157 | 165 | 173 | 181 | 189 | 197 | <input type="checkbox"/> Others (please describe) _____  |
| 6 | 14 | 22 | 30 | 38 | 46 | 54 | 62 | 70 | 78 | 86 | 94 | 102 | 110 | 118 | 126 | 134 | 142 | 150 | 158 | 166 | 174 | 182 | 190 | 198 |  |
| 7 | 15 | 23 | 31 | 39 | 47 | 55 | 63 | 71 | 79 | 87 | 95 | 103 | 111 | 119 | 127 | 135 | 143 | 151 | 159 | 167 | 175 | 183 | 191 | 199 | What is your title? _____  |
| 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 | 128 | 136 | 144 | 152 | 160 | 168 | 176 | 184 | 192 | 200 |  |

Signature \_\_\_\_\_

Date \_\_\_\_\_

What is your primary Business /Industry (Please check only one)

II IN-HOUSE LAWN CARE/ MAINTENANCE

IV OTHERS ALLIED TO THE FIELD

- ☐ I. CONTRACTOR or SERVICES:  
☐ Chemical Lawn Care Services  
☐ Landscape Contractors (Installation & Maintenance)  
☐ Moving Maintenance Contractors  
☐ Ornamental Shrub & Tree Services  
☐ Other Contractor/Services (please describe) \_\_\_\_\_

- ☐ In-House Lawn Care/Maintenance including: (Schools, Colleges, Universities, Hospitals, Health Care Facilities, Government Grounds Parks, Military, Condo, Complexes, Housing Developments, Private Estates, Commercial or Industrial Parks)  
☐ III DISTRIBUTOR/MANUFACTURER:  
☐ Dealers/Distributors  
☐ Manufacturer/Formulator

- ☐ Extension Agents, (Federal, State, County Regulatory Agencies),  
☐ Agronomist, Schools, Colleges, Universities, Library, Trade Associations  
☐ Others (please describe) \_\_\_\_\_  
 What is your title? \_\_\_\_\_

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

PHONE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

JANUARY 1989

FOR MORE INFORMATION ABOUT THE PRODUCTS DISPLAYED IN THIS ISSUE, CIRCLE THE READER SERVICE NUMBERS OF THE ITEMS THAT INTEREST YOU.

- |   |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
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| 5 | 13 | 21 | 29 | 37 | 45 | 53 | 61 | 69 | 77 | 85 | 93 | 101 | 109 | 117 | 125 | 133 | 141 | 149 | 157 | 165 | 173 | 181 | 189 | 197 | What is your title? _____  |
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| 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 | 128 | 136 | 144 | 152 | 160 | 168 | 176 | 184 | 192 | 200 |  |

Signature \_\_\_\_\_

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☐ Others (please describe) \_\_\_\_\_  
 What is your title? \_\_\_\_\_

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

PHONE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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JANUARY 1989





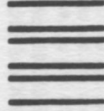
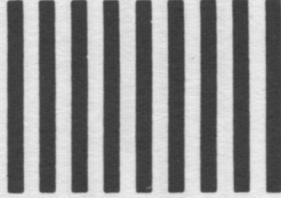
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# FOCUS ON:

## TREES & ORNAMENTALS

### PLANTING TREES AND SHRUBS

**SUCCESSFUL ESTABLISHMENT** OF a tree or shrub begins with the important stage of preparing a correctly sized planting hole. The planting process may seem somewhat laborious, but it is worthwhile providing the best conditions in which the plant can grow and thrive rather than merely survive.

Any perennial weed roots, such as couch grass, dock or thistles, must be cleared from the site, otherwise they become almost impossible to remove creating strong competition to the plant.

If a broad area is to be planted, such as a shrub border, it can be prepared by double-digging the whole area and incorporating compost or well-rotted manure. Individual holes can then be dug for the shrubs, which need only accommodate the depth and width of the roots, since the ground has been prepared.

#### PREPARING THE PLANTING HOLE.

The diameter and depth of the planting area depends upon the size of a tree or shrub, as follows:

For trees up to 9 feet (2.8 meters) when purchased, the planting hole should be 3 feet (1 meter) in diameter. For larger trees, up to 16 feet (5 meters), the required planting hole size is 4½ feet (1.4 meters) or more.

The depth of preparation is the same for trees of all heights — 18 inches (50 centimeters). The soil is worked over in two stages: planting depth corresponds to the original depth of the soil around the tree or shrub, whether it is supplied bare-rooted or root-balled (balled and burlapped) or has been grown in a container. A similar depth of soil is broken up and prepared below the actual planting depth.

Remove the topsoil to a depth of 9 inches (25 centimeters). Store the soil on a flat board beside the planting hole, and add to it half a bucket of compost or well-rotted farmyard manure.

Fork over and break 9 inches (25 centimeters) of subsoil. Remove any weed roots from the soil as it is turned. Dig in half a bucket of compost or well-rotted farmyard manure.

For shrubs reaching an ultimate height of not more than 18 inches (50 centimeters), the minimum diameter of the planting hole should be 2 feet (60 centimeters). For shrubs which will ultimately exceed this height, the required size of



*Tree Photos: (page 3 and 63) Mickey Jones.*

planting hole is 3 feet (1 meter).

The depth of the prepared planting area is the same in both cases, 18 inches (50 centimeters). Soil preparation is in two stages as described above for trees.

**PLANTING CONTAINER-GROWN TREES OR SHRUBS.** A container-grown tree or shrub should be well-watered before it is planted, ideally at least one hour before.

Place the plant, still in its container, in the planting hole and adjust the depth so the rim of the container is just below the surrounding soil level. If the tree or shrub is in a rigid or flexible plastic container, this can now be removed, taking care not to disturb the soil ball around the roots of the plant.

Peat composition or treated paper pots can be left in place as the material is decomposable, but if the surrounding soil is dry or the planting takes place in mid-summer, it is best to remove the pot.

Never lift the plant by its trunk or stems, as this can tear and damage the roots. Handle the whole root ball carefully. Once the container has been removed,

take care that small exposed roots do not dry out.

Replace the prepared topsoil around the root ball of the plant to the level of the soil around the planting hole. Tread the soil gently all around the plant to compress it evenly. Unless the soil is very wet, pour a bucket of water into the depressed area.

#### PLANTING BARE-ROOTED TREES OR SHRUBS.

The basic planting method is the same for bare-rooted or root-balled (balled and burlapped) plants as for container-grown, but it is even more important that the roots should not be allowed to dry out. When returning the topsoil to the planting hole, take care to work it well in and around the roots of the tree or shrub, leaving no air pockets in the soil.

#### PLANTING TIMES.

The best time to plant bare-rooted

trees and shrubs is in late winter or early spring, just before bud break. Bare-rooted trees and shrubs lose most of their root surface — and water-absorbing capacity — during transplanting. New roots will not develop until spring, so if you plant in fall, there is the risk that buds and twigs will dry out over the winter.

Fall is the best time to plant balled and burlapped and container-grown trees and shrubs, because it gives them a long season of cool air and warm soil for strong root growth. Roots put on most of their year's growth after leaf fall. Trees and shrubs planted as early as possible — after their leaves have dropped — will be able to establish a powerful root system before the soil temperature drops toward freezing. Early planting of trees and shrubs will also require less watering and attention during the following season. — *The Gardener's Encyclopedia of Trees and Shrubs.*

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# PEOPLE



Scobee



Fondrie

**ROBERT E. SCOBEE**, FORMER market development and sales manager of The Andersons' lawn products division, has formed New Trends Marketing, a product sales/development venture to help turf care product manufacturers penetrate lawn and garden markets.

New Trends Marketing is designed to be a link between products and markets. The company will specialize in several compatible areas, namely matching products to the appropriate marketing strategy.

Scobee is a graduate of Purdue University in turfgrass management and agronomy. He was a golf course superintendent and owned a distributorship before joining The Andersons.

**David C. Fondrie** was recently promoted to executive vice president of Ransomes Inc. In his new position, Fondrie will oversee marketing and technical service support functions, while retaining responsibility for all financial operations.

Fondrie joined Ransomes in 1987 as vice president/finance. He was previously employed by Price Waterhouse.

Ciba-Geigy Corp.'s Turf & Ornamental Products Department has doubled its staff to manage an expanded product line and meet the needs of the turf industry.

**Owen Towne** becomes product manager for Ciba-Geigy's turf fungicides.

**Marcus Juby** and **Jeff Kollenkark** were added to the company's technical support staff and will coordinate development and product support services with

customers and university and independent researchers.

Ciba-Geigy's staff of field marketing representatives increases from seven to 12. **Ron Johnson** is promoted to national accounts manager. Other new employees include: **Mike Daly** (Midwest), **Mark Jirak** (Mid-Atlantic), **Jimmy Johnson** (Indiana, Kentucky and Lower Michigan), **Ray Lea** (South Florida), **Russ Nielsen** (New England), **Ken Russell** (Upper Southeast) and **Gregg Schaner** (Ohio, West Virginia and West Pennsylvania).

Solo Inc. has appointed **W.D. McConaughy** as regional sales manager for the northwest U.S.

McConaughy started in the chain saw industry with the Wright Saw Division of Thomas Industries in 1959. He's also served as territory and district manager for Homelite, and played an instrumental role in pioneering the Husqvarna line in the northwest during the late 1970s. ■

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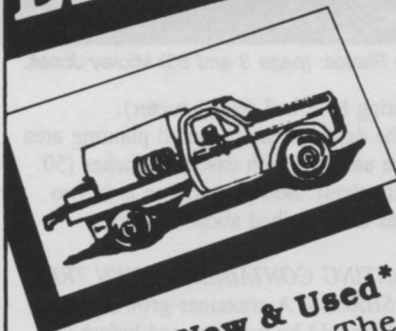
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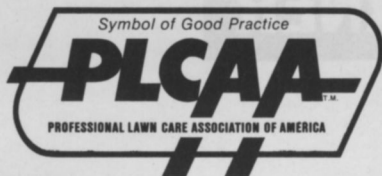
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Pesticide Handling for the Turf Industry — \$1.00 each	_____	\$ _____
Liquid Calibration and Application Techniques		
-- \$2.50 each	_____	\$ _____
PLCAA Safety Manual		
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## MOTIVATING YOUR EMPLOYEES



HOW DOES A MANAGER EFFECTIVELY motivate his workers? Are some methods more successful than others? Does effectiveness vary from one situation to another? From one person to another?

Management consultants Stephen J. Carroll and Henry L. Tosi point out seven strategies which can encourage workers to perform better. The strategies are listed in order of effectiveness, not in order of frequency used.

**TEAM WORK.** Skillful managers form work groups when possible with the hope that peer pressure will induce high levels of performance. This is reported to be an effective means of motivation because individuals appear to be more concerned with living up to the expectations of fellow workers than they are for their bosses.

**PERSONAL INVOLVEMENT.** Workers who are allowed to set their own performance levels will usually try to meet their own expectations. It is important to have the worker make a verbal commitment, regarding their anticipated achievement levels. According to Carroll and Tosi there is also evidence that individuals and groups are most likely to attain

goals when they make a public commitment to do so. This may be because such commitments are promises and most people view themselves as persons who keep their word.

The chief problem with this strategy results from workers who maintain a low self-concept. At this point, managers are faced with the problem of motivating a worker to think positively about himself so his self-concept will correlate with high performance.

**WORK ENHANCEMENT.** With this method, managers structure jobs so the work itself provides fulfillment. According to Carroll and Tosi, the experiment in job enrichment under way at the Saab-Volvo automobile manufacturer in Sweden, nicely

illustrates how job enrichment works. Rather than the monotonous production system which characterizes auto manufacturing in the U.S., at Saab-Volvo they use a team-assembly concept in which workers rotate the tasks required for building an auto. Basically, the entire group is responsible for assembling the entire auto.

One of the difficulties with this type of motivational strategy is that workers want to be compensated adequately for the work they do. When employees are expected to perform more complicated job skills, they expect increased compensation. When this does not happen, the work may no longer offer an internal incentive.

**REWARDS.** This type of planning is based on the behavior modification approach that workers will increase or repeat the desired work performance if they are given rewards. It is also hoped that poor performance will be eliminated once the employee comprehends the relationship between commendable performance and rewards.

Generally, the reward approach is successful, but is not without its complications. What may be considered rewarding to one worker may be no incentive whatsoever to the next employee.

**MUTUAL EXCHANGE.** Sometimes managers promise special privileges for the exchange of desired work performance. A supervisor may allow a worker to leave work early if he completes his task for the day, or he may be allowed a day away from the job if he finishes a required project within a specified given time.

Mutual exchange is a frequently used strategy, but not necessarily the most effective. Problems arise when the employee feels the exchange is out of balance, or when he cannot come to an agreement with his supervisor.

**COMPETITIVE MEASURES.** In this design, workers compete against others for certain bonuses or prizes. Banners, plaques, vacations and free dinners are examples of some rewards offered.

Difficulties occur when managers design contests that do not offer a fair opportunity to achieve the specific goals. If the same individuals and groups win the prizes time and time again due to the design of the contests, interest in competing is likely to grow lukewarm for many of the workers.

**PUNISHMENT AND FEAR.** The least effective, but frequently used method of motivating a worker is with a negative consequence, such as a verbal dressing-down, suspension or the loss of the job. Punishment may achieve immediate results, but it does not accomplish internal motivation for several reasons. First, adults are not inclined to remain in employment where they are threatened and intimidated. Second, workers who are backed by a strong union may dissolve the threat with a higher level of authority. Third, scares and intimidation can create animosity toward a superior, and employees may respond with hostility and subversion.

It would appear the most effective motivational strategies demand the most time and concern on the part of the manager. If a manager is concerned only with production and immediate results, he may choose punishment and fear. However, if a superior is interested in performance levels, job satisfaction and the internal motivation of his workers, it may benefit him to use more effective and demanding managerial strategies. — *Arkin Magazine Syndicate*



# PRODUCTS

**MULCH MAGIC, AN ALTERNATIVE** to replacing hardwood mulch products such as cypress, cedar and redwood bark, is now being offered by **Becker-Underwood**.

While hardwood mulches tend to lose their original color within six weeks after installation, Mulch Magic can restore the vibrant, bright color for three to five months. Product and application costs are about \$10 per thousand square feet.

Mulch Magic can be applied with any conventional backpack or hand-held sprayer. The product is water soluble and comes in convenient, "Tip 'N' Measure gallon containers for easy, consistent applicator mixing.

**Circle 101 on reader service card**

**GRAVELY INTERNATIONAL'S NEW 18H Pro Master out-front mower** features speed and maneuverability.

The 18-horsepower Kohler Magnum engine powers an Eaton Series 850 hydrostatic transaxle, delivering variable forward speeds from zero to 6.3 mph and variable reverse from zero to 4 mph. Yoke handlebar steering with 3/16-inch aircraft cable provides good maneuverability. Twin rear wheels help the 18H turn on a dime.

The standard tool/debris box is a common sense extra that lends itself to a variety of uses. A standard hydraulic deck lift makes it easy to raise the deck for balance when negotiating curbs or other obstacles.

**Circle 102 on reader service card**

**A NEW LAKE AND POND DYE FROM Precision Laboratories** has been designed to give a natural blue coloring to water.



Long-lasting **True Blue™ Lake & Pond Dye** is a nontoxic, odorless solution which may be applied in corporate and park ponds, lakes, fountains, water hazards, golf course ponds and retention ponds. Tested by independent agencies, it is said to be harmless to fish, wildlife and other aquatic species.

One gallon of the highly concentrated True Blue will effectively color approximately 1,250,000 gallons. True Blue comes in one-gallon containers. After application, the product will mix and disperse throughout the water by wind and water currents.

**Circle 103 on reader service card**

**EXMARK MANUFACTURING CO.'S** turf rake powers through thick thatch and root-bound grass, promoting deep root

growth. The turf rake is driven by a five-horsepower Briggs & Stratton engine. Operating widths range from 19 1/4 inches to 21 inches depending on shaft option and blade or finger spacing.

Two shaft options are now available: the raking shaft and the multipurpose shaft. The raking shaft has 28 flail-type, austempered-steel raking fingers which can be adjusted to different spacings. Fingers have standard 11/16-inch spacing and can be adjusted to 1 3/8-inch spacing. The new multipurpose shaft has 13 hardened-steel blades and will dethatch, verticut and slice, eliminating the need to change shafts for different operations. Both shafts can be reversed to double-blade life.

**Circle 105 on reader service card**

**LIQUID SOD CORP. INTRODUCES A**

new concept in pregerminating a wide variety of grass seeds. This new method increases seed yields while reducing turf establishment time.

The pregerminating bags provide durability and portability, with minimum space requirements. Special features include an efficient aerating method that reduces fermentation (seed spoilage); a screened drain plug for reduced handling and seed loss; and 50-pound plus capacity.

Pregermination is gaining popularity because it provides advantages over conventional seeding methods such as a

**LEBANON TOTAL TURF Care** has introduced Country Club 19-4-6 with Surflan and Country Club 7-3-22 with Surflan for the control of annual weeds in Southern grasses.

Both of these new granular herbicide and fertilizer combination products will provide a balanced feeding, while controlling several broadleaf weeds and annual grasses, such as goosegrass, crabgrass and sandbur.

Formulated with Surflan pre-emergence herbicide, these pro-

ducts are particularly effective on stopping weeds as they germinate in bahiagrass, bermudagrass, centipedegrass, tall fescue, St. Augustinegrass and zoysiagrass. They are also safe to use around ornamental trees and shrubs when applied as directed.

Country Club 19-4-6 with Surflan contains a homogeneous fertilizer base with 3 units WIN for longer feeding and greening. Designed for areas where soil potash levels are low, Country Club 7-3-22 with Sur-

flan has a homogeneous fertilizer base with 35 percent organic nitrogen.

Both products are available in 50-pound bags which cover up to 14,700 square feet. When applied at the recommended rate of 4.5 pounds per 1,000 square feet, they will put down two pounds of active ingredient per acre. Apply them in spring for summer annual weed grass and broadleaf weed control, and in fall for poa annua and winter annual broadleaf weed control.

**104 on reader service card**



controlled germinating environment for a faster turf establishment, reduced vulnerability to erosion, enhanced competitiveness against weeds and protection against seed consuming predators.

**Circle 106 on reader service card**

**RAIN BIRD** RECENTLY INTRODUCED 18- and 24-station models to its existing four-, six-, eight- and 12-station RCM Series of solid state controllers.

Designed to handle large commercial applications, these new units feature independent dual programming with up to six starts per day, 14-day calendar and station timing of 0-99 minutes (in one-minute increments) or 0-9.9 hours (in one-hour increments).

These new controllers incorporate many features of the established RCM line, including a nine-volt NiCad battery with a recharging circuit for up to 24-hour memory protection in the event of a power failure, and a key-lock door for maximum security.

The new RCM models also feature a seamless, drawn cabinet with rounded corners and stainless steel mounting hardware for maximum rust protection.

**Circle 107 on reader service card**

A 48-INCH LOFTNESS TWO-STAGE snowthrower is now available from Mid-

**dlesworth Engineering and Manufacturing.** Attaching frame and drive components are added by Middlesworth to be mounted on any "C" Series tractor.

The snowthrower features zero-turning-radius, manual lift, manual rotation spout driven by a worm gear, two-stage design with open spoke augers to pulverize the snow and move it into the fan and hardened steel cutting edge.

**Circle 108 on reader service card**

A 52-INCH COMMERCIAL MOWER is now available from **Scag Power Equipment.**

This 52-inch walker comes standard with a commercial quality Peerless



transmission, five-gallon polyethylene fuel tank, no-tread floatation caster wheels, oversized pulleys and heavy-duty spindle housings and comfortable operator presence controls (patent pending).

**Circle 109 on reader service card**

Polyblended boots are now available from the **Bata Shoe Co.** The boots have a two-stage injection moulded, one piece construction for complete waterproof protection. They're constructed for environments where severe conditions require a high degree of chemical resistance.

Other features: nonslip soles for safety and steel safety toe in selected styles.

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A COMPLETE LINE OF ZERO-TURNING-radius riding mowers is now available from **Snapper Power Equipment.**

Snapper zero-turning-radius riding mowers are specifically designed to reduce mowing time. Two conveniently located control handles make operation easy. Push one handle forward while pulling the other back to turn on a dime. Push both handles forward for straight; pull them back for reverse. The compact design and low wide body provide sharper turning and close trimming.

The mowers are made of heavy gauge steel structural parts, with reinforced stress points. Mower decks are heavy gauge steel with a 3/16-inch steel plate spanning the entire deck length for added support.

The new Snapper mowers are equipped with 12-, 14-, 16-, 18- and 20-horsepower engines.

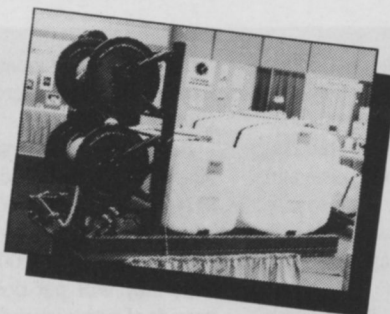
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Lawn care companies of all sizes in U.S. and Canada being sought by national corporation. Complete buy out or stay and grow with us. If interested please call me directly: Don Karns, Senior Vice President, Tru Green Corporation, 404/442-8700. Strict confidentiality maintained.

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Ever-green Lawns, a Division of ADT Limited, an international service company doing in excess of a billion dollars in sales annually, wants to acquire lawn care companies of all sizes. All inquiries strictly confidential. Please contact: Steve Hirshmuyl, Director of Finance and Acquisitions, Ever-green Lawns Corporation, 1390 Charlestown Industrial Drive, St. Charles, Mo. 63303; 314/946-9700.

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## Sam Russo

(continued from page 27)

company since it was formed?

**A.** When I first started the mowing company I did everything. I used to go out there and trim shrubs, do shrub beds, cut the grass, whatever. No job was too big, no job was too small. Because there was so much available time, I could do anything. But as you get bigger, you have to start directing the work a little.

Now we send mailings out to our communities and we give deadlines for specific services. This helps us coordinate and schedule the work and get it done before the next mailing. It's forced us to try to do it the most tasteful, tactful possible way. You don't want to ever set a bad impression. You have to be very charismatic in how you bring this across to people.

**Q.** What do you think about the direction the mowing maintenance industry is going in now?

**A.** Well, my biggest concern right now with the mowing industry is how the Environmental Protection Agency is

getting involved in the cutting end of the environment. Their guidelines are getting strict. Next year, I believe, we'll have to prove what we're doing, that lets me know they're knocking on the door now. And the next thing that's going to happen, and is already happening, is restrictions as to where we can dump our grass clippings.

They're not just grass clippings anymore. It's grass loaded with insecticides, fungicides and pesticides. It's almost as if there's toxic waste on the ground. I think it's only going to get worse and worse. We're definitely going to have to revamp, sit down and restructure if that happens.

The way the price structure is currently set up, it allows for free dumping of our clippings. But if we had to start paying for dumping in a lined landfill, it would cost more than \$1 million for our combined communities. That cost would have to be factored in to our pricing.

This would have a significant impact on industry.

**Q.** It's almost like the business is being threatened?

**A.** I definitely feel that this particular business is being threatened. But

then on the other side of the coin, I say that I'll just have to reinitiate myself to the changes. If they are able to make this drastic of a change, then there's going to be other avenues opening up. I think it's just a matter of never totally committing to one thing that you can't back out and revamp and readjust.

**Q.** What do you think of the entrance of so many new companies into the mowing maintenance industry?

**A.** One of my biggest concerns when I got into this business was how lightly people took us. We'd walk into a community and they'd tell us "you're going to make \$150,000 here." They didn't break it down to the fact that you're only making \$7 a lawn.

It's not as easy as they make it sound. Sure you might make \$150,000 in a year, but you may also spend \$160,000 doing it. If this business were that easy then how come companies like Chem-Lawn, Lawn Doctor and other large fertilizing companies, aren't involved in grass cutting?

It's a tough business. About 80 percent of landscapers fail within the first two years. I have to keep finding ways to make it work better. I don't think we're ready yet to have a big-name grass cutter.

There's so many landscaping companies out there and everybody has different visions of what's happening. Some people's visions are taking the direction of mass contracting and their turnover is incredible every year. So they're not really keeping people happy, although they're still in business because there's such a demand for landscapers.

I was convinced that if we kept going the way we did, sooner or later we'd probably be one of those companies with a good reputation. It's kind of hard to sell something that you don't have. Now we're starting to use that to our advantage. We must be doing something right if we can keep communities happy for five- and six-year stretches. I think it's just a matter of keeping our principles in order. Never throw anything off your shoulder. Attack it face on and do the best you can with any occurrence that comes up.

Every year is a real challenge. We probably sign 60 percent to 70 percent of the contracts we go after, keeping an eye to quality service. If we can't keep all of our current customers happy then we won't solicit new customers.

We never stop seeking better, original ways to run our business. The day I'm satisfied with the way operations are run is the day I'm finished. — *Cindy Code* ■

*The author is Editor of ALA/Maintenance magazine.*



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