

AIA LAWN AND LANDSCAPE **MAINTENANCE**

FEBRUARY 1989 • \$2.50

Will the Drought of 1988 Make a Return Appearance?

*Despite Predictions, Maintenance Operators
are Gearing up for a Profitable Season.*

ALSO IN THIS ISSUE:

SPECIAL REPORT:

***Hiring in the 1990s:
Will There be
Enough Workers?***

*Solutions for Cooling
off the Greenhouse*

*Herbicide Efficacy in
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EDITOR'S FOCUS

ONCE AGAIN, THE INDUSTRY FINDS itself wondering about the Great Drought of 1988. While not easy to forget, the devastating dryness of last summer temporarily left our minds when the drought ceased to make headline news.

But no matter how hard we try, we can't forget the drought. It wasn't just an unfortunate highlight of last summer, but a sign of future events.

In fact, many previously skeptical people are now taking seriously the greenhouse effect — a theory defining the gradual warming of the world climate as a result of atmospheric pollution.

The environment played such a role in the scheme of recent national events that *Time* magazine named Earth the "Planet of the Year" — preempting its annual man of the year award.

With such gloomy news to start the new year, lawn and landscape maintenance operators should have made at least one spring resolution — to continue the



professional and educational strides made at the peak of the drought season.

As a result of quick action taken by maintenance operators, manufacturers and distributors, the industry came away from

last year's drought with a high level of confidence from the public they serve. True, a number of companies lost some customers during the heat of the summer, but for the most part, customers were retained, and the wheels were set in motion for a profitable spring season.

Industry operators are already gearing up for increased production in all service areas: aeration, renovation, spraying, irrigation installation; the list goes on.

And the increase in service did not just fall into the laps of these maintenance operators, they worked hard for it. They worked to educate the public on the need for turf maintenance despite the dry weather. They worked against watering bans and news reports telling homeowners to forget their lawn services.

As we start this season, we'll see many effects of last summer's drought not previously detected. The industry will have to deal with each situation as it arises. — *Cindy Code*

Cindy Code
Editor

Richard J.W. Foster
President

Charlotte Goerss
Art Director

Maureen Mertz
Publisher

Helen Duerr
Assistant Art Director

Dan Moreland
Editorial Director

Jami Childs
Production Manager

Michelle Mindell
Research Assistant

Fran Franzak
Office Manager

Gary Jantonio
Vice President, Finance

Rosalie Slusher
Circulation Manager

Diane Palwicki
Accounting Manager

Maureen Mertz
Publisher/Sales Manager
42480 Park Ridge Road
Novi, Michigan 48050
313/348-9636
Advertising Office

ALA/MAINTENANCE
4012 Bridge Avenue
Cleveland, Ohio 44113
216/961-4130
Editorial Office



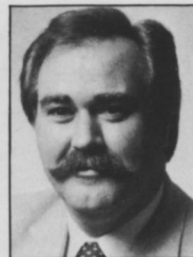
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Dr. John Street is an associate professor in the agronomy department at The Ohio State University. **Dr. William Meyer** is president of Pure-Seed Testing Inc., Hubbard, Oregon. **Dr. Des Rice** is president of The Weed Man Ltd., Mississauga, Ontario, Canada. **Dr. Al Turgeon** is professor and head of the department of agronomy, Pennsylvania State University. **Dr. Joseph Vargas** is professor of botany and plant pathology, Michigan State University, East Lansing, Michigan. **Dr. Patricia Vittum** is associate professor of entomology, University of Massachusetts, Waltham, Massachusetts.

CALENDAR

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 to register.

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.

FEB. 27-28

12th Annual Grounds Maintenance Conference, Sheraton Columbia Northwest, Columbia, S.C. Contact: George V. Hyams, P.O. Box 12109, Charleston, S.C. 29412; 803/762-1595.

FEB. 28-MARCH 1

Northeastern PA Turfgrass and Grounds Maintenance School, Luzerne County Community College, Prospect Street and Middle Road, Nanticoke, Penn. Contact: William Pencek, Lackawanna County Extension Service, 200 Adams Ave., Scranton, Penn. 18503; 717/963-4761.

FEB. 28-MARCH 1-2

The Illinois Landscape Contractors Association's three-day winter seminar for ex-

terior and interior landscape contractors, Pheasant Run Resort, St. Charles, Ill. Contact: ILCA, 2200 S. Main St., Suite 304, Lombard, Ill., 60148; 312/932-8443.

MARCH 8

The 20th Annual Professional Turf and Plant Conference at the Nassau Veterans Memorial Coliseum, Hempstead, N.Y. from 8 a.m. to 5 p.m. The conference is hosted by the Nassau Suffolk Landscape Gardeners' Association in cooperation with Cornell Cooperative Extension of Nassau and Suffolk counties. For more information call 516/665-2250.

MARCH 17

The first Colorado Association of Lawn Care Professionals Conference and Trade Show, Viscount Hotel, 200 W. 48th Ave., Denver, Colo. 80216. Proceeds go to CSU turfgrass research. Contact: Julia Marie, 303/688-2268. ■



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LCO's JOIN SPECIAL OLYMPIC CRUSADE

Florida LCO Jerry Williams can attest to the satisfaction gained by being a Special Olympics volunteer. He can also tell you what it's like being the parent of a child with mental retardation. His two-year-old son, Michael, was born with Down's syndrome.

Williams, general manager of Mandarin Service, Jacksonville, is one of a number of LCOs across the nation who are contributing their time and money to Special Olympics. All turf and lawn care associations are being encouraged to do the same.

The call for volunteers came after a \$125,000 contribution to Special Olympics was made on behalf of the lawn maintenance industry by The Dow Chemical Company. The industry is now an Official Bronze Medal Sponsor of the 1989 International Winter Games to be held in Reno, Nevada, in April.

There are a number of ways to become involved, according to Larry Speer, business manager for Dow. Associations can donate money to state Special Olympics programs, provide volunteer support for a Special Olympics event or adopt a local Special Olympics team.

LCOs can be buddies for a Special Olympian and serve as referees, coaches or "huggers" at Special Olympics games.

Why should lawn care operators become involved in Special Olympics? One reason is it provides substantial positive exposure for professional lawn care throughout the year, Speer said.



North Florida LCOs, their employees and families joined efforts to help Florida Special Olympians.

"Not only will LCOs be helping their industry, but they'll help an organization that gives all individuals with mental retardation continuing growth opportunities. Special Olympics helps them develop physical fitness skills, express courage, experience joy and participate in the sharing of gifts, skills and friendship with their families, other Special Olympians and the community."

"It's time for the industry to do more than make money," Williams said. "It's time to give something back to your community."

He and a group of North Florida LCOs have become involved in a number of Special Olympics events, including refereeing a soccer event for 100 Olympians in a district meet last spring. In December they prepared and served food for athletes and coaches during a county meet. "And we'll be at the next Special Olympics event," Williams said, adding that after each event the number of lawn

care operators who want to volunteer increases.

"This is a chance for LCOs to spread goodwill throughout their communities by getting involved in Special Olympics," said Terry Criter, a Dow Chemical sales representative in Columbus, Ohio. "I hope to see all LCOs volunteer their time and/or money to this worthy cause."

Williams added, "There's a great satisfaction in seeing the happiness of the Special Olympic athletes. They win and you win, too."

For more information on how your company can become involved with Special Olympics, contact your local Dow Chemical sales representative.

HIGH SUGAR DIET MAY STRENGTHEN PLANTS

Clemson University horticulturists are using state-of-the-art equipment to solve an age-old problem — how to produce plants that can better withstand shipping.

"Fifteen to 20 percent of plants produced commercially are lost during shipping because of lack of water, light and ventilation," said John Kelly, leader of a four-member departmental team working to solve the problem.

"As long as the plants are in a stressful environment, they are susceptible to damage," he said. "Since the greenhouse industry in South Carolina is a \$30 million industry, a waste of 15 percent to 20 percent means a lot."

Damage to the plant usually doesn't show up until the plant is in the possession of a retailer or a consumer. The consumer suffers an immediate loss, and the reputations of the producer and retailer may be harmed.

The researchers are examining methods to strengthen plants so that they can better withstand stress during shipping. "We started looking at the role carbohydrate — or sugar — levels played in raising the stress tolerance of a plant. Specifically, we're ex-

(continued on page 8)

NEW FINANCING PLANS FROM CENTURY RAIN AID

CENTURY RAIN AID HAS made arrangements with Textron Financial Corp., a subsidiary of Textron Inc., to offer financing programs for the purchase of pipe pullers and trenchers, and for complete automatic sprinkler irrigation systems.

Century introduced the new financing plan to help contractors make purchases at attractive rates and with easy payment schedules. Century also offers

a tax lease program.

"We're offering our contractor customers another way to expand their businesses by getting the most out of their leverage," said Century President Ernie Hodas. "These plans give the contractor the ability to make staggered payments, with heavier charges due during the installing season and smaller payments or no payments in the off-season.

The programs offer 24-hour

approval of applications, current market rates and two- to five-year terms.

"In many cases, contractors can own a brand new piece of equipment for less than 10 percent down," Hodas said. "This allows them to conserve cash for other business development purposes."

For more information contact Century Rain Aid, 31691 Dequindre, Madison Heights, Mich. 48071.

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aming how carbon dioxide increases the sugar level," Kelly said.

To raise the sugar level, researchers load plants with carbohydrates by supplying them with large amounts of carbon dioxide. Plants are sealed in artificially lighted, airtight, transparent chambers in which temperature and carbon dioxide levels are regulated by a computer.

Designed by Bill Retzlaff, the computer-controlled monitoring system meas-

ures and maintains the desired concentrations of carbon dioxide.

In addition to making plants better withstand shipping, high levels of carbon dioxide causes plants to grow much faster, Kelly said. Future experiments will focus on determining a carbon dioxide enrichment program to make plants flower sooner.

The research is still in its infancy, but Kelly said it will continue for the next five years. If the experiments are successful, the team will concentrate on designing a cost-effective system for commercial growers.

BROUWER SETS SIGHTS ON FUTURE GROWTH

Brouwer Turf Equipment has reached another milestone in its 17-year history — the completion of its fourth plant and office expansion, nearly doubling its size to 124,000 square feet.

Brouwer began business in a small building in 1972 before moving two years later to its 50-acre site in Keswick, Ontario, Canada. The new facility covered 23,000 square feet. Between 1974-79, Brouwer underwent three expansions, bringing the factory's size to 66,000 square feet.

The new expansion and other improvements were designed to place Brouwer Turf Equipment in a better position to compete and meet market demand for quality, innovative turf equipment worldwide, according to company officials.

Brouwer manufactures a complete line of equipment for both the sod production and turf maintenance markets. Brouwer is an Outboard Marine Corp. company.

NEW BROADLEAF HERBICIDE BEING TESTED BY DOW

Confront™ herbicide, a new nonphenoxy broadleaf mixture under development by The Dow Chemical Co., is now in its first year of field tests. Environmental Protection Agency registration is expected by the third quarter of 1989.

The product is a postemergence herbicide designed to control dandelion, narrow-leaf plantain, Canada thistle, oxalis, ground ivy and other weeds in cool season grasses.

According to Monique Mackasey, product technical manager for Dow, approximately 10 key lawn maintenance firms in the northern region of the United States will be cooperating with the Midland, Mich.-based chemical manufacturing company in tests on both small and larger research plots.

Confront is an amine salt formulation containing one part clopyralid to three parts triclopyr per gallon.

Triclopyr amine is currently available for commercial sale in the Turflon™ line of herbicides, while clopyralid is a newly developed turf herbicide.

Rob Peterson, Dow's turf marketing manager, sees a good fit for the product. "We think Confront offers several unique benefits to the turf care industry, including a significantly reduced active ingredient pay load per acre," he said.

The two-way mix of triclopyr and clopyralid tested well recently in Indianapolis on dandelion, broadleaf

(continued on page 10)

MEMO

TO: Mike
REF: Equip. Budget
DATE: Jan. 16, 1989

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Dave

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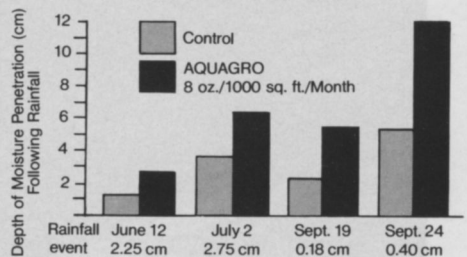


Max Todd
Fairway Lawn Service, Inc.
Sunnyvale, California

"I am using AQUAGRO Spreadable on about 80 percent of my jobs. Drought conditions have made my customers more interested in products that can both reduce water use and keep their lawns alive. It's clear to me that the wetting

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plantain and ground ivy.

Results, according to Mike Shaw, technical service and development specialist for Dow, showed treatment tank mixtures achieved 91.7 percent control of broadleaf plantain, 91.7 percent control of ground ivy and 90 percent control of dandelion, eight weeks after treatment. The rate used in this study was 0.38 pound of triclopyr amine and 0.125 pound of clopyralid amine per acre.

The University of Illinois in Urbana,

reports that the same mixtures of clopyralid and triclopyr provided 100 percent, 80 percent and 67 percent control of white clover, broadleaf plantain and dandelion respectively. Control of broadleaf plantain and dandelion increased somewhat when the triclopyr rate was increased to 0.5 pound per acre.

PESTICIDE MANAGEMENT FOCUS OF NEW CONSULTING FIRM

A new firm specializing in consulting and design engineering for the pesticide ap-

plication industry is being formed by Fred Haskett, president of Greenworld in Dover, Ohio.

The new firm known as Haskett/McCausland & Associates will specialize in the areas of pesticide storage, pesticide/fertilizer mixing and handling systems and residue recycling systems.

"If a company handles and stores pesticide concentrates in any quantities, and they do not have a comprehensive system for storage, mixing and handling, residue recycling and spill containment, they could be risking their entire business everyday," Haskett said. "With the pesticide applicator industry being watched by a host of different groups such as federal and state EPA, OSHA, legislators, the media, environmental groups, etc., the need for consulting and support service to aid the industry through the regulation maze is growing daily and cannot be ignored," he added.

This new venture stems from the lengthy process Haskett encountered in 1985 and 1986 as he sought to construct a new facility for his lawn and landscape maintenance firm. "For a long time I felt we had encountered a brick wall," Haskett said. "There were no guidelines or specifications available from any government agency or trade group. We were really pioneering new territory because of the uncertainty of environmental laws and regulations. But we kept on asking questions of anyone who might have some helpful information, and gradually over time we began to develop a good idea of what we needed."

As a result of this two-year experience, Haskett/McCausland & Associates has developed a comprehensive, integrated system of safe storage, efficient mixing and handling, spill containment and residue recycling that has proven to be affordable and practical. This system offers protection for the environment, increases employee safety, eliminates the high cost of liability and risk of waste storage and disposal, and has received approval from the EPA, state pesticide regulators and local authorities.

The system is flexible and can easily be used in either new construction or retrofitted into an existing structure, or can be customized to suit each operation's needs.

The services provided by Haskett/McCausland & Associates can include: on site analysis and evaluation, design and engineering services, development and preparation of state and local permits and approval forms, assistance in material procurement and installation coordination.

For more detailed information about the services available contact Haskett/McCausland and Associates, 425 W. Howe St., P.O. Box 337, Dover, Ohio 44622, 216/364-1442.



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NURSERYMEN'S EDUCATION DAYS SET FOR MARCH 7-8

Cornell Cooperative Extension and the New York State Nurserymen's Association are co-sponsoring two educational meetings in upstate New York.

Both meetings will cover landscape design and maintenance and are titled, "Nurserymen's Education Day — A Focus on Landscape Design and Maintenance."

The morning sessions will cover site analysis, the use of organic mulches, design principles and the selection of plant material. In the afternoon, topics will be delayed effects of the drought, soil sampling and interpreting results, fertilization of landscape plantings and insect pest management — the use of horticultural oils and the growing degree concept.

Both morning sessions are identical, however, each will have separate afternoon sessions. In Rochester, there will be a session on marketing and employee training for garden center managers. In Syracuse, there will be an in-depth session on landscape design.

The Rochester meeting is March 7 — contact Jim Willmott, Cornell Cooperative Extension, 249 Highland Ave., Rochester, N.Y. 14620; 716/461-1000. The Syracuse meeting is March 8 — contact Terry Ettinger, Cornell Cooperative Extension, 1050 W. Genessee St., Syracuse, N.Y. 13204; 315/424-9485.

MARKETING RIGHTS TO PENNFINE EXTEND TO 1994

The worldwide license to produce, market and distribute Pennfine perennial ryegrass has been extended according to the Pennsylvania agricultural experiment station of Pennsylvania State University and the Seed Production and Introduction Corporation of New York.

Pennfine perennial ryegrass is protected under the U.S. Plant Variety Protection Act through Jan. 28, 1994. Pennfine is produced and marketed as a certified class of seed only by Northrup King Co., Minneapolis, Minn.; Agway Inc., Syracuse, N.Y.; and Stanford Seed Co., Buffalo, N.Y.

AG CHEM INDUSTRY OF 1990s TO BE MORE ENVIRONMENTAL

Biodegradable packaging, low-dose chemicals which are less apt to appear in the environment and target-specific biorational crop protection products will form the backbone of a new era of environmentalism in agriculture, according to William D. Raven, vice president of sales

for Sandoz Crop Protection Corp.

Other steps the agrichemical industry will take by the year 2000 include introducing products and technologies designed to enhance integrated pest management programs and to encourage low input agriculture. Dry flowable, water dispersible granular formulations and controlled release pesticides will become more common, he said.

"You will see a broadened environmental awareness from a truly global agrichemical industry," Raven predicted.

"The public, the government and our customers have made it clear that an environmental perspective is important. Only

the companies that adopt this view will survive in the 1990s."

Raven made his comments in a recent meeting of the National Association of Wheat Growers.

EXPEDITED APPEAL SOUGHT BY GREEN INDUSTRY COALITION

A coalition of associations representing New York's commercial pesticide applicators will appeal a federal district court judge's finding that state regulations covering prenotification of pesticide applications are not pre-empted by federal

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law.

In his summary judgment, the judge ruled that New York pesticide notification requirements do not preempt labeling activity as defined by the Federal Insecticide, Fungicide and Rodenticide Act.

"It cannot be said that Congress expressly prohibited the states from requiring such notification. Nor does it appear that compliance with both federal and state regulations is a physical impossibility...or that state law stands as an obstacle to the objectives of Congress," according to the summary judgment. In his ruling, the judge cites a case involving the California Savings and Loan Association

vs. Guerra.

The New York State Turfgrass Association, the Professional Lawn Care Association of America, the Pesticide Public Policy Foundation and the National Arborist Association among others, late last year filed a lawsuit against the state's Department of Environmental Conservation over stringent prenotification regulations.

The group's defense contended that the recently passed pre-notification regulations were pre-empted by FIFRA legislation which states that it's illegal for anybody, including the state, to request anything viewed as pesticide labeling over

and above what is required by the federal government.

However, the judgment stated that the state's notification requirements may compel the distribution of information which abbreviates and/or amplifies that which is found in the Environmental Protection Agency approved label, the state requirements do not constitute labeling which is in addition to or different from that required under FIFRA.

Pesticide notification requirements such as the contracts, cover sheets, visual notification markers and newspaper ads, required by New York, "do not by their terms impair the informational integrity of the FIFRA label. Instead, New York's notification requirements are a proper exercise of the state's regulatory authority."

While most feel the industry group has less than a 50 percent chance of winning an appeal, they almost unanimously agree that an appeal is necessary.

"If you look at the basic lawn and Congressional intent, the basics are there for a ruling our favor," according to Beth Seme, executive director of the NYSTA. "The judge didn't take the state's story or ours, he made up his own...and there are points in his version which are in direct conflict with the case."

Jim Wilkinson, executive director of 3PF, said its important for the group to go ahead with its appeal because it's the only lawsuit challenging the 1987 statute which requires sign posting and customer contracts.

The regulations were to go into effect Jan. 1, but New York pesticide applicators were granted a temporary reprieve from the tough prenotification regulations when an injunction against their enforcement was awarded by the State Supreme Court Dec. 30.

Four state lawsuits opposing the notification regulations currently jam the docket of the New York Supreme Court, with a fifth to follow. The lawsuits have been filed by various groups including lawn maintenance, pest control, hotel/motel and the farm bureau.

While serving the same cause, the merits of the federal and state cases are completely different, Seme said. The federal suit deals with strict interpretation of statutes passed on the federal level, namely the statute enabling the DEC to pass such regulations.

The state lawsuits challenge the procedural aspects of the regulations, including claims that the DEC exceeded its boundaries in passing the rules, the length of time it took the board to pass the regulations and the fact that the board didn't consider integrated pest management principles when forming the regulations.

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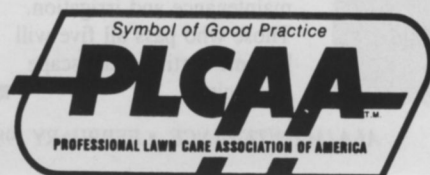
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ASSOCIATION NEWS

THE PROFESSIONAL GROUNDS

Management Society will sponsor five workshops on "The Design Maintenance Connection." The workshops have the endorsement and support of the American Society of Landscape Architects, and will be held: Feb. 28 to March 1, Holiday Inn, College Park, Md.; March 7-8, Holiday Inn/Dedham, suburb of Boston, Mass.; March 14-15, Holiday Inn/Beachwood, suburb of Cleveland, Ohio; March 21-22, Holiday Inn, Atlanta Airport, North in Georgia; and March 28-29, Holiday Inn, I-70 & Chambers, Denver, Colo.

The workshops will run from 8 a.m. to 5 p.m. both days. Topics of discussion include the landscape design process, grounds management standards, estimating grounds management, project design intent and the actual working of a design subject, including estimating maintenance costs in the design process.

Mark Acevedo of Kato Landscaping, Fountain Valley, has been elected the new president of the **California Landscape Irrigation Council**. Acevedo succeeds William Cohen of Valley Crest Landscape, Calabasas, who served as the council's 1988 president.

In addition, John Carlson of Carlson's Landscaping, Fountain Valley, was elected to the position of president-elect. He will automatically succeed to the presidency in 1990.

Other officers elected to the council's board of directors include vice president, Mickey Strauss, American Landscape, Canoga Park; vice president, Chuck Johnson, California Landscape, Canoga Park; and vice president, Klaus Ahlers, Carliacio Landscape, Fullerton. The new secretary-treasurer is Mike Selden of Reliable Landscape, Tarzana.

Cohen returns to the board as the im-

mediate past president.

Joe Brazan, the council's executive secretary and manager for the past 20 years, will continue in this post, operating out of the organization's office in Whittier.

The recent Turf and Grounds Exposition, Rochester, N.Y., broke both attendance and exhibitor records. More than 1,600 people attended sessions and visited 280 booths.

The show, hosted by the **New York State Turfgrass Association** in cooperation with Cornell University, featured a back-to-basics preconference seminar on turfgrass culture.

The seminar schedule was led by keynote speaker Donald Butcher, commissioner of agriculture and markets of the state of New York. Split sessions for golf course managers and lawn, landscape and grounds maintenance personnel offered professional updates on industry concerns and research results. In addition, a mechanics workshop on gasoline and diesel engine maintenance and repair and a day-long landscape architect session were offered.

This year's show will be held Nov. 7-10.

Landscape management contractors can now train employees how to operate basic landscape equipment in the home office with a series of new maintenance training safety video tapes now available from the **Associated Landscape Contractors of America**.

The maintenance tapes are designed to promote sound safety procedures and were produced by the association's safety committee to help reduce the growing number of unnecessary accidents which occur each year among power equipment operators.

Essential safety procedures are covered in detail including:



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equipment familiarization, proper safety precautions, machinery operation, equipment capacity and maintenance, injury prevention and effective accident prevention.

The series includes an introductory program on safety and the remaining six programs cover the following types of equipment: trim mower, mid mower, power edger, stringtrimmer/brushcutter, power hedge-trimmer and backpack power blower. These programs also come with reference guides and a program retention test.

The **Professional Lawn Care Association of America** began the new year with a move to new international headquarters: 1000 Johnson Ferry Rd., N.E., Suite C-135, Marietta, Ga., 30068.

The move is actually just down the street from previous headquarters, but provides much larger facilities for the eight-member office team serving more than 1,300 members.

The phone numbers, including the toll-free number, remain the same: 404/977-5222 and 800/458-3466. And new for 1989 is a fax number for emergency correspondence: 404/578-6071.

The **California Landscape Contractors Association** will offer two field tests: the certification exam for landscape technicians, April 15-16 and the certified landscape technician of maintenance test, April 29.

The first is a 14-hour, hands-on test of installation skills, in which applicants construct sample "projects" to demonstrate their abilities in 10 major skill areas: plan reading, irrigation installation, brick-on-sand construction, plant installation, concrete installation, grading and drainage, carpentry, seed and sod installation, equipment operation and first aid/safety. Landscape workers who demonstrate proficiency in all 10 areas will receive designation as certified landscape technicians.

The other test, eight hours in length, evaluates landscape maintenance skills and is divided into five sections: general comprehension and first aid, lawn maintenance, chemical application, plant maintenance and irrigation. Those who pass all five will become certified landscape technicians. ■



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WANTS TO SEE YOU	<input type="checkbox"/>	URGENT
RETURNED YOUR CALL <input type="checkbox"/>		

Message _____
Says insecticide
didn't work -

Beth
 Operator

Management Series

To Bill
 Date 8/27 Time 3:14

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M. Mrs. Lingenfelter
 of 952 Macedonia

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Message _____
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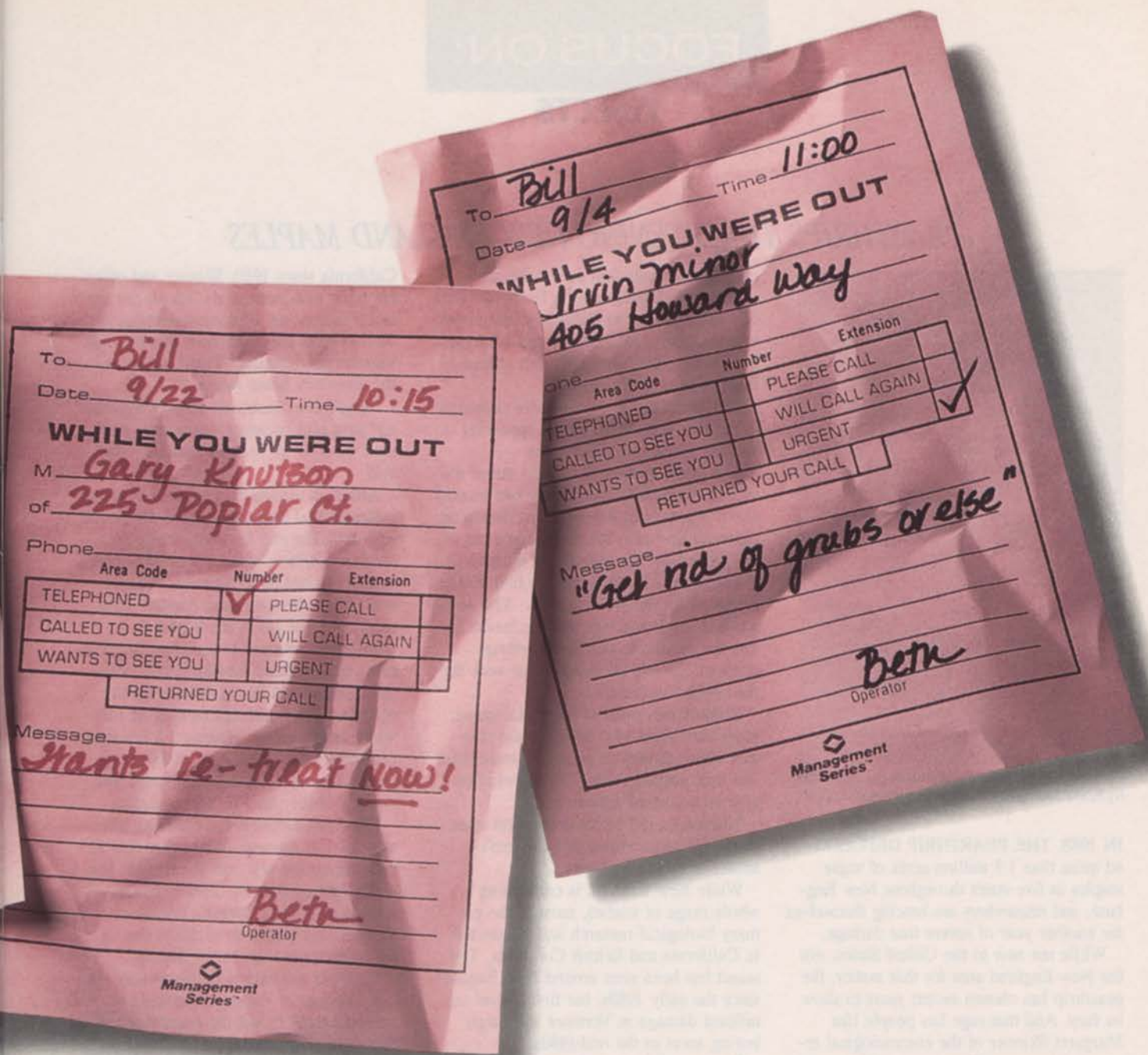
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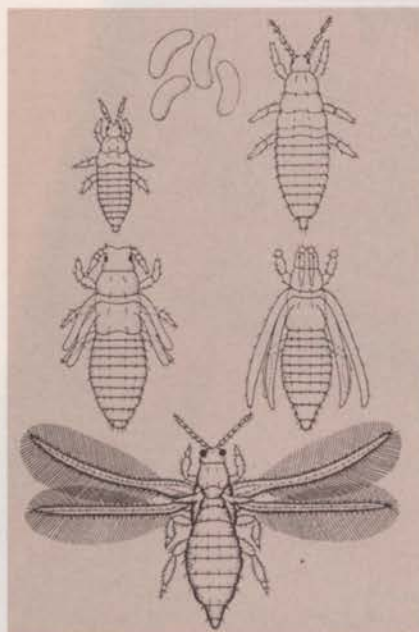


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FOCUS ON: INSECTS

PEARTHRIPS THREATENING NEW ENGLAND MAPLES



Gradual metamorphosis of thrips. (a) Eggs. (b) Nymphs; four stages known as instars. (c) Adult.

IN 1988, THE PEARTHRIIP DEFOLIATED more than 1.5 million acres of sugar maples in five states throughout New England, and researchers are bracing themselves for another year of severe tree damage.

While not new to the United States, nor the New England area for that matter, the pearthrip has chosen recent years to show its fury. And that rage has people like Margaret Skinner of the entomological research laboratory, University of Vermont, scrambling to discover the insect's host

range and distribution across the state.

Founded 80 years ago in European pear tree samples sent to California, the insect migrated East. As it slowly moved across the country, the pearthrip's diet changed from pear to maple leaves.

The insect has caused similar problems in the Midwest and Canada, appearing in varying species in target areas.

The insect spends 10 months out of the year in the ground, but it's the two months above ground which prove most damaging. Around mid-April, the thrips come out of the ground and fly to buds on the trees.

The insects crawl inside the bud where they feed on the growing plant. The eggs are laid inside the bud, but the larvae go into the ground to pupate. Pearthrips don't eat the leaves, instead they suck the chlorophyll out of them.

Because this process occurs in spring, most trees grow new leaves in the summer although they're generally undersized and lack normal color. The leaves often take on a tattered appearance.

The longer the insect defoliation takes place, the more vulnerable the tree's ability to foliate becomes.

While New England is completing a whole range of studies, most of the primary biological research was conducted in California and British Columbia. The insect has been seen around New England since the early 1980s, but first caused significant damage in Vermont and neighboring areas in the mid-1980s.

Because of the recent outbreak and because thrips have not been a problem in

California since 1960, Skinner and others are trying to determine the reason for the insect infestation. Did the pearthrips die out, or were they somehow reintroduced into the environment? These are two of the questions being asked.

"Right now there's all sorts of hypothesis: acid rain, weather conditions, weakened trees — all sorts of reasons," she said.

Although reports on national newscasts indicated that repeated, severe defoliation will mark the end for many trees, the long-term effects of the pearthrips aren't known, according to Skinner. "People don't know the long-term impact. They can't say trees are dying from it."

Another unknown to scientists is the insect's underground feeding habits. Skinner said she and her associates haven't observed any pearthrips feeding on turf while underground. However, it has been determined that the thrips are not completely dormant while underground and could probably feed if they wanted to.

Northeast foresters are checking tree-tops for leaf damage. When they find it, they dig up the soil near the trunks, generally finding the soil filled with eggs waiting to become spring's pearthrips. Skinner said hundreds of thrips can be found each time the soil is dug up.

Foresters are said to be digging up the soil in hopes of finding a pesticide or natural enemy to kill the pearthrips before they can ravage the trees.

Skinner said there are several pesticides registered for use on thrips, but none have been specifically tested for pearthrips. Such a product would require strict registration for use on the maple trees, however, since they're considered a food crop.

The University of Vermont is working closely with the state's department of Agriculture and the Vermont Forest and Parks Recreation to learn more about the pearthrips' habits. "Our research is directly linked to what the foresters need to do to protect the forests," Skinner said. —
Cindy Code

The author is Editor of ALA/Maintenance magazine.

SUCKING DAMAGE OF INSECTS

INSECTS WHICH DON'T consume the foliage, but instead, suck out the cell contents or sap of the tissue are not easily recognized because they don't produce obvious holes in the leaves, but they do produce a gradual change in color of the foliage.

A few of these insects can cause galls and leaf distortion that can be mistaken for other disorders, leading to confusion in making a proper diagnosis.

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appear as needles or stylets, and are adapted to piercing plant cells and sucking out the contents.

One of the more obvious symptoms of an advanced stage or severe infestation by sucking insects is chlorosis. This is a general off-color green that may be almost yellowish green, and is mottled with white splotches in severe cases. Close examination of the leaf tissue will often reveal a stipple or flecking pattern. The more insects pres-

ent, the greater degree of flecking.

In fact, the general off-color of the plant is often used by the experienced diagnostician as an indication of possible sucking insect injury.

If no insects are present, or if insect residue is not evident, other factors need to be considered. Insects that produce these symptoms include lace bugs and thrips when large numbers of them buildup on foliage.

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FOCUS ON:

LANDSCAPE

UNIQUE INTERIOR PLANTS, TREES GAINING IN POPULARITY

WEYERHAEUSER COMPANY KNEW it found something special two years ago when the company obtained the U.S. rights to market a unique variety of trees and plants, but the company's specialty plants division is just beginning to reach its peak.

It's recent move into a 68,000 square-foot headquarters and production facility in Fife, Washington, and plans to increase and streamline production of the company's Inscape™ Interiorized™ plants and trees, including the company's new palms and Inscape™ Interiorized™ originals are two signs of the company's eye to the future.

Introduced in January 1987, Inscape plants and trees are the company's revolutionary commercial plantscaping products which can enhance interiors without water, sunlight or pest control and are an alternative to artificial plants, according to Steve Barger, general manager of the specialty plants division.

The products are real plants treated to retain their natural shape, texture and fragrance. Once purchased, the plants don't require on-going maintenance such as fertilization and trimming. They do

require general cleaning, he said.

The preservative process maintains the plant in the desired growth stage. A non-toxic chemical is absorbed internally by the plant system, nothing is sprayed on the plant, Barger said. The plants are designed only to be used interiorly.

The unique process was obtained by Weyerhaeuser from a Swedish company which had been practicing the process for about 10 years. Because of its success, the European company had been looking for marketing opportunities in the United States and found Weyerhaeuser, already known for its nursery business.

"Weyerhaeuser is very strong on the technical side of the business, as well as the tree-growing business. We saw this as a unique marketing opportunity," Barger said. "We were seeing a lot of growth in the artificial plant business and found this (product) a favorable alternative to artificial plants."

The interior plant line also saves on maintenance costs because they're used in areas where live plants generally can't grow, i.e. low-light areas.

"Weyerhaeuser continues to believe strongly in both the current and future

potential of the specialty plants business," said Gary Mariani, president of the nursery products division. "The move to this new facility paves the way for solid growth of both the commercial and specialty product segments."

"We see 1989 as the year in which our presence becomes a truly national one," Barger added. "The new Fife facility supports our growing distribution networks for both the commercial and giftware product lines and demonstrates our commitment to the future."

Palm trees ranging from six- to 35-foot tall and mini-palms ranging from two- to six-foot tall serve as the company's primary product line. New varieties include the eucalyptus; large Hollywood Juniper shrubs; and a variety of ground cover including baby's breath, bear grass, eucalyptus, pepper grass, salal and statice.

Recent specialty plants business successes include the development of a regional commercial dealer network in Washington, Oregon and California. The network will continue to grow this year, with new dealers expected to be lined up in the Midwest and East coast regions, Barger said.

Projects incorporating Weyerhaeuser commercial products include: Marriott's Desert Springs hotel in Palm Desert, Calif., the Four Seasons hotel in Vancouver, British Columbia; the San Jose and Portland airports; Columbia Center in Seattle and Lotte World international theme park in Seoul, Korea.

"In our first two years of business, we controlled our growth so that we could maintain quality control and customer service," Barger said. "Now, with this experience, we are ready to intelligently pursue the next phase of our expansion."

For more information on the use and application of Inscape commercial products, contact Robert Hyland, Weyerhaeuser manager/commercial sales, 714/626-9905 or Marilyn Giltner, Northwest district manager/commercial sales, 206/924-3464. ■



Weyerhaeuser's Canary Island date palms and Mexican fan palms grace this hotel lobby.

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Will the Drought of 1988 Make a Return Appearance?

AFTER A SIX-MONTH reprieve from the nation's worst drought in 50 years, industry operators, manufacturers and suppliers are taking a variety of steps to prepare for the "season after."

And despite predictions of another dry, hot summer, lawn and landscape operators seem to have a positive outlook on company sales, services and customer commitment.

The Great Drought of 1988, as it became named, took on historical proportions. Some compared it to the Dust Bowl years of the 1930s, while others predicted it was an omen of things to come. Certainly this was true of some as minimal snowfall and mild temperatures surprised much of the North.

One of the problems researchers had in dealing with last year's drought, was a lack of experience. Since it'd been nearly 50 years since a drought of similar magnitude, they had nothing to go on, particularly where dormancy was concerned.

The high temperatures, non-existent rainfall and general dryness weren't just a freak of nature, or were they? That same lack of experience has scientists and researchers in a quandry as they consider the possibilities of a repeat performance by the drought.

On the one hand, scientists and govern-

ment agencies last June reported to the Congress that they are 90 percent sure that the warming trend during the 1980s is part of a long-term climate change — evidence to them that the so-called greenhouse effect is here.

Others, however, insist that the drought of 1988 was not as destructive as many anticipated, and don't expect the warming trend to continue without a respite.

In general, the greenhouse effect has come to represent the gradual warming of the global climate as a result of atmospheric pollution. The theory holds that a build-up of carbon dioxide and other waste gases in the upper atmosphere will prevent the recycling of solar heat from the earth into space, raising global temperatures by three to nine degrees by the middle of the 21st Century.

(See related story on solutions to the greenhouse effect on page 32.)

Predictions that the greenhouse effect is here has led some groups to take the matter into their own hands. For instance, the American Forestry Association recently launched a national campaign to plant 100 million trees by 1992 as part of efforts to reverse global warming caused by the greenhouse effect.

Dubbed "Global Relief," the association planned to spend \$500,000 to promote the project, which is to be spearheaded by about 250 groups in all 50 states. Trees, which by nature consume carbon dioxide, will be planted mainly in urban areas.

GREENHOUSE JITTERS. Despite the growing concern over the greenhouse effect, a number of university researchers don't believe it's here.

Patricia Vittum, an entomologist at the University of Mas-

sachusetts Suburban Experiment Station, said last year's drought was an aberration. "I'm a believer in the overall greenhouse effect, but not all of a sudden, like it was between 1987 and 1988," she said.

Bruce Branham, a Michigan State University turf specialist, agreed that the greenhouse theory is sound, but said what the environment is currently experiencing, isn't it.

He said this is a natural climatic cycle, similar to the period experienced in the 1930s. "It's too early in the cycle to tell if there's a shift to a different type of climate, but from everything I've heard, I expect to have another dry summer," he said.

"If there's one thing I learned from the drought, it's that I'm much more impressed with the new turf-type tall fescues than in the past," Branham said. "Previously, I was neutral on recommending them, but they fared better than the bluegrass in unirrigated sites."

In Iowa and neighboring states, industry representatives are bracing for another rough summer. Nick Christians, a horticulturist from Iowa State University, said the area's plants went into the fall in poor shape, and are in the middle of surviving an off-season drought.

"We're in a drought now. The weather is quite mild and dry," he said. "We've seen a lot of thin turf that didn't get a chance to revive last fall due to a lack of fall moisture. We're about 11 inches short on moisture right now, and it looks like it's going to go downhill from there."

Christians recommends healthy amounts of spring irrigation — even on plants which normally don't need much irrigation. Turf, in particular, will need irrigation to aid in spring growth.





Maintenance of shrubs (top left) turf (bottom right) and the general landscape (above), will gain added importance as the industry braces itself for another warm season. Photos: Creative Designs Advertising, Middletown, Ohio.

"Don't let the drought hit before watering is started. People normally don't start watering until June, but it's important not to let the turf get more stressed," he said.

Christians also sees a need for education among city officials — the people who control water availability on the local level. City officials should try to anticipate a watering ban and gradually introduce the watering restrictions rather than suddenly enforcing such bans.

A sudden cutback in water on a nice, lush lawn can have devastating effects, he said.

Another dry summer will make it difficult for mowing operators as well as mowing manufacturers. When watering bans made it impossible for customers to maintain their lawns throughout the drought, mowing contractors were left behind; unable to perform their services.

"We definitely saw a difference

in the upper Midwest — we didn't meet our (sales) projections," said Bob Walker, president of Walker Manufacturing, Fort Collins, Colo. "We're telling our distributors, until they get some moisture in the Midwest, to pull in their horns."

Despite lower sales, Walker Manufacturing isn't loaded up with mowers since its stock projections fall closely in line with retail sales. "We try to keep a pretty tight relationship between stock and sales."

Mike Packer of Bunton Co., Louisville, Ky., said the company was more cautious during last summer's drought about filling the pipeline with mowers.

"Overall, our year (sales) was affected, but our distributors did OK. Ninety percent of them are in good shape," he said.

Packer said his major concern deals with the lack of snowfall. "Commercial landscapers count

on snow removal in the off-season. When they can't get the business, it hurts cash flow and they're not as apt to buy (mowers)," he said.

The price of Bunton mowers will increase by 5 percent.

Richard Dillon, director of sales for the Toro Co., Minneapolis, Minn., said the company's inventory is up higher than they'd like to see, but they don't foresee any insurmountable stock problems this spring.

Lack of snowfall, a dry summer and watering restrictions will all play a hand in mower sales.

Prices of mowers are expected to increase anywhere from 1 percent to 6 percent to accommodate an increase in raw material prices and to reflect inflation.

CONSERVATION EFFORTS. Drought may have ended in a burst of rainfall, but its impact will endure for the foreseeable future.

States bordering the Great Lakes are seriously considering the kinds of controls on water consumption once thought necessary only in the West and Southwest.

Water conservation practices have already affected the lawn and landscape maintenance industry, as more operators are adding irrigation installation to their company services. Irrigation falls behind seeding and tree care as the service most likely to be added in the next five years according to a survey conducted by *ALA/Maintenance* magazine.

The need for irrigation equipment to offset the drought has also caused manufacturers and lawn and landscape maintenance operators to concentrate on customers whose property has irrigation equipment.

Walker Manufacturing is recommending to its dealers and distributors to focus on areas where mowing contractors are working in developments with irrigation as opposed to areas relying on rainfall.

For Ohio and other Midwest

states, the drought was preceded by an unusually dry 1987. Much of the area finished the year about 10 inches below normal precipitation. January and February were fairly normal, but precipitation started to fall below par again in March, signaling the start of the drought, according to Randy Heiligmann, an Ohio State extension agent.

What followed was a six- to seven-inch deficit in precipitation through June. Although the area received some rain in July, above average temperatures offset any beneficial moisture.

The harsh temperatures and low precipitation combined to make life difficult for plants. "There was no time in 1988 when the plants' growth season wasn't in stress," Heiligmann said.

The leaves, branches and roots of plants were affected. Leaves were scorched and appeared to have a reduced expansion rate, number and size. Branches and stems suffered a reduction in elongation and diameter growth, while roots show reduced growth, possible dieback and reduced

penetration due to dry soil.

In any instance, the stress could have resulted in death.

The growing activity of a plant also had an effect on the effectiveness of pesticides. For example, foliar applications of chemicals in general weren't as effective because the trees weren't vigorously growing at the time of application, he said.

"We're going into this year with weaker, less healthy, less vigorous trees," he said. "We'll see increased pruning needs this spring."

Lawn and landscape operators who were able to maintain contact with customers over the off-season, generally fared well.

Rick Steinau, president of Greenlon Lawn Care Services, Cincinnati, Ohio, said 100 percent of the company's customers were contacted over the winter. "We wanted to make sure our customers were comfortable with the drought situation and what needs to be done to maintain healthy turf," he said. The personal phone calls succeeded in retaining customers and increasing services — primarily in the

areas of renovation and seeding.

Sales of seeders, aerators, seed and fertilizers are all expected to see an increase this year, with many manufacturers anticipating a boom by increasing production.

Some prices will also increase, but most manufacturers expect increases to be at a minimum.

ANXIOUS INSECTS. As far as an increase in the number of insects in the turf, it's too early for university researchers to predict exact pest populations, but the warm winter weather indicates the outcome won't be good.

Vittum said the Northeast will most likely see an overall mortality of surface-feeders — chinchbugs in particular — because of the lack of snowfall.

In addition, pests which normally overwinter as eggs and appear in the spring may be lured to the surface by the unusual winter weather. If the warm weather is followed by a cold snap, the "early-bird" pests will die.

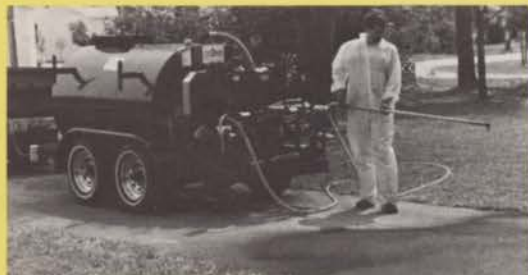
The Southeast has been having a terrible time with the mild

(continued on page 30)

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Drought

(continued from page 26)

winter, according to Patricia Cobb, an extension entomologist with Auburn University, Alabama.

"We're seeing insect activity we don't usually see at this time of year," she said. "There's been so much warm weather that mole crickets, in particular, are quite active."

Depending on the tunneling activity of the mole cricket, the pest can cause severe damage to plants if they're uprooted and dry out. At this time of year, it's difficult to do anything about the pest because treatment will most likely be ineffective. Cobb's primary recommendation is to keep the turf irrigated.

Cobb said treatment shouldn't be ruled out entirely, but should be a judgment call in each situation. For instance, if the mole crickets were treated now, and then again in April/May and June/July, the treatment program would not be considered cost-effective.

Boxelder bugs and aphids are

two other pest uprisings the Southeast is dealing with. The aphids, which generally don't appear until spring, have prompted a number of calls to the Auburn extension office, according to Cobb.

"We're seeing a lot of damage on bedding plants and ornamentals," she said. "Spider mites have also been active in ornamentals."

Although a number of pests have been active this winter, it's impossible to determine what will happen to the pest populations without studying its activity from the previous summer and winter, Cobb said. And if the South gets a late freeze, it will be difficult to foresee whether the cold will be harder on the pests or the beneficial insect population.

In general, if turf and plants were fairly well-maintained before the drought, they should have survived the winter season in tact. However, plants going into the winter in a weakened condition, will go into the summer in a less than healthy state.

While this spring will most likely show the most significant loss of plant material, it may take three

to five years for the full extent of the damage to the landscape to be seen.

"It is especially important this year that we ensure that all plant material is cared for properly to help them through winter," said Bill Davids, vice president of operations for Clarence Davids and Sons, Blue Island, Illinois. "Services such as deep root feeding, root watering, tree wrapping and dormant pruning are very important depending on the plant variety."

"Obviously, many trees were weakened, but not killed by the drought," said Francis Holmes, director of shade tree laboratories for the University of Massachusetts. "Weakening may take the form of death of the tiny feeding rootlets, so that the root system cannot absorb enough water to support the foliage canopy, regardless of how much water may come to be present later."

Trees that may have been weakened by the drought, as well as a variety of other reasons, then become liable to attacks from a whole range of pathogens that seldom hard vigorous, healthy

trees. Cytospora canker and Armillaria root are two examples, according to Holmes.

"These fungi can kill large branches or whole trees, but they are usually found on trees that were first weakened by something else," he said.

A study conducted by the shade tree laboratories covering the period 1954-70 for all its diagnosis of tree pests, injuries and diseases revealed that the second year after each drought a surge of troubles were credited to mild pathogens, Holmes said.

Norton Strommen, chief meteorologist for the U.S. department of agriculture, pointed to two broad areas of the country still plagued by drought: the Iowa and west-central Illinois region and the central and southern plains — from Nebraska south through Kansas, Oklahoma and Texas.

These areas are still the largest on the deficit side as far as soil moisture is concerned, he said. The deficit is unlikely to improve anytime soon. — *Cindy Code*

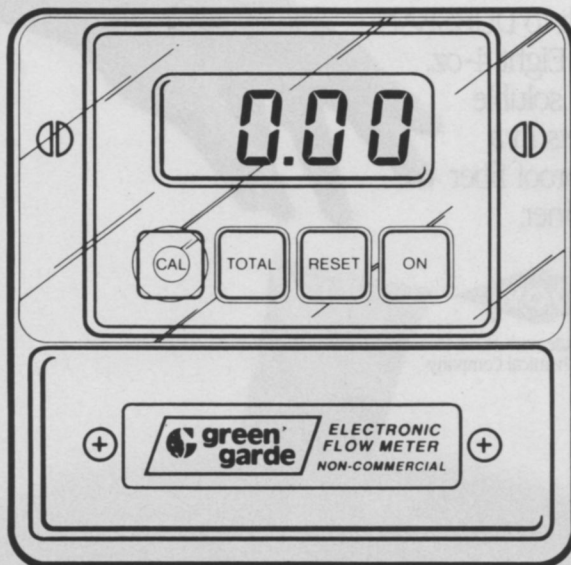
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Radical Solutions For Cooling Off the Greenhouse

THIS SUMMER, AS North America and central Asia roasted and Earth pushed its way to one of the warmest mean temperatures ever recorded, the long predicted greenhouse effect finally became evident.

A growing chorus of scientists called for action to curtail our continued emissions of heat-trapping carbon dioxide and other gases. Most agreed that the first steps should be to cut back on the use of coal and oil and to restrict deforestation.

But these convention-

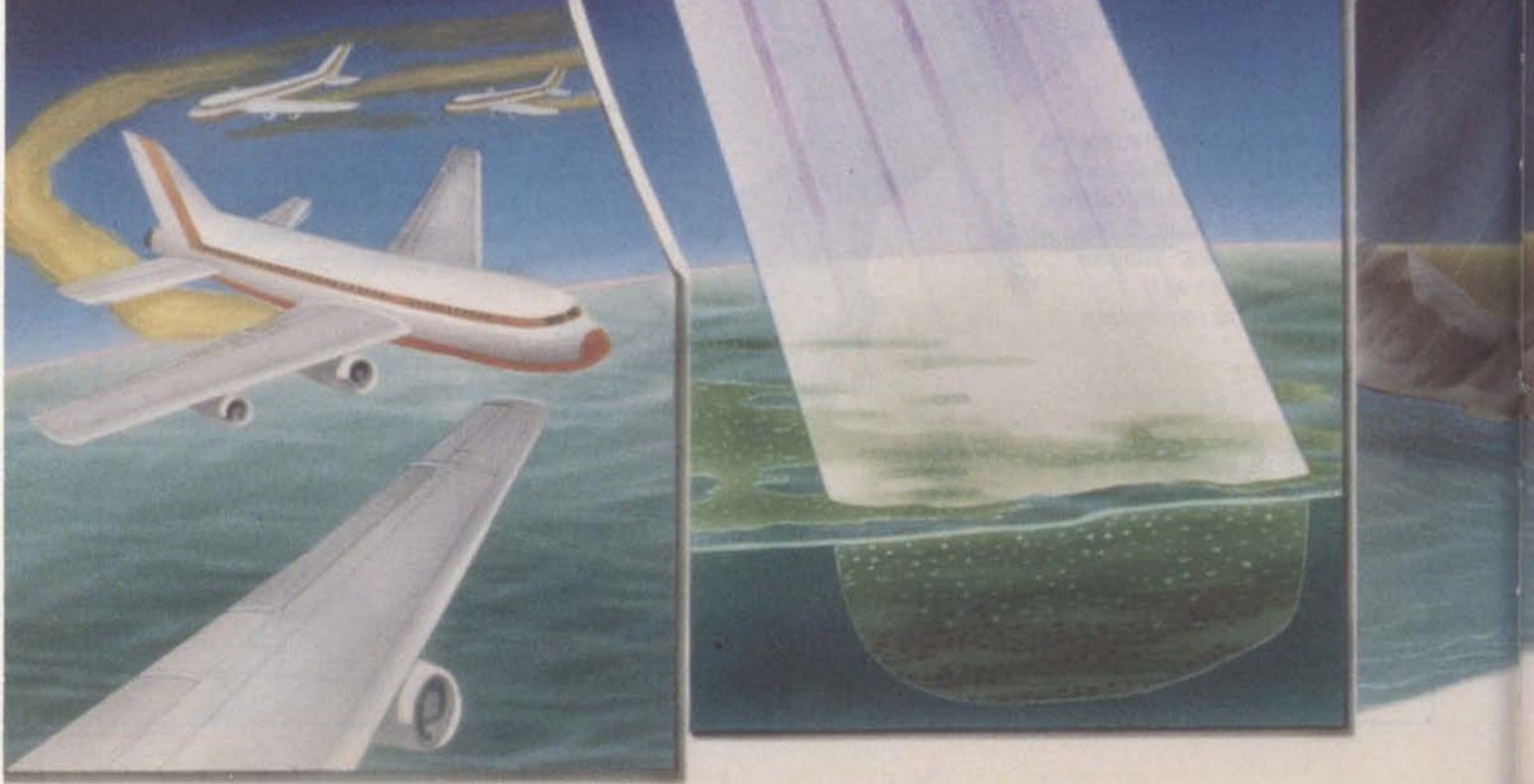
al remedies won't necessarily do the job. More radical solutions suddenly seem to be in order, and several experts have some to offer.

For example, George Woodwell, director of the Woods Hole Research Center in Massachusetts, points out that since trees are efficient absorbers of atmospheric carbon dioxide, we should plant enough to let nature do the work.

He has calculated that about 720,000 square miles of new forest would remove one billion tons of carbon dioxide annually — about a third of the total problem. That's a tall order: 720,000 square miles is about 4.5 times

Planeloads of sulfur dioxide could be dumped in the atmosphere. Like volcanic emissions, the compound would block sunlight and cool the Earth.

Large orbiting reflectors could direct extra light to polar seas, boosting uptake of carbon dioxide by plankton.



the area of California.

As an alternative, climatologist Roger Revelle of the University of California at San Diego — who, in the 1950s, was one of the first to recognize the greenhouse problem — has proposed pulling carbon dioxide out of the air by harnessing the great photosynthetic potential of phytoplankton, single-celled plants at the base of the sea's rich food chain.

Like all plants, the plankton use the energy of sunlight to combine carbon dioxide, water and traces of nutrients into carbohydrates. The carbon atom

from each CO₂ molecule thus ends up locked in the plankton's structure. If the plankton dies before it is eaten by other marine organisms, it sinks to the seafloor, where the carbon will remain for hundreds of years. The dead plankton become a secure repository, a so-called carbon sink.

Revelle's idea is to accelerate photosynthesis at high latitudes by fertilizing the seas with phosphates, the same compounds whose presence in many laundry detergents once threatened to make a green algal stew out of

Lake Erie.

The goal is to stimulate large blooms of phyto-

plankton that die and sink before they can decay or be eaten by other organisms. In theory, according to planetary scientist Michael McElroy of Harvard, the same effect could be accomplished by beaming extra sunlight at Arctic and Antarctic seas, which are normally in the dark for much of the winter. The extra light, he said, could come from orbiting reflectors.

Wallace Broecker, a geochemist at Columbia, has proposed that, if all else fails, man might mimic one of nature's great modulators of global weather: volcanoes. Volcanoes emit sulfur dioxide, which rises high into the atmosphere, spreads out and changes into sulfuric acid. The sulfuric acid reflects sunlight into space and thus reduces the amount of solar energy warming the Earth, Broecker said.

Chlorofluorocarbons cause about a fifth of greenhouse warming. They could be destroyed by lasers sweeping the sky.

Orbiting parasols equal to 2 percent of Earth's surface area would negate a doubling of carbon dioxide.

Planting 720,000 square miles of new forest would remove a billion tons of carbon dioxide a year.



that we could conceivably deploy a fleet of aircraft to load the stratosphere with sulfur dioxide. To offset the next century's anticipated doubling of carbon dioxide concentrations would require adding 35 million tons of sulfur dioxide a year to the atmosphere.

A fleet of 700 jumbo jets, Broecker calculated, working around the clock, every day, could do the job at an annual cost of about \$20 billion. But that's cheap, he said, compared with the predicted costs associated with global warming.

There are problems with this plan, however, not the least of which is that the additional sulfur dioxide would certainly contribute to acid rain. Broecker noted, though, that the 35 million tons is only 10 percent more than the amount of sulfur compounds already being pumped into the lower atmosphere each year, and that the project could be stopped if some unanticipated, adverse environmental consequence cropped up.

Princeton astrophysicist Thom-

as Stix favors a Star Wars approach. A significant part of the greenhouse problem is caused by chlorofluorocarbons, or CFCs (they're also responsible for the Antarctic ozone hole), and so Stix

lights through the air or could be fixed, letting the wind push CFC-laden air through them.

Of course, there's a problem with Stix's idea, too, the same one that dogs Star Wars lasers, when

quire enormous amounts of energy: 500 megawatts for a system powerful enough to scrub the atmosphere clean of CFCs in 10 years.

And then there are the *really* far-out proposals. How about giant orbiting parasols to block out sunlight and bring Earth's thermostat back into balance? All we'd need would be shields equal to 2 percent of Earth's surface area — a mere four million square miles of shade. Or we could paint white, every roof on every building on Earth, to bounce more sunlight back into space.

If nothing else, the scale of these imaginative projects emphasizes the need to institute more practical measures right away. The more we do now, the fewer billions we will need to spend on future technological fixes. "The one thing we can't do," Revelle said, "is nothing." — *Andrew C. Revkin* ■

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About 720,000 square miles of new forest would remove one billion tons of carbon dioxide annually — about one-third of the total problem. That's approximately 4.5 times the area of California.

has proposed blasting these hard-to-destroy substances out of the sky with infrared lasers. It's already known that CFC molecules soak up infrared energy — that's what makes them at least 10,000 times as efficient as carbon dioxide at trapping Earth's heat. Stix's idea is to pump them so full of infrared that they burst. The beams could either be swept like search-

a laser beam passes through air, some of its light is scattered by nitrogen atoms and the beam loses much of its energy. Stix said that the beam could be bounced off a series of mirrors that don't reflect the scattered light and thus act as filters to keep the laser beam clean. Another major drawback to the plan is that the lasers themselves would re-

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Hiring in the 1990's: Will There be Enough Workers?

IN ITS EMPLOYMENT projections for the period from 1986 to 2000, the U.S. Department of Labor identifies the lawn and landscape services industry as one of the fastest growing businesses.

Further, most of the nearly 240,000 new jobs created in the 14-year span in the occupation category of non-farm gardeners and groundskeepers is "largely because of growth in lawn services and landscaping services for both individuals and businesses." Total employment in the gardeners and groundskeepers category which reached 767,000 in 1986, is expected to rise 238,000 to 1,005,000 in 2000. The increase is based on moderate economic growth.

Though this employment pro-

jection, made in September of 1987, sounds like good news, it is presenting the young, but growing lawn and landscape maintenance industry with a monumental challenge in recruiting employees.

Meeting this challenge will be especially difficult because of an increasing decline in younger workers in this critical time of rapid industry growth.

The labor department forecasts a decline in the labor force of 16- to 24-year-old men for the period 1986 to 2000, while the number of women in the labor force in this age group will remain constant. The number of men in the 16- to 24-year-old group is projected to decline by nearly one-half percent to 11,506,000 workers in 2000.

The shrinking number of younger workers is brought on by the end of the baby boom generation (those born between 1946 and 1964) and the entry of smaller number of workers from what labor specialists are calling the "birth dearth" generation (those born in the 1965 to 1978 period).

Competition in the service industries for workers will be keen because virtually all of the 21 million new jobs from 1986 to 2000 will be in the service industries. In its study, "Projections 2000," the labor department predicts not only will the labor force slow in its rate of increase, but become increasingly minority and female.

As a result of the labor shortage among younger workers, employers are already turning to other sources of workers such as immigrants or the recently retired for its employees, according to the department of labor.

While the lawn and landscape maintenance industry generally is just starting to address the challenge of finding and retaining good workers, especially in the area of entry-level semi-skilled field jobs, the Professional Lawn Care Association of America recently launched an ambitious and unprecedented employee recruitment training course.

Developed last summer, "Recruiting and Hiring for the Lawn Care Professional," is a two and one-half day session allowing managers to share real problems with colleagues, and get guidance on how to deal with them. Class sizes are limited to 20.

The training session is designed for managers, assistant managers, human resource and recruiting specialists and owners of small companies. After a pilot session in Atlanta, the course was

offered in St. Louis, Indianapolis and Philadelphia. After scheduled sessions in Hartford and Orlando, the training course will be offered by request through affiliated chapters.

"We detected, and the industry has shown us, there is a need for finding employees," explained Barry Troutman, PLCAA director of education, about the rationale for the program. "Particularly on the East Coast, it is difficult to get people who live close enough to work in this industry."

Troutman says the help wanted ads in newspapers in the Mid-Atlantic and New England regions "look like bidding wars."

The lawn and landscape industry is also facing stiff competition in recruiting from other service industries, such as fast food, retail and delivery. Troutman describes the problem of recruiting lawn technicians or trainees in Atlanta and other full employment areas on the East Coast as "critical."

Hidden costs of training are increasing as companies are experiencing higher employee turnover rates. "You can operate a business with a 30 to 40 percent turnover, but that's not a good position to be in, particularly when training is more important," Troutman said, referring to increasing certification and training requirements for applicators.

David Jones, director of training for Lawn Doctor, offers firsthand insight into the critical labor shortage in the Northeast from his perspective at the Matawan, N.J.-based corporate headquarters of the 260-franchise lawn maintenance company. "It's getting harder and harder to find people. Part of the problem is pay scales are low — comparable to fast food companies — and the

UNEMPLOYMENT STATISTICS

REGION	PERCENT UNEMPLOYED
UNITED STATES	5.3
Northeast	3.9
Mid-Atlantic	4.3
New England	2.8
Midwest	5.0
East North Central	5.4
West North Central	4.1
South	5.0
South Atlantic	4.7
East South Central	6.6
West	5.0
Mountain	5.8
Pacific	4.8

The national unemployment rate is seasonally adjusted as of December 1988. Regional employment rates are not seasonally adjusted and are as of October 1988.

Source: U.S. Department of Labor

HELP WANTED

work is harder.

You can literally leave one lawn maintenance company if you are good and go across the street and get hired again."

Lawn Doctor is looking at potential new sources of labor such as recent ex-military or government retirees and more part-time help. Jones also said wages are increasing in the industry.

"In every store there is a help wanted sign," he said. "I went to McDonald's to get a sandwich and looked in my bag and there was an employment application."

Turnover, already high in the industry, is a growing problem. "We literally burn people out," he said about the intense season.

Competition is also increasing for supervisory employees, Jones said. He doesn't believe there is a magic answer to resolving the problem. "With the hiring process, if anything, hire more than you need. Don't throw any (applications) away."

In contrast with the tight labor market on the East Coast, Lawn Doctor franchises have no problem hiring people in Texas where many workers are still unemployed because of the fall in oil prices. Also, the Denver area provides an ample supply of labor because of the large work force from the winter ski industry.

The sharp regional difference in the labor supply is evident in the disparity in unemployment rates. While the seasonally adjusted national unemployment rate is 5.3 percent, regional rates (not seasonally adjusted) vary from only 2.8 percent in New England and 4.3 percent in the Mid-Atlantic to 7.1 percent in the West South Central states and 6.8 percent in the East South Central states. Traditionally, a rate of unemployment of about 4 percent is considered full employment.

Even when a sufficient labor pool can be found, the problem then becomes finding the right people for the job.

"The work force is there. It's trying to find the right people," said Mike Feely, vice president of Pro-Lawn Plus, Jacksonville, Fla. "We try to get people who can think on their feet and then train them. Pro-Lawn has only advertised for employees twice in the past five years.

Ron Parron Jr., lawn tree and shrub supervisor for Barnes Nursery in Huron, Ohio, expressed a common problem in recruiting. "It's hard to find someone who wants to tackle the job."

At Sunshine Lawns in San An-

tonio, Texas, job openings are filled quickly as a result of newspaper advertising. "We do have a large demand to fill the jobs," said Stuart Hamm, general manager of the 6,000 customer firm providing lawn maintenance services primarily to residential customers.

The problem of a high turnover rate, according to green industry consultant Steven Day, "isn't just field level people, but middle and upper management." Greater emphasis is needed to hire and retain people with sound technical and business background, said Day, president of Landscape Plus located in the Denver suburb of Wheat Ridge.

Increasing government regulation of the industry is spurring the need for employees with more business and technical skill. "This industry is not known for business expertise as much as technical expertise," he added.

Day believes the answer to improving employee recruiting and retention is to create an atmosphere of commitment to the green industry.

Industry consultants say that small- and medium-sized companies are beginning to place greater attention on useful man-

agement practices in recruiting and retaining employees.

A focus on career development in the rapidly growing lawn and landscape maintenance industry is the most important task for both individual companies and industry associations. They stress the importance of creating a greater awareness of the career opportunities and then deliver those opportunities through improved recruiting, interviewing, orientation, training, compensation and incentive packages.

"It (employee recruitment) is really a function of both quantity and quality," said Denis Liggins, the consultant who designed and is teaching the PLCAA training course on recruiting and hiring. Success in this area, he contended, "is not only being more aggressive in recruiting, but creating an environment that encourages people to seek career opportunities in the industry."

Liggins, president of Atlanta-based Employment Insights, says a major step in creating this career development atmosphere may be in the offing. A national employment and training organization is seeking industry sponsors to fund a landscape training program for

INGREDIENTS OF EFFECTIVE EMPLOYEE RECRUITMENT

HIRING AND RETAINING EMPLOYEES isn't an isolated management technique, but consists of a stream of integral practices that when combined lead to success, according to industry managers and consultants.

The major ingredients in effective recruitment and retention are:

- Developing an accurate business plan, job description and job requirement listing.
- Consider non-traditional labor such as women, older people, minorities, immigrants or dislocated workers.
- Use sourcing, such as working with

public employment offices or programs and technical schools and colleges.

- Use a consistent and thorough interviewing and hiring process that focuses on past performance of the candidate, which in turn predicts future performance.
- Establish an organized orientation and training program that focuses on and respects people.
- Provide incentives to retain quality employees.
- Train managers to be leaders, and stress a team building approach from management down to the field workers.

Consultant Denis Liggins believes establishing a "business plan, job description and job requirement listing are the most important hurdles to overcome.

"It's the difference between the shotgun and rifle approach," he said.

"A business plan identifies where you want to go and how to get there. Job descriptions lay out who you need to complete your plan and your expectations of people. And, job requirements are you making a decision of what training you will provide, and what experience, knowledge and skills you expect," Liggins explained.

unemployed individuals.

A trend is also emerging in the industry to expand the potential supply of workers by recruiting older employees — those in their 30s or early 40s. Typically, entry-level workers are in their early 20s.

"Several companies, Chem-Lawn, Davey Tree and Tru Green, are having success in hiring older people. They are finding this

increases the level of performance and retention," Liggins reported. "More and more companies are aggressively hiring women and minorities. We haven't used the whole labor market."

Human resources consultant Maureen Hochler three years ago began advising small- and medium-sized companies, including those in the lawn and landscape industry, after 15 years with large

corporations in the retail and food processing industries.

Hochler, president of Hochler Associates in Mill Valley, Calif., near San Francisco, points out that the hiring and retention problems experienced in the lawn and landscape industry aren't uncommon.

"The problem of getting the right people in the right position in semi-skilled and low-skilled in-

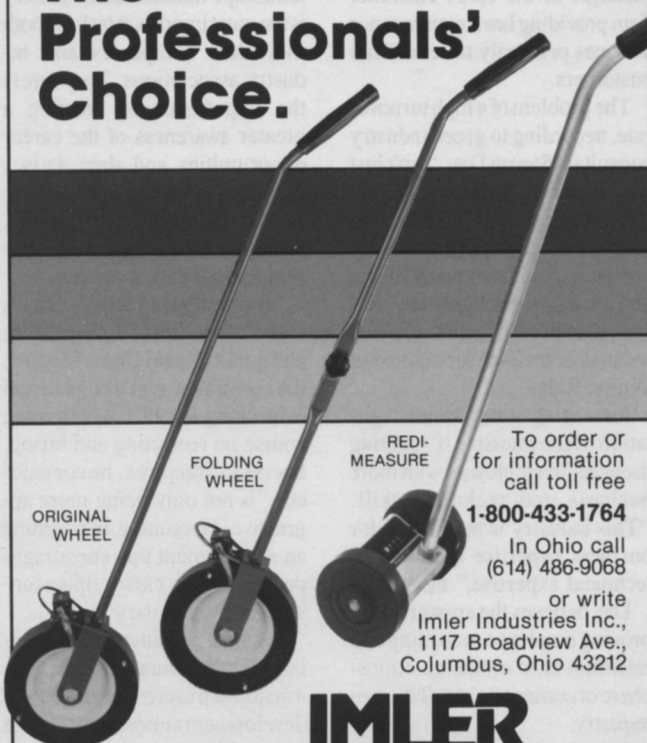
dustries has always been a problem," she said. "The canning and retail stock started out as a male field, and they had to look at other types of people to do the work."

Hochler believes the green industry is still dominated by men, offering numerous opportunities to recruit women.

One of the keys is finding out
(continued on page 42)

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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."

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).

Move up to TURFLON



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Circle 26 on reader service card

Hiring in the 1990's

(continued from page 40)

what is required for the job. Once this is done, measure people against those requirements. Always have a job description that accurately describes the job.

"Measure each candidate regardless of race, age or handicap accurately on what is needed to get the job done," she emphasized. "We must convince managers that women, dislocated workers, and even those with a language problem could meet the job description."

For example, Hochler said, one of her clients, Gardeners Guild, a landscape maintenance firm operating in the San Rafael, North Bay and San Francisco area, has successfully developed a program of recruiting people from drug and alcohol rehabilitation programs. The 35-employee company has a 50 percent success rate in this program, she added.

Typically, only one in five candidates who respond to a newspaper help wanted ad is a "good candidate," according to Trout-

man. Recruiters can improve this ratio to one in every two candidates by what is called "sourcing."

Companies can expand their labor supply, as well as find candidates more likely to be retained, by establishing relationships with placement offices in two- and four-year colleges, high schools and technical and vocational schools, as well as public employment agencies, churches and urban leagues.

One company, though not typical within the lawn and landscape industry, continues to attract quality employees in a difficult labor market due to a combination of its aggressive sourcing, community involvement and an unusual employee training and development program.

The landscape division of Atlanta-based Post Properties, a developer of luxury apartment communities in Atlanta and four Florida cities (Tampa, Orlando, West Palm and St. Petersburg) has conducted an extensive recruiting program for the past 10 years at two- and four-year colleges in the

Southeast.

The company is currently recruiting at Auburn University and the universities of Tennessee, Georgia and North Carolina State as well as at several two-year colleges in Florida — Lake City, Broward and Gwinnett Tech. Three years ago Post Properties began internship and cooperative work-study programs with colleges.

To create an attractive career development orientation and a strong sense of community involvement, Post Properties each year sends a Georgia team of high school students interested in landscaping and horticulture to a national competition sponsored by the Future Farmers of America, according to Andy Hull, vice president of Post Landscape. The cost to the company is \$3,000.

"Hopefully when they graduate and work a summer they will look at Post. If they go to college and take a landscaping course they can work at Post during school breaks," he said.

The 800-employee Post Properties promotes from within,


and starts everybody at entry level. "It is a very healthy arrangement because they can set their goal as a supervisor and don't have to worry about someone with a four-year degree stepping over them. It gives them an opportunity to go through an orientation with us and learn and see every aspect (of the business)," Hull explained.

Greater competition for quality employees in the industry led Post Properties, which a consultant describes as a "premier" company in landscaping, to become more aggressive in recruiting. Post Properties both designs and maintains landscapers at its 40 apartment communities, and is expanding its commercial landscaping business.

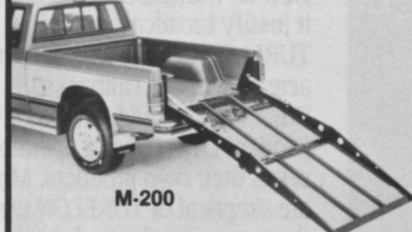
"Ten years ago we didn't have to go recruiting to colleges or put an ad in the paper. People came to the company because of its quality reputation. There are other quality companies now," Hull pointed out.

Post Landscape classifies each

(continued on page 44)



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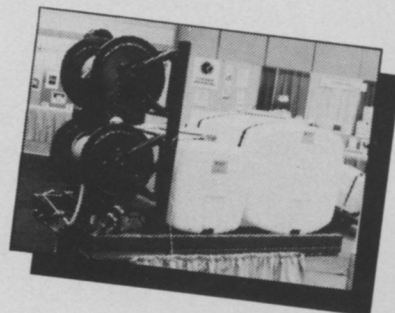
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When Jim Gourley moved up to TURFLON, callbacks in Kenosha went down, way down.



"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."

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Circle 27 on reader service card

Hiring in the 1990's

(continued from page 42)

person at the time of hiring into four categories based on experience and training. "We track them, so when we lose people, we know what type," he said.

To retain employees, the company emphasizes training with a 540-page training manual revised yearly. Monthly training seminars are also being offered on a quarterly basis to bring in speakers from out of town. Post Properties also offers a comprehensive benefit program, including incentives, such as profit sharing, health and dental insurance and uniforms.

Underlying its entire approach to recruiting and retaining quality employees, Hull stressed, is "people orientation and quality consciousness."

Still, Hull lamented, "turnover is not as low as we would like it to be. We've had people (leave) and go into their own business." Recently, five "superstars" of the company left to start their own business.

EMPLOYMENT BY SELECTED INDUSTRY

Agricultural Services, Forestry, Fishing

Employment (thousands)	1972	1979	1986	PROJECTED 2000		
				Low	Moderate	High
	459	628	875	1,110	1,120	1,177

Annual rate of change 1986-2000 (percent)

EMPLOYMENT	OUTPUT
1.8	3.0

Source: Projections 2000, U.S. Department of Labor, September 1987

Although human resource consultants agree interviewing is more art than science, they stress some basic dos and don'ts.

"The real key is to determine what the person has done in the past. Because what a person has done in the past is what they are likely to do in the future," Liggins said. "Our judgment is too often influenced by first impressions, rather than using the information gathering process."

Human resources consultant Maureen Hochler describes a common mistake in interviewing. "Most inexperienced interviewers make a decision when a guy walks in the door by glancing at him and his application. They describe the job and ask, 'Do you think you can do that?'"

Hochler says the "best questions to start out with are open-ended, such as, 'Tell me about yourself and why you are qualified

for the job.'" The California consultant also emphasizes the importance of training and coaching managers in order to retain employees.

"If a person (new employee) is treated with respect and dignity they will respond in kind to the employers — that only comes from the contact with their immediate boss.

"We are in a world of change (continued on page 75)

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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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High Demand, Low Supply Could Spell High Fertilizer Prices

FOR THE COMING lawn and landscape season there are less fertilizer and raw materials available — but demand is definitely higher.

China and other countries have been importing urea from the United States because of the weakened dollar. Crop reduction programs have been set aside, and more acres are under production.

The world market has come in to play in the fertilizer industry. Paul Jacquemin, turf production manager for Morral Chemical Company, Morral, Ohio, said prices are definitely up due to demands in the world market. Phosphorous and potassium consumption have not increased, but consumption of urea is much increased.

"Barges from Europe were at our shores waiting to be unloaded. Consumption shot up in Europe and the barges turned around and went back," he said. "Prices are higher over there and the shortage here has caused prices to rise."

So what does this mean to maintenance operators? Although the turf industry only accounts for about 3 percent to 4 percent of fertilizer consumption, as agriculture goes, so goes the turf industry, said Art Wick, vice president of research and development for LESCO Inc., Rocky River, Ohio.

"Farmers are planting more acres, but the prices are up about 10 percent, and we expect the price to stay high through the spring with a higher blip in March, April and May," he said. "Fertilizer prices should level out again by this summer and fall. Prices are, by no means, though, at an all-time high."

Bob Hutchinson, manager of

specialty markets for Countrymark Inc., Delaware, Ohio, sees prices running a little higher than Wick. "The price increase, depending on where the raw materials are coming from, is up anywhere from 8 percent to 14 percent," he said. "Nitrogen-based prices are up directly because of the supply and demand of the ag market. There are fewer sources of imported nitrogen because of the exchange rate — the value of the dollar."

David White, director of marketing for CoRoN, Souderton, Pa., said, "We're looking at price increases of from 12 percent to 15 percent. If there were to be a drought this year, distributors would market CRN (controlled-release nitrogen) products and communicate to their customers how that would fit into the turf programs," he said.

Coming out of what's been called the worst drought the country has experienced in 50 years has not been easy for fertilizer suppliers and maintenance operators.

Fast-thinking lawn and landscape maintenance companies got busy last fall educating consumers about the drought's effect, but many customers canceled their fertilization programs before the rains set in.

Some companies recovered their losses in the fall, applying fertilizer to get the stressed turf through the season with as little damage as possible.

But rumors have surfaced about the environment's affect on this year's fertilizer market. Will the prices be at an all-time high? Will there be a short supply? Increased demand?

Experts point to quite a few factors, including the drought, that have affected pricing.

Tom Waldinger, vice president of public relations for the Fer-

tilizer Institute, Washington, D.C., said that in some ways, the drought has helped the fertilizer industry.

"If there had been no drought in 1988, the acreage set-aside programs would have been greater," he said. "The PIK program (payment in kind) of 1983 idled 78 million acres. It caused a stress in the industry. Then the 1985 Farm Bill took more acreage out of production."

In 1988, 70 million acres were idled, according to Waldinger. At that rate, there would have been 80 million acres idled this year. Both yields and surplus would have dropped, but since there was a drought, the industry is at nearly full production.

Waldinger said he feels the shortsightedness of the acreage reduction programs was potentially dangerous for the country.

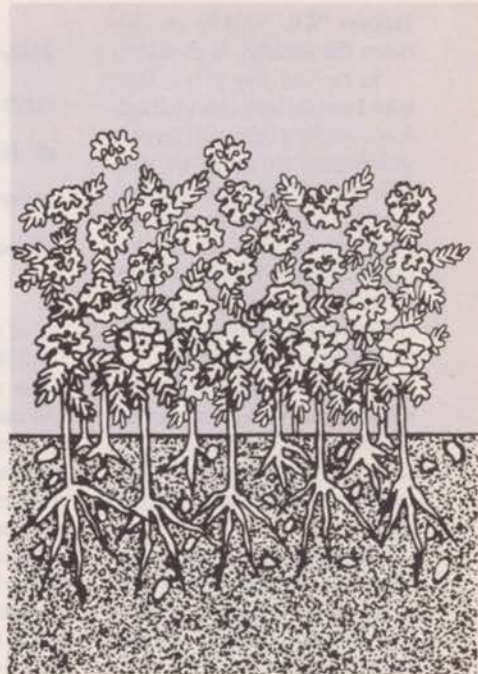
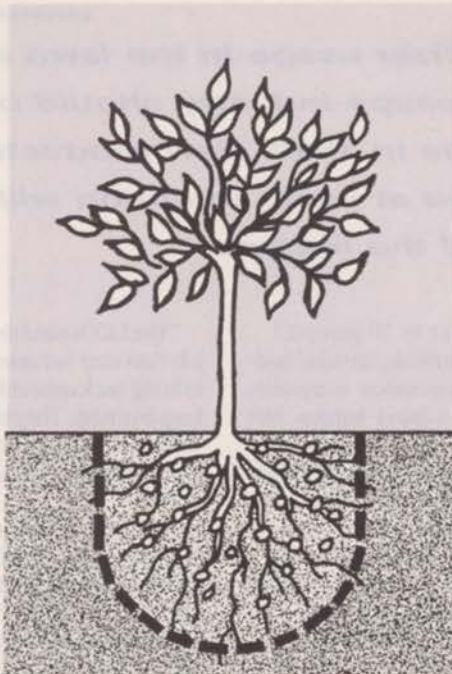
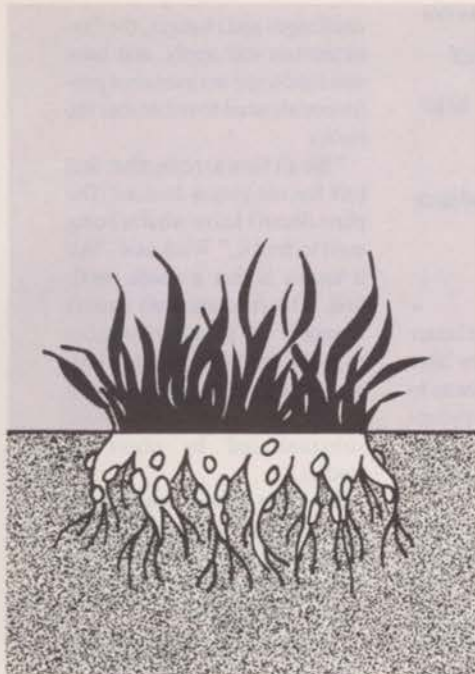
"If there were to be a drought this year," he said, "there would be no fertilizer surplus."

As it was, in the fall of 1988, the farmers were well taken care of because of the drought. Their cash flow and buying power will be good this spring.

A good year is a double-edged sword, though, Waldinger said. "A good year now leaves us cautious. If we have a good year in 1989 and the next year and the next, talk of acreage reduction will resurface. As it is, production is being throttled according to predictions for the coming year — cautiously. The system has become more efficiently based with production levels throttled closely to product demand. Inventory levels are well-managed."

If the government gets back into acreage reduction programs, things could again become risky. "It's silly for the government to play soothsayers in the market," he said. "They can't predict

.....
"Prices are up about 10 percent and will stay high through the spring."



Last summer's drought has spurred the use of water retention products. Illustration: Terra-Sorb.

what Mother Nature will do."

And predicting the weather is what lawn and landscape companies wish they could have done last year.

Fertilizer use was down because of watering bans. Customers were canceling lawn maintenance programs. Farmers and lawn and landscape maintenance operators used less fertilizer material because of the drought, so there was fertilizer storage well into the fall. Then, in the fall, fertilizer use was above normal.

Rob Ringer, training manager for the Ringer Corp., Minneapolis, Minn., said the drought was a tough one.

"There has been an increase in our prices," Ringer said. "It's tied to the commodities market. Our product is made of bone meal, soya and wheat and those prices are up because it cost more last year to feed the chickens and cows and to grow the wheat that produces those products. The price is up 5 percent to 10 percent."

"It (the drought) made things rough for a couple of reasons. It was extensive and it was prolonged. People gave up and either turned off their water or weren't allowed to turn it on," he said.

"We did great business in the spring of 1988, but as the season progressed and the drought persisted, the reorders were off. There was a rebound in the fall.

"A lot of people had given up in the fall, and a lot have reseeded, resodded or renovated lawns

that died out either in patches or entirely. We are already so far ahead of last year at this time that it's amazing. And we expect the trend to continue," he said.

Warren Shafer, general manager of Tyler Enterprises, Inc. of Elwood, Ill., agrees with Jacquemin. "I don't think the price increase is due to the drought so much as the international demand for fertilizer," he said.

"U.S. producers can ship the product out of the country because of the weakened dollar. And now there is not that much urea and the price has gone up significantly," Shafer said. "The agriculture market affects production, too. There's more corn being planted and that's also a big nitrogen user."

There were industry casualties in the wake of the drought, but many in the industry believe the damage was a necessary evil, ultimately making the industry stronger.

Sandy Nelson, sales representative for Anderson Fertilizer Services, Owosso, Mich., has seen some major changes in the industry in the last five years.

"There has been a shakedown of the commercial lawn companies — a needed shakedown. It's been caused by mergers and fly-by-night companies getting out of the business. The good will survive, though," she said.

"The professionals in the industry are becoming more professional. We're convincing the public that this is a profession.

There is more education going on and more available. More tools are available to us than ever before. We have also become more environmentally conscious. More quality conscious. We keep striving to be known as a professional organization."

Owen Stevens, sales manager for Knox Fertilizer Inc., Knox, Ind., said his company is looking forward to a good year economically.

"You can't tell how much was lost in the drought," he said. "A lot of our people went out. For some it was just the final kick in the butt. I think the larger people (companies) were more vulnerable because of their costs to do business. They were too fat, too strung out and overplayed. They couldn't be lean and mean and flexible — which is what the drought forced us to do.

"The people who survive are really going to be strong now," Stevens said. "The business is going back to the small businesses and a regional business mentality."

Coutrymark's Hutchinson agrees. "Bigger companies go out of business because they have big, fixed costs. They can't be as flexible as the smaller companies which could change their strategy every week if necessary. The big ones are slower to adapt."

Bill Vogel, vice president of Spring Valley Turf Products of

.....

Nitrogen-based prices are up directly because of supply and demand of the ag market.

Jackson, Wis., said he also believes the industry is changing.

"In the last five years, from what I see, the lawn care and landscape market companies that are growing are those that are multiple-service oriented," he said.

Vogel said fertilizer usage should be up a little in 1989 because the turf will need extra care. He also sees lawn care programs emerging with new products aimed toward water retention.

Products which keep turf green without promoting new growth will be coming on the market, he said. These products will have more iron and use more wetting agents.

"The lawn care industry has started to provide mowing services so they really don't want a fast-growing product," agreed Wick. "If it rains and they don't get out, they'll have a mess."

"I would also see more usage of crystals such as hydragel — a crystal which expands to hold in wetness," Vogel said. "Other agents will also be significant. These products use water more efficiently and can reduce the

.....

Fertilizer usage in the lawn and landscape industry should be up a little in 1989. New products aimed at water retention will also flood the market.

use of water by 50 percent."

As 1989 unfolds, lawn and landscape maintenance companies will carry a heavy burden. Not only must they convince their customers of the necessity of their services, they must bring back some stressed lawns.

"A lawn requires food on a regular basis — and it wasn't given a proper nutrition last year — so good rates of nitrogen and potassium need to be applied in the spring," Nelson said. "The homeowner depends on the lawn care professional to service the lawn. It's the lawn care operator's job to gear up and do a good job, and, if needed, convince the customer of what's needed for his or her turf.

"The LCOs need to do a better job than ever because they have to bring back unhealthy lawns to keep business. They have to convince the customer that the lawn care is needed and then make it work."

Wick said he feels the market is getting away from liquids and going to granular products. "Image wise," he said, "the public ties hose application to chemicals and it doesn't have that conception about spreaders. Also, economically and logistically speaking, it's easier to transport granular than to carry all that water. There is also more emphasis on equipment to carry granular products to the site."

In facing the future, with its

challenges and changes, the fundamentals still apply, and lawn and landscape maintenance professionals need to remember the basics.

"We all have to remember that turf has not gotten dumber. The plant doesn't know what is being used to feed it," Wick said. "All it knows is that it needs nutrition. The fundamentals haven't changed. We should remember to go for the tried and true products. Be sure that the results of the products you use have been substantiated by objective studies."

Dr. John Clapp, manager of agronomics and commercial development for Triazone Corporation, Greensboro, N.C. sums up the coming year.

"Basically, I feel we're just starting a new season. If the drought continues into this year, I think there would be cause for concern. But as far as the turf is concerned, it's just another year." —Lynn Wolf

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

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Circle 54 on reader service card

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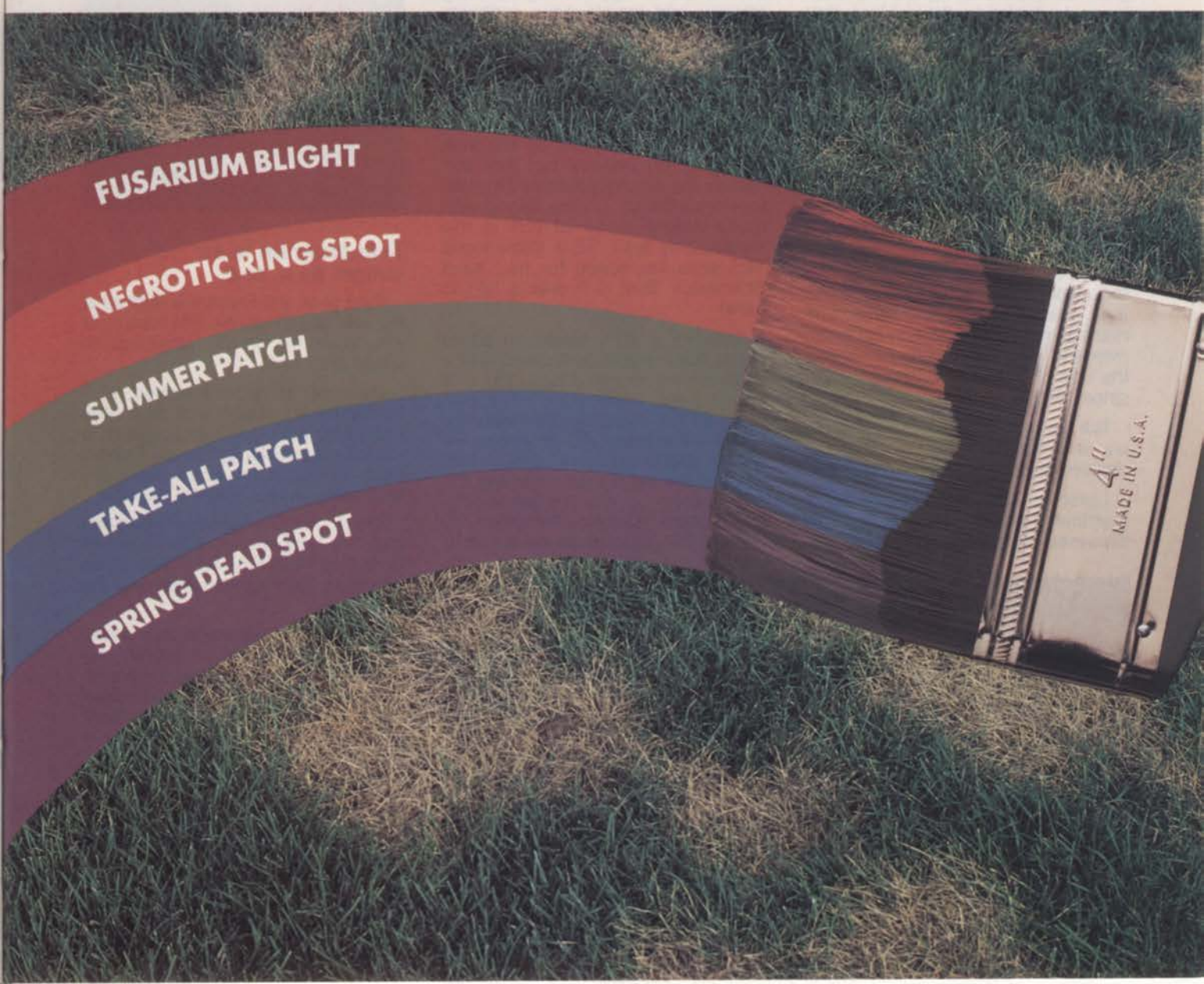
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Everett Mealman, President
PBI/Gordon Corporation

Last year, a number of progressive groundskeepers accepted the challenge to prove to themselves that they could successfully use an Embark-Ferromec AC[®] program on low-traffic, irrigated turf. We promised them that the program would reduce their bottom-line mowing costs by 50% or more during the 5 to 6-week period while the Embark is active, and in the process would enhance the color and thicken up the turf.

Of course, we knew the program would work because of tests conducted by university researchers, and the experience of Constant Care, Inc., one of the leading landscape management contractors in the entire midwest, who have been pioneering the use of PGRs on ornamental turf since 1985.

But never in our fondest dreams did we anticipate the enthusiasm of the positive responses we have received.

Listen to Carl Schroeder, owner of Horticultural Consultants, Inc., of Shawnee Mission, Kansas. He says,

"Now that we know what Embark can do, we will be aggressively soliciting mowing and maintenance contracts that we formerly would have shied away from because of questionable profitability."

Schroeder bases his optimism on his experience in testing the Embark-Ferromec AC program on the vast sweep of ornamental turf that surrounds the headquarters of Farmers Insurance Group . . . the largest and most visible piece of turf in the Kansas City area. "It's a tremendous 18.5-acre showcase for us," says Schroeder. "But, is it ever a "#1 to mow!

"There's a 40% slope on some areas that have to be mowed with a walk-behind to avoid ruts and erosion," says Schroeder. "You can imagine the expense! But, with the Embark-Ferromec AC program, we will be able to cut those costs in half, while at the same time improving the appearance . . . and we are hopeful that Embark will help strengthen the roots of the grass on those slopes."



This program is as simple as a, b, c.

First of all, the Embark is applied at the low rate (1 pt./A). The idea is to slow down the growth rather than to totally shut it off.

Second, it is tank-mixed with Ferromec AC Liquid Iron at a high rate (2.75 gal./A), which produces a vibrant green color before the Embark kicks in; hence no worry about discoloration. In fact, just the opposite.

Third, the Embark-Ferromec AC can be tank-mixed with Trimec[®] Broadleaf Herbicide, so it gets a free ride that even further improves the bottom line.

But wait! There's more good news: Embark is a true plant growth regulator, not a reformulated herbicide. Tests clearly show that when Embark shuts down seedhead development and stem elongation, the energy is redirected toward root growth.

Carl Schroeder, right, gives Everett Mealman a closeup view of the impressive and highly visible turf he maintains for Farmers Insurance Group. Millions of people who whiz by on I-435 see it as a thing of beauty, but Schroeder sees it as a monster for Embark to tame.





Constant Care, Inc. have been pioneering the use of PGRs for five years and were directly involved in the early tests of the Embark-Ferromec AC combination. Bill Gordon, above, director of commercial landscaping for Constant Care, says that nothing works like Embark.

Bill McGee, above right, general manager of Smith Lawn and Tree Company, used Embark/Ferromec AC/Trimec on this turf at Bedford Properties Industrial Park. "Within two days the tall fescue greened up and the mowing was cut in half for six weeks."

Does this look like a challenge for the amateur golfer? Yes, indeed, but it's even more of a challenge for superintendent Jerry Ducker, left, in the photo at right; and his assistant, Tom Addington.



Experience of a golf course superintendent

Jerry Ducker, golf course superintendent of the prestigious Hallbrook Farms Country Club in Leawood, Kansas is extremely interested in the potential problem-solving power of Embark-Ferromec AC.

Hallbrook was designed to present a challenge. "And indeed it does!" laughs Ducker . . . "a challenge to the superintendent. For example, we've got zoysia peninsulas that extend into

fairway traps that can only be mowed with hand trimmers while standing deep in sand. You can imagine what a labor-intensive job you're looking at."

With this in mind, Ducker tested Embark-Ferromec AC on some of his less-visible areas in 1988. "We're very enthusiastic about what we hope to be able to do with Embark," says Ducker.

Another Embark-Ferromec AC enthusiast is Bill McGee, general manager of Smith Lawn and Tree Company of Kansas City, Missouri. "We used it on three of the Bedford Properties Industrial Parks," says McGee. "And, within 48 hours, the tall fescue took on a rich green color, and the mowings were cut in half for six weeks."

Embark-treated grass develops deeper roots

Research shows that when grass is treated with Embark, the energy that would naturally produce seedheads and stem elongation is redirected to the roots. This phenomenon occurs regardless of whether or not the grass is mowed.



Shouldn't you try Embark?

Indeed, the evidence cannot be denied. The Embark-Ferromec AC-Trimec program is dramatically changing the economics of managing low-traffic, irrigated ornamental turf.

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PLANT GROWTH REGULATOR

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Circle 9 on reader service card

Industry Education Prompts More Refined Equipment

TO SAY THAT CORE CULTIVATION HAS COME INTO its own in the last five years is accurate, but not enough. The changes and level of acceptance by maintenance operators and homeowners alike is much more dramatic.

"Five years ago, the lawn care operator and homeowner weren't aware or conscious of the quality of what aeration could do for a lawn," said Bob Brophy, Cushman manager of lawn care product sales. "They figured they were doing a good job if they poked a few holes in the ground."

Education, and better yet, quality results have led the maintenance operator and the homeowner to expect more from an aeration job. "We've come full circle," Brophy said. "Manufacturers had to educate the lawn care operators, and the operators had to educate the homeowners."

And while creating more competition among maintenance operators, education has benefitted everyone, according to Sal Rizzo, president of Salsco Inc.

"There's so many lawn care companies bidding for customer work that the customer is becoming more educated," he said. "It's fantastic — LCOs have no problem with that. They always wanted a better machine as the market became more competitive. It gives customers more quality for their dollar."

Although relatively new to the turf industry, aeration has been a practice used on golf courses since the 1940s. "Five years ago, we had products that weren't designed for the lawn, but the golf course. All of a sudden, it developed a market in lawn care and equipment had to be designed to

handle uncontrollable conditions found in lawns, such as debris and rock," said Kent Hahn of Hahn Inc.

Mechanical aeration as it is known today can signify anything from renovation, slicing and dethatching to core cultivation. Through the core cultivation process, soil is mechanically removed from the ground, usually to a depth of two to three inches.

Aeration increases the air in the soil by replacing solids from the soil with air from the atmosphere — ultimately allowing the surrounding soil to move into the newly created space, relieving compaction. It's a long-term practice designed to provide both preventive and curative relief to the turf.

Increased visibility of aeration and its increased popularity of providing aeration as an add-on service has prompted many companies, not previously manufacturers of aerators, to jump on the bandwagon. Farm equipment manufacturers and manufacturers of other turf equipment are two new suppliers of aerators.

In an industry of increased diversification, aeration has be-

come one of the easiest add-on services for several reasons. For one, it's a service in which results can be seen within 10 to 14 days. Secondly, it's a service that doesn't cause the operator a great deal of liability.

While many machines currently available on the market today offer good penetration, speed and user comfort, there are two general areas considered prime for improvement: the initial cost of the machine and the cost of maintenance.

"You can improve on the amount of soil brought up and the amount of footage covered, but as far as the quality of the job goes, that success is generally there," Rizzo said, while admitting there's always room for improvement.

In addition to the product itself, transportation plays a role in offering aeration services. "We feel it is important for it (machine) to be self-propelled in the transport position for the safety and ease of loading," said Tom Melton, sales manager for Olathe Manufacturing.

Self-propelled models are also

(continued on page 54)

TIPS FOR CLEANING, MAINTAINING AN AREATOR

THE AMOUNT OF ABUSE PLACED on any given machine will determine the life of its parts and of the machine. But a few simple steps both in preparation and clean-up will help prolong the life of your machine.

Before beginning a core cultivation job, be sure and complete a full inspection of the area to be aerated:

- Flag all sprinkler heads or objects that could damage the machine.
- Make sure the lawn is sufficiently watered to provide the best operation.

- Before aerating, make sure the area is mowed shorter than normal. This enables better penetration of the tines and more core visibility.

- Change oil following engine manufacturers' recommendations.
- Keep the tires inflated to the proper tire pressure recommended.

After operating the unit, cleaning will vary from machine to machine, but follow these general tips:

- Clean and inspect the machine. Check for loose hardware, nuts and

bolts. Look for soil build-up in the chain sprockets and remove.

- Tines should be cleaned and oiled to keep them from rusting. Soil left in the tines may result in damage that could require their replacement.
- Replace all worn or damaged parts.
- After engine has cooled down, clean unit with water.
- Keep drive belts free of oil and dirt.
- Tine replacement depends on the amount of work and the location in which the work is being done.

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available in the aeration position.

Since manufacturers have met with success in providing quality aeration equipment, many have turned to providing literature to promote aeration. The literature can be used by the industry itself, or adopted for maintenance operators for distribution to its customers.

For example, LESCO Inc. offers a package of materials to lawn and landscape maintenance companies including, "Your lawn can't breathe and Today we aerated your lawn." The literature is used in promoting the service to the homeowner. One card is designed to help them get the business, and the other is designed to be left behind the day the service is performed.

In addition, Cushman offers literature for the maintenance operator on the advantages of aeration, planning an aeration job and making a profit while offering the service.

Today, the use of aerators has increased dramatically over the past few years because it has been a necessity rather than a luxury. In addition to the benefits received from aeration, the service can also be used in renovation work before overseeding as it helps create a better seedbed by allowing the soil to breath.

Future developments in aeration equipment may include aerator/seed combinations which will pull a core and put the seed down, one right after the other. Riding aerators may also become more popular.

For more information on the equipment available today, read below. The information provided comes from companies which responded to our request for materials. — *Cindy Code*

The author is Editor of ALA/Maintenance magazine.

CLASSEN MANUFACTURING Co. is now offering the Model 48R Turf Plugger. Available either with stub tongue for towing or three-point hitch for integral mounting, the unit is ideal for small acreages, parks and other recreational areas.

The 48R aerates a 42-inch width swath, with depth up to



Four models available from Classen.

three inches in a pattern of 5 1/4-by 7-inches. There are 48 tines at a 3/4-inch diameter. Built for rugged service, the unit features a 1 1/2-by 1 1/2-inch solid square steel frame, with heavy duty weight tray. The tow version has movable wheels which swing up to put the tines in operating position.

Classen offers four different models, starting at 24,000 square feet per hour, up to 36,000 square feet per hour.

Circle 121 on reader service card

The model 2340-48 pull-behind core plug aerator in a 48-inch swath is now available from **Feldmann Manufacturing**. Productivity is 47 percent faster than a 25-inch aeration swath and 33 percent faster than a 32-inch swath.

The unit design is similar to the 32-inch width 2340. It is easy to operate, simply connect with hitch pin on draw bar. The lift up handles will promptly pop the 10-inch pneumatic tires into position for transport, and just as quickly let the unit down to start core plugging. Penetration up to 2 1/2 inches allows air, water and fertilizer to penetrate the root system, as well as promoting thatch deterioration.

In addition to the wider 48-inch

width, a gang bracket is available and will gang three units together for an 82-inch swath with model 2340 and a 132-inch swath with model 2340-48 pull-behind core plug aerators.

The company is also introducing its brand new versatile machine for core plug aeration, for slicing scarifying for overseeding, for comprehensive slicing aeration and for tilling cultivation.

Core aeration is performed at the pace the operator chooses, and core depth is achieved by the strategically placed 45-pound quick-release weight bar.

Optional accessories are a 20-pound quick-release weight bar for the slicing machine and a 45-pound quick-release weight bar for the plugging aerator.

Circle 122 on reader service card

As a conversion attachment for its 18- by 24-inch lawn roller, **Gandy Company** introduces a clamp-on aerator for extended versatility in its turf care line.

The aerator attachment's cylindrical shell, made of 11-gauge steel, is engineered as hinged halves to clamp quickly and securely around the existing roller drum using a threaded hook bolt.

Angled spikes 2 1/2 inches long, welded six inches apart, aerate

the soil and provide pockets to hold seed and fertilizer. The depth of penetration is controlled by the desired fill weight of the roller and the direction of travel. The attachment has a thermoset polyester-coated black finish.

The companion 18- by 24-inch roller will hold up to 280 pounds of water and has a large easy-fill opening sealed with an expansion plug. For ruggedness, the internal shaft is solid through the drum, and the handle bearings have regreasable fittings. The handle is designed to convert quickly from tow hitch for covering large areas with a lawn tractor to a push handle for working in confined spaces.

The same features are also available as an aerator with spikes welded to the rolling drum.

Circle 123 on reader service card

The first group of **Gill** aerators is the F-65 group which comes in 36-, 48- and 60-inch widths. The small unit is available only as a pull-type, while the other two are available as pull-type or in a category "0" and "1" combination hitch.

All of Gill's units are tractor-drawn, none being wheeled.

The smaller models are basically for use by landscape professionals on small tract housing where larger equipment is prohibitive.

For 30-h.p. tractors and up, Gill offers 72-inch units. These are all standard category 1, three-point hitch aerators. The first unit is built on a swivel hitch and comes standard with an 8-inch front roller. A 6-inch rear roller is optional. In order to obtain aeration, just pull the equipment straight behind the tractor.

The second unit, the SU-900 series, has a split 8-inch front roller and comes either with an 8-inch rear roller or six-inch roller. All units have weight boxes to add additional weight for better penetration. These units are virtually self-cleaning, but when necessary may be hosed down.

Circle 124 on reader service card

GreenCare International offers the CoreMaster 12 which can be used anywhere accessible by a tractor, and can handle the stress of aerating large areas.

The CoreMaster's quadra-tine system offers variable configuration patterns, as well as depth con-



Gandy's rolling aerator.

trol, and delivers up to 92 cores per square foot on a swath width of 49 inches. Its 3/8-inch tine produces a 2/4-inch core, 1 1/4 inches or more apart.

The CoreMaster can be used on all sports turf and landscape surfaces.

Circle 125 on reader service card

Hahn Inc. offers a line of self-propelled, walk-behind, tractor-drawn and riding aerifiers.

The TB-60 pull-behind aerifier is equipped with a hydraulic cylinder and hoses to use the towing vehicle's hydraulics or an optional Pow-R-Pak™ is available for powered lift. Sixty open or closed, 3/4-inch tines are standard equipment.

The TM-60 aerifier attaches to any tractor with a category "0" or category "1" three-point hitch. It cultivates a full 32-inch swath with either the furnished tines or optional slicing blades.

In addition, the JR-4 is a self-propelled, fast and maneuverable aerifier which cultivates a 23-inch swath to aerify 26,000 square feet an hour at about 3 mph. The Hahn

TMV riding aerifier with a cultivated swath of 30 inches, combined with speeds up to four and a half miles per hour, aerifies more than an acre per hour.

Open and closed spoons, penetrating up to 3 1/2 inches depending on soil conditions, are available from Hahn.

Circle 126 on reader service card

LESCO Inc. offers both an open-spoon and closed-spoon model of its aerator-30. Equipped with a 5-horsepower Briggs & Stratton I/C® recoil-start engine, the durable, low-maintenance machine is easy to maneuver.

A 28-inch aerating width is made possible by 30 half-inch diameter spoons, five per disc on 5 1/2-inch centers. The spoons are made of high-carbon heat-treated steel. Only two spoons are driven into the ground at any one time for deeper penetration into the soil.

The spoons move in an arch-shaped pattern which shatters and displaces the soil. Extended

shielding on the back of machine for operator protection and safety.

Circle 127 on reader service card

Three turf aerator models are available from **Olathe Manufacturing**: the model 686 tow-



Olathe Model 88.

type aerator, the model 687 three-point aerator and the model 96 compact aerator.

All three models feature a heavy duty tubular steel frame and a choice of 1/2- or 3/4-inch open or closed tines. All three also offer a 78-inch aerating swath, operating on six-inch centers — eight per wheel.

The tow-type and the three-point aerator are available with three sets of four cast wheels, each set moving vertically and horizontally.

While there are many similarities among the machines, each offers something different. The tow-type contains optional weights located at the rear for better leverage. The three-point has a patent pending float system allowing each set of four castings to float vertically and horizontally to follow the ground. The compact aerator for 16-h.p. to 24-h.p. tractors comes with a seeder attachment.

The company also offers a model 88 walk-behind aerator featuring a 3-h.p. engine with a ground speed covering 23,000 square feet per hour, with up to two removable accessory weights to add about 300 pounds

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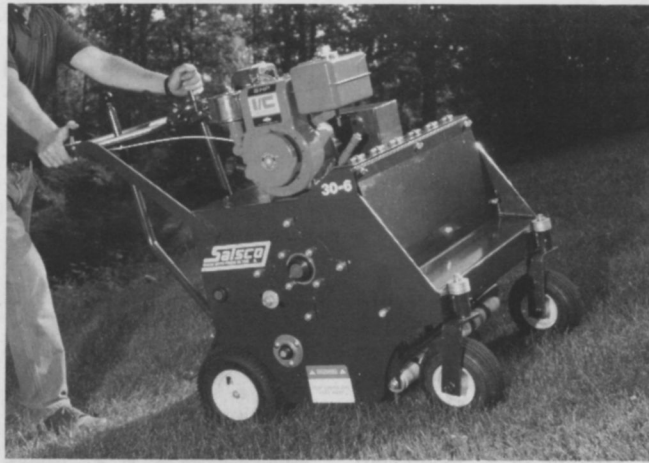
The 30 coring tines penetrate the ground on a 3 1/3- by 8 1/2-inch pattern. Tines are 3/4-inch, heat treated.

Circle 128 on reader service card

Ryan offers the Lawnaire® IV and the Lawnaire® 28. The Lawnaire IV is self-propelled by a 3-h.p. industrial engine and features a 38-pound removable weight bar, a 55-pound capacity polyethylene water drum, a convenient lift handle to raise and lower the machine in tight spots.

For varying soil conditions, the aerator can be tailored to meet your needs. Just add the weight bar and water to the drum for even penetration up to 2 3/4 inches on an aeration pattern of 9 holes per square foot. It covers up to 21,000 square feet per hour.

The Lawnaire 28 is a reciprocating self-propelled, walk-behind aerator with a 7-h.p. OHV Wisconsin Robin engine, and V-belt and roller chain drive. The Lawnaire 28 covers an aerating swath of 28 inches and can cover



Salsco's 30-6 core cultivator.

up to 24,000 square feet per hour. The coring depth is 2 1/2 inches with 3/4-inch diameter tines and a core pattern of 3 1/2 by 5 inches.

The Lawnaire 28 features a tricycle front for easy maneuverability, rubber isolated handlebars and spring-assist lift for ease of use. It also features sealed, precision ball bearings at all locations in the tine arms and linkage for low maintenance and durability.

Circle 129 on reader service card

Salsco's 30-Series core aerators combine speed and maneuverability. All models are self-propelled, with finger-tip maneuvering for easier movement around trees, hydrants and other obstacles without raising the tines, both on inclines and in a 15-inch radius.

Both the 30-6 and the 30-6S are capable of aerating 25,800 square feet per hour, translating into 12 to 16 average lawns each day.

Dual rear wheels are standard on all 30-Series models, ensuring good traction and eliminating marking on lawns and other turf areas. The 30-Series Aerators will provide penetration from one to four inches deep depending on the model used.

The camshaft method of aeration used on the 30-Series models not only ensures the removal of clean cores without tine jamming, but also enables these 300-pound machines to perform well without tearing the turf.

Circle 130 on reader service card

Solo's optional dethatchifying kit can be easily attached to the company's Multimot equipment to aerate the ground.

It rids lawns of thatch and moss over a width of approximately 14 inches with 12 stainless-steel tines, 10 inches in diameter.

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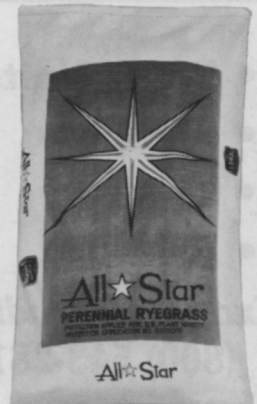
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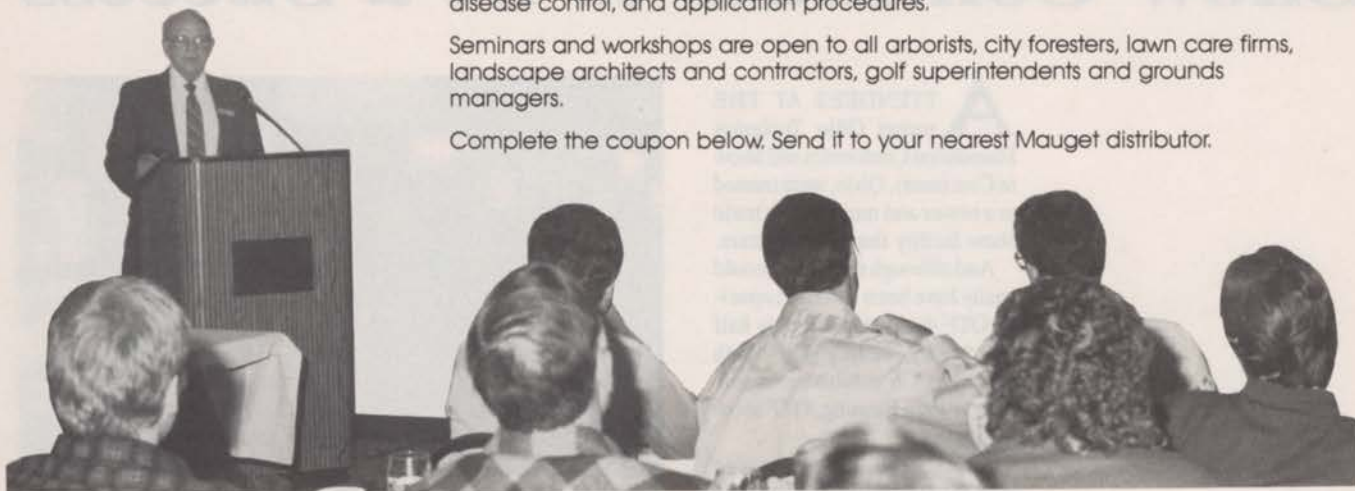
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Ohio's Regional Show Continues to be a Success

ATTENDEES AT THE recent Ohio Turfgrass Foundation Conference and Show in Cincinnati, Ohio, were treated to a newer and much larger trade show facility than in past years.

And although the facility could easily have been filled to capacity, OTF decided to use only half the facility, selling 450 booth spaces to 176 exhibitors, according to John Fanning, OTF show chairman.

About 3,200 attendees visited with exhibitors, slightly less than last year's crowd of 3,500. The show was held in Columbus, Ohio, in 1987.

"We normally experience lower attendance in Cincinnati. The northern part of the state doesn't participate too much," Fanning said. "We lose some from Cleveland, Toledo and Michigan."

However, attendance numbers were up over the last OTF conference held in Cincinnati. Two years ago, the southern Ohio show attracted 2,800 attendees. The show rotates two years in Columbus followed by one year in Cincinnati.

The OTF has about 45 exhibitors on a waiting list, but chose



Exhibitors and attendees discuss the products' qualities.

not to expand the Cincinnati show because when the show returns to Columbus in December, those 45 exhibitors would not have fit in that city's current facility, according to Fanning.

The OTF show has grown to one of the largest regional shows in the country, gaining exhibitors solely by word-of-mouth. More than 32 states and Canada participated in the trade show.

For several years, the two largest factions of show attendees were lawn care operators and golf course superintendents. However, attendees specializing

in athletic fields and cemeteries are quickly growing as evidenced by the exceptional attendance at the educational seminars.

As was done last year, seminars were offered in four separate tracks: golf course, professional lawn service, grounds maintenance and athletic fields. Certification credits were available for those attending the golf course and pesticides sequences.

Although the trade show received many positive remarks, the educational sessions came to be the biggest hit of the conference.

"Attendees were telling me the talks were the best they ever

(continued on page 60)

BENCH A HIT WITH OHIO TURFGRASS CROWD

RELIVING STORIES OF THE PAST, professional baseball legend Johnny Bench entertained an opening address crowd of more than 250.

The former National League Rookie of the Year, Golden Glove winner and perennial All-Star player — and now hall-of-famer — did more to motivate the crowd with personal experiences than with advice specific to the lawn and landscape maintenance industry.

Drafted by the Cincinnati Reds at 17 years old, Bench went on to be a legend in his own time, both as a catcher and hitter. "You have to tell yourself you're better than the situation at hand," he said. "Don't let them see your fear."

He told grounds maintenance professionals that he preferred natural to artificial turf. "For the players' sake, it'd be better if all sports were played

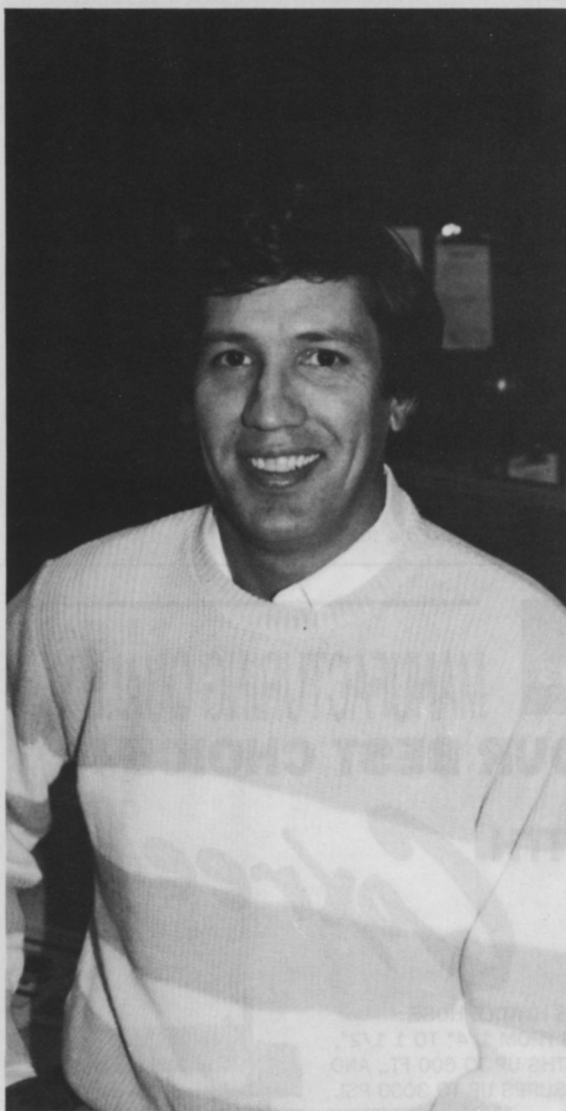
on grass."

And told golf course superintendents to seek out and take into consideration public perception. "Stop and listen to what the golfers have to say. It makes you more accessible, and benefits the whole club."

Bench's entertaining speech followed on the heels of another crowd favorite — Arnold Palmer who spoke at the 1987 OTF conference.

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CUSTOMER CONTRACTS, IS IT TIME?

THINKING OF INSTITUTING signed service contracts with your customers, but are afraid of driving them away? You'd be surprised at how well contracts, or service agreements can benefit your company.

That's what Marty Erbaugh discovered a year ago when he decided to implement one-year contract agreements for all new customers. He liked the idea so well, that he drafted a similar service agreement for all customers. The latest agreement for repeat customers didn't require written authority, but did communicate the company's rules.

Erbaugh, president of the Hudson, Ohio-based Lawnmark, began requiring signed contracts at his branch offices in New York, due to the wave of regulations being enforced in that state. Looking back, it could be considered a risky

undertaking, since more than 50 percent of Lawnmark's business is conducted in New York. Instead, it turned out well.

Erbaugh shared his experiences in an OTF seminar on "Customer Contracts — The Time Has Come."

"It was a constructive process going through compliance and contracts in New York," he said. "The business environment was good, and people still wanted chemical lawn care."

He soon followed with the agreements in Ohio and Pennsylvania, and although a percentage of verbal agreements were never turned into contracts, about 92 percent of his verbals were converted into contracts.

The contract policy was enforced by not scheduling production on properties without contracts. "We were concerned about April — if we didn't do their

property, someone else would. But we stuck to our guns," he said.

Erbaugh said his company received minimum negative response to the idea of a contract in the marketplace. "Instead, we got many positive reactions. The public is more educated; they want to know the rules. It actually helped sales," he said.

Included in Lawnmark's agreement are: services provided, timing of treatments, payment terms, guarantees, service calls/service continuity, other services, continuing service and call ahead agreements.

Similar contracts or service agreements would be good for the entire industry; providing a more stable customer base, according to Erbaugh. He said it would also enhance the professionalism of the industry.

OTF '88

(continued from page 58)

heard," Fanning said. In fact, a few exhibitors commented about light traffic on the trade floor

during seminar hours, leading some OTF officials to think about establishing a block of time in future shows for exclusive trade show hours, he said.

Because of the regulatory at-

mosphere found in the lawn and landscape maintenance industry in recent years, topics on political and legislative updates, employee right-to-know and current and future regulatory concerns for

lawn care operators were popular seminars.

And for drought concerns, a number of irrigation, renovation and turf management topics were offered. ■

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Success and Failure in Controlling Crabgrass

CRABGRASS (*DIGITARIA SP.*) IS ONE OF THE MOST troublesome weeds in turf.

The success of crabgrass, as a weed, can be attributed to several factors including the following: the ability of each plant to produce large numbers of seed; the ability of plants to persist through hot, dry environmental conditions, the same conditions which induce summer dormancy in many cool season turfgrasses; an efficient metabolism that enable plants to increase photosynthate production during periods of high temperature and high light intensities, while the capacity of cool season turfgrasses to produce photosynthate decreases; and the ability to rapidly colonize open areas in turf

created by the injurious effects of disease, insects, compaction, wear and environmental stress.

Any discussion of weed control should be prefaced by a consideration of how weed problems develop. Perhaps the most significant factor contributing to crabgrass encroachment in turf is poor management, which causes a reduction in turf density.

Sunlight is required for germination of crabgrass seed, and also accelerates the germination process by warming soil. Therefore, turf having poor density may develop crabgrass problems because sunlight will more easily penetrate a thinned canopy of leaves. This is corroborated by the general absence of crabgrass in dense, high cut turfs or turfs grown in shaded environments. Among the most prominent managerial abuses are: mowing too closely, light and frequent irrigation and late spring/early summer fertilization.

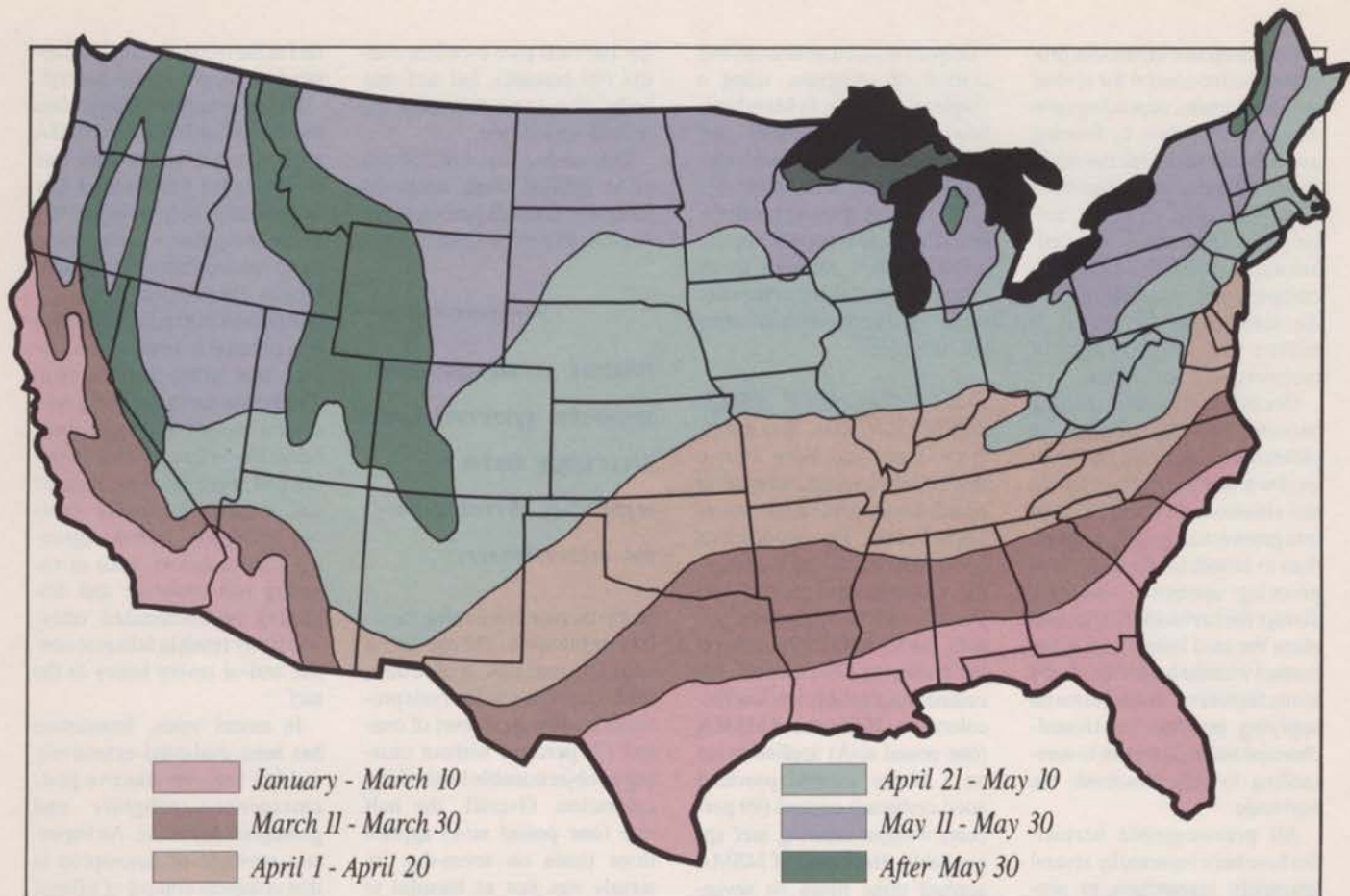
Mowing a turf too closely leads to deterioration of stand density. Observations in a University of Maryland study have shown that tall fescue plots mown at one inch contained 70 percent weeds, whereas, plots mown at three inches had only 12 percent weeds. Hence, by increasing mowing height, weed encroachment can be greatly reduced. Light and frequent irrigations enhance crabgrass seed germination by ensuring that soil remains moistened for extended periods. By allowing soil

PROCEDURES FOR APPLYING PREEMERGENCE HERBICIDES

- APPLY AT THE RECOMMENDED RATE AND BE AWARE OF SENSITIVE TURFGRASS SPECIES.
- Apply one to two weeks prior to crabgrass seed germination — early spring, when soil temperature rises about 60 degrees Fahrenheit. Consult extension specialist from your region for best timing.
- For uniformity of coverage, apply half the needed material in each of two directions at right angles.
- Apply prior to a rainstorm or irrigate with 1/4-inch water within two to three days of herbicide application.
- Re-application of some products five to seven weeks after the initial application, may be necessary to provide season-long control of crabgrass in transition and southern regions. This may also apply when a two- to four-week drought follows a herbicide application.

MAJOR REASONS FOR FAILURE OF PREEMERGENCE HERBICIDES

- HERBICIDE APPLIED AFTER WEED SEED HAD BEGUN TO GERMINATE.
- Herbicide was not watered in within 72 hours of application, and efficacy was reduced by light or microbial decomposition of the active ingredient.
- Failure to re-apply short residual herbicides six to seven weeks following the initial application in transition of southern regions.
- Spring drought which delays weed seed germination, followed by rain in late June, July or August after herbicide residual has dissipated.
- Disruption of the soil surface, especially divots.
- Improper sprayer or spreader calibration, and poor uniformity in herbicide application.



Map indicates periods during which crabgrass seeds germinate in different parts of the country.
Map: O.M. Scott & Sons Co.

to dry out between irrigations, crabgrass seed germination is inhibited.

Application of fertilizer during late spring and early summer provides nutrients that may benefit weeds more at this time than the turfgrass. Also, application of high levels of nitrogen during this period may predispose turf to injury from heat and drought stress during summer. Other factors such as disease, insects and stress, which cause or contribute to loss of density, promote crabgrass encroachment.

In spite of hard work and strict adherence to sound cultural practices, crabgrass frequently becomes a serious problem. For this reason, use of preemergence herbicides often becomes a necessity. Spring application of a preemergence herbicide is an effective and easy approach in controlling crabgrass. Postemergence control involves repeated applications of methanearsonates, e.g., DSMA and MSMA, on critical five- to 10-day intervals. These compounds can be phytotoxic, especially when applied during hot weather. A new alternative to the methanearsonates is the herbicide fenoxaprop. Sidoron also provides postemergence control, but only when crabgrass plants are seedlings in the one- to three-leaf stage. These herbicides will be more thoroughly discussed below.

PREEMERGENCE CRABGRASS CONTROL. Crabgrass seeds begin germinating when soil temperatures rise above 60 degrees Fahrenheit, and when air temperatures rise above 65 degrees Fahrenheit for five consecutive days. Germination in northern regions generally begins in mid to late May, however, in the transition zone, it can occur as early as mid-March. For a preemergence herbicide to be effective, it must be applied one to two weeks prior to germination.

Most crabgrass seeds germinate during a six- to eight-week period in late spring and early summer, but germination may continue in open or disturbed sites as late as September. Preemergence herbicides kill crabgrass seedlings shortly after germination of the seed. Once substantial populations of seed have germinated and first leaves have emerged, it is too late to apply most preemergence herbicides.

Preemergence herbicides provide effective control for several weeks or months, depending upon dosage and product, by forming a continuous herbicide barrier in the soil. Once the barrier has been disturbed, efficacy of the herbicide is sometimes reduced. Summer aerification after most crabgrass seed has germinated for the season does not appear to reduce the effectiveness of preemergence herbicides.

Occasionally, overseeding becomes necessary before the preemergence herbicide has broken down and its activity lost. In this situation, it is better to seed into grooves using a slicer seeder than to broadcast the seed. The grooving operation will help disrupt the herbicide barrier and place the seed below, and out of contact with the herbicide. Some manufacturers recommend applying powdered activated-charcoal seven days prior to overseeding to help deactivate the herbicide.

All preemergence herbicides have been reported by several university researchers to pro-

vide good to excellent season-long control of crabgrass, using a single application. In Maryland, however, crabgrass seed germinates three to six weeks earlier than in more northern regions. For this reason, preemergence herbicides must be applied weeks earlier than in many other regions, and higher use rates or a second application are often recommended.

POSTEMERGENCE CRABGRASS CONTROL. Test results from Maryland have shown that MSMA controls crabgrass at reduced rates when applications begin in July. Two applications of MSMA on a 14-day interval at the recommended rate of two pounds active ingredient per acre (ai/A) effectively controlled crabgrass (99 percent), but caused unacceptable levels of discoloration. Half rates of MSMA (one pound ai/A) applied twice on a 14-day interval provided good crabgrass control (99 percent) without injuring turf appreciably. Half rates of MSMA applied three times on seven-

day intervals gave excellent control (99 percent), but turf was badly discolored following the second application.

The one-fourth rate (0.5 pound ai/A) applied three times on seven-day intervals gave excellent control (99 percent), but turf was

.....

Most crabgrass seeds germinate during late spring and early summer.

badly discolored following the second application. The one-fourth rate (0.5 pound ai/A) applied three times on seven-day intervals provides a fairly good level of control (79 percent) without causing an objectionable level of discoloration. Overall, the half rate (one pound ai/A) applied three times on seven-day intervals was just as harmful to

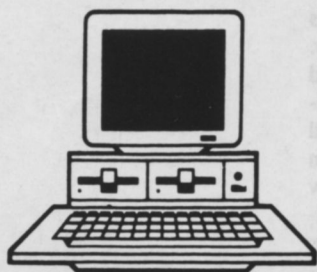
turf as the recommended rate applied twice on a 14-day interval.

Experience from other studies has shown that MSMA or DSMA applied twice at one-half rate beginning the first week of July is generally very effective because crabgrass is younger and more susceptible to these herbicides. Performance of MSMA and DSMA is erratic, and effective control is many times the exception rather than the rule. The key factor in obtaining successful control is to apply these herbicides twice on a 10- to 14-day interval when there is adequate soil moisture to sustain vigorous crabgrass growth. Ignoring control factors, such as ensuring soil moisture and following recommended rates, will likely result in failure to control and/or severe injury to the turf.

In recent years, fenoxaprop has been evaluated extensively and has been an effective post-emergence crabgrass and goosegrass herbicide. An important attribute of fenoxaprop is that complete control of tillered

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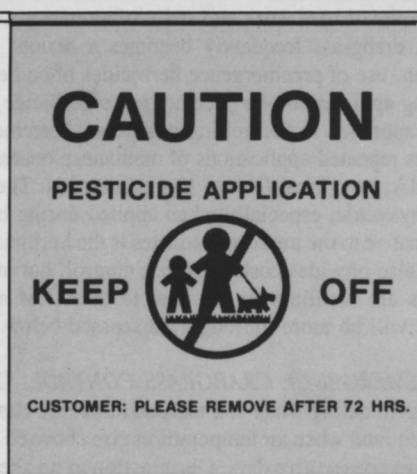
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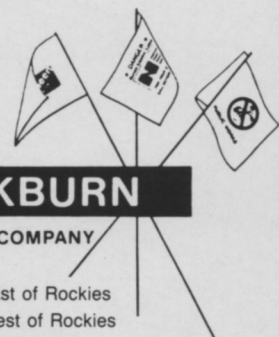
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OBTAINING EFFECTIVE CONTROL WITH POSTEMERGENCE HERBICIDES

- ADEQUATE SOIL MOISTURE IS necessary before and after herbicide application.
- The weeds in the turf must be actively growing.
- The first application should be made when weed leaves are above the turf canopy.

- Apply methanearsonates on seven- to 14-day intervals.
- Be sure no rainfall is to occur, and do not irrigate for 24-hours after applying a methanearsonate. Do not irrigate before fenoxaprop dries on the leaf surface.
- Do not mow 48 hours before or after

- herbicide application.
- Herbicides will not provide effective control when weeds are under heat or drought stress or in late summer after weeds have matured and have begun to produce seed.
- Properly calibrate the sprayer, and never exceed the recommended rate.

crabgrass can be obtained in a single application as long as weeds are actively growing. The methanearsonates normally control only immature, non-tillering crabgrass in a single application.

In most years in the transition zone and northern regions, most crabgrass seed that is going to germinate in a given year has done so by the first week of July or a few weeks earlier in southern regions. It is conceivable that a well-timed herbicide application after most crabgrass seed has germinated, may eliminate crabgrass as a problem for the re-

mainder of the season. To test this possibility, single applications of MSMA and fenoxaprop were made on three dates in 1984.

When fenoxaprop was applied on June 13, the 0.18 pound ai/A (i.e. 23 fluid ounces per acre) rate controlled existing crabgrass, but only 62 percent control (determined in September) shows up because more seed germinated after herbicide applications. The low rate of fenoxaprop (0.12 pound ai/A) and both rates of MSMA (one and two pounds ai/A) were ineffective against young crabgrass because

sufficient levels of herbicide failed to contact the crabgrass, which was below the turfgrass canopy (and therefore protected) on June 13. When fenoxaprop was applied on July 2 and July 16, excellent crabgrass control was obtained (91 to 100 percent) when plots were rated in September. This showed that no significant levels of crabgrass seed had germinated after July 2, despite frequent periods of rain in July and August of that year.

Other tests have shown that single applications of fenoxaprop will control crabgrass in August if there is adequate soil

moisture. MSMA applied only once on July 2 or 16, rather than in multiple applications, did not effectively control crabgrass. Fenoxaprop has reduced effectiveness on heat- and drought-hardened crabgrass, and effective control is dependent on the control factors — Peter H. Dernoeden

The author is an associate professor in the Department of Agronomy at the University of Maryland, College Park, Md. The preceding study was reported at the 1988 Michigan Turfgrass Conference.



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LOOK FOR ST. AUGUSTINEGRASSES IN WARMER, HUMID CLIMATES



Adapted to warmer portion of the warm humid climate region.

AS PART OF OUR CONTINUING SERIES of articles on turf seed varieties, St. Augustinegrass, which prefers moist, well-drained fertile, sandy loam soils, has been selected for consideration this month.

St. Augustinegrasses are generally adapted to the warmer portion of the warm humid climate region because more often than not, northern adaptation is limited by cold stress.

These tips may serve as an introduction to the St. Augustinegrasses and help in the development and maintenance of turf.

St. Augustinegrasses will survive in the higher, drier, colder environments north to the Piedmont and Little Rock

and west to Dallas, but do not perform nearly as well there as they do further south.

The grasses thrive near the seashore and in general throughout the low-lying coastal plain, especially in Florida. In most growth characteristics, St. Augustinegrass is moderate — it is not the best, nor the poorest.

St. Augustinegrasses have leaves that exhibit a constriction and half twist where the blade joins the sheath. Its leaf blades are smooth except for a cluster of hairs at the juncture of the sheath. Leaf tips are blunt, dark green and occur in groups at the nodes. These groups overlap the bare internodes, where its stems are thick and flat.

St. Augustinegrasses produce relatively few seedheads.

Other characteristics of St. Augustinegrasses include:

- coarse-textured with a loose leaf characteristic; leaf blades may be as much as one-half inch wide;
- fairly low creeping grasses that spread by stolons;
- green nearly year-round in southern Florida, and only off color briefly in northern Florida;

- moderately fast-growing, but not as rapid as bermudagrasses;

- well adapted to moist climates and heavy soils;

- tolerant of varying soil characteristics including pH;

- the best of the warm season types in the shade, except for bahiagrasses; also are excellent in full sun;

- propagated vegetatively from sprigs, plugs or sod; cultivated, fertilized beds that are watered consistently until roots form providing the best environment for turf development. Planting is done in the spring or early summer. With fertilization and some weed control, turf can be obtained from starts one foot apart in a few months of favorable growing weather;

- excellent for sod production on the muck lands of southern Florida;

- relatively expensive to maintain;

- moderate in their fertilizer requirements; spring and fall applications of a complete fertilizer and organic nitrogen in the summer usually is adequate; follow recommended rates for the material used; organic nitrogen, which produces a lesser degree of growth stimulation, helps reduce chinch bug injury;

- subject to diseases — brown patch and gray leaf-spot are particularly troublesome; use of a lawn fungicide at least twice about two weeks apart will usually provide control;

- not particularly tolerant of weed killers, but a good healthy lawn is weed resistant.

To protect St. Augustinegrasses from insects and diseases and to culture them properly requires equipment, chemicals and knowledge often beyond that of the average gardener. Lawn service specialists are of great help in the care of these grasses.

Nematodes cause injury to St. Augustinegrasses by damaging the root system. Use of a nematocide should provide greener, more vigorous grass.

Chinch bugs cause significant damage to St. August-

1989 ST. AUGUSTINEGRASS FORECAST

ST. AUGUSTINEGRASSES have retained a fairly stable market in the Florida and other southern markets in recent years, however, there is talk of an upward price swing this year.

The stable construction economy in Florida has permitted sod prices to maintain current levels, and while the turfgrass is not in short supply, it's not a buyers' market either, according to Phil Busey, Agricultural Research Center, Ft. Lauderdale, Fla. "There will be an upward movement in price if the economy sees no major recession."

St. Augustinegrass represents about 65 percent of the total turfgrass market in Florida, while Florida and Texas account for the vast majority of

St. Augustinegrass usage.

The sod market is sensitive to the local and state economy and more directly the building industry. Or in the case of Texas, the oil economy.

Prices in Florida range from six to 10 cents a square foot. In more remote locations, the price is on the higher end of the scale, but the price throughout Florida is generally inexpensive because it's often a bulk commodity.

In addition, Florida is increasingly becoming an exporter of St. Augustinegrass because the state is known for its premium sod, Busey said. Changes in market grades and standards has been a big issue in the state in recent years due to a problem with some St.

Augustinegrass varieties. Standards set up by state associations will continue to demand higher quality sod.

Perhaps more important than the price and quality is the availability. Busey is particularly excited about new varieties preparing for entrance into the market.

Floralawn, Jade and experimental grass FX33 are three of the new varieties showing great promise. Jade is showing good potential for shady areas, while FX33 is reputed for its drought-resistant qualities. FX33 is not expected to be commercially available for at least two years.

On the other hand, Raleigh has been abandoned in many areas in Florida due to its problem with brown patch.

tinegrasses and must be controlled by regular use of insecticides. Infestations throughout the Southeast have moved westward into Texas. Unfortunately, chinch bugs in any given population gradually become resistant to the insecticide used. However, the cost of developing new chemicals should be taken into consideration. Generally, the insecticide used will also control webworms, armyworms and other insect pests.

St. Augustinegrasses tend to build up spongy thatch that separates the foliage from the roots beneath. Vertical cutting or thinning is important in keeping this condition under control. Where thatch accumulates, water, fertilizer nutrients and pesticides are prevented from reaching lower plant parts and roots where they are needed.

Close clipping and raking in the spring when recovery is rapid, and removal of clippings throughout the year help prevent thatch accumulation. Mowing is accomplished with ease because of its vigorous growth and leaves that lie low to the ground.

St. Augustinegrasses may be mowed as close as one inch, but it produces a tighter, more weed-free turf when clipped closer to two inches. Weekly mowing is generally adequate.

Light-weight mowers ride high on St. Augustinegrasses and tend to elevate the height of cut, encouraging the formation of thatch. The grass requires irrigation during periods of natural rainfall shortages.

"Common" St. Augustinegrass and the variety "Roselawn" are both coarse and relatively open with few leafy branches and long internodes. — *The Lawn Institute*

COMING NEXT MONTH

In the March issue of *ALA/Maintenance*, we'll announce the winner of our third annual Award for Professionalism. You'll want to be sure and read about the company which portrays an image the industry should strive to personify.

A special report on training and certification in the lawn and landscape maintenance industry will also be included, along with a feature on front-end mowers.

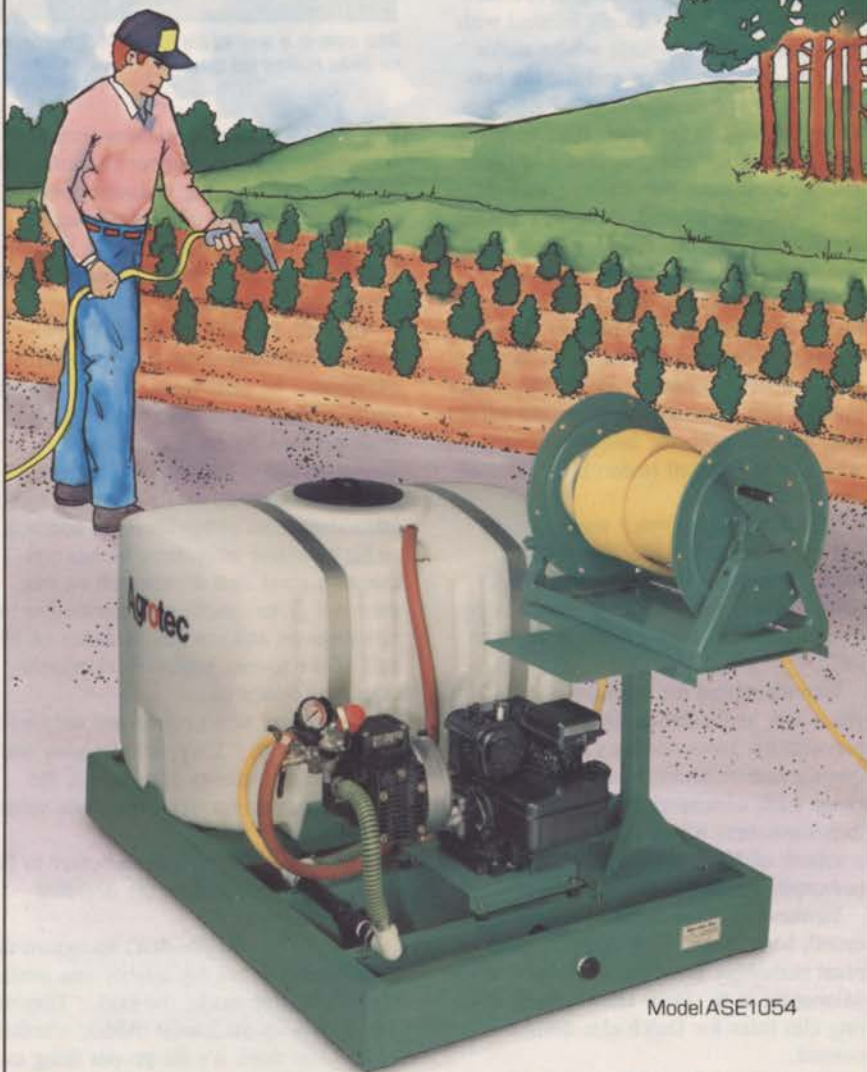
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TREES & ORNAMENTALS

WHEN QUALITY IS AT THE ROOT OF THE CHOICE, STENNES EXCELS

"THERE IS NOTHING LOVELY AS a tree," the saying goes. Most people would echo that sentiment, at least until said tree needs trimming or develops a disease. That's when trees fall low on the "lovely" list.

But, to some, a healthy shade tree is a top priority and price is no object when it comes to ensuring the health of that tree.

And, in the Minneapolis/St. Paul area, to get premium tree care, many tree enthusiasts call on Mark Stennes, owner of Stennes Shade Tree Inc., a total tree care operation based in New Brighton, Minn.

Stennes said he's not only blessed with an upper-income clientele whose major concern is healthy trees and not the bottom line, but these clients just happen to share his passion for trees. It's important to Stennes that these people would rather nurture their trees now than replace them later. After all, he said, "the only reward for tree removal is a blank space in the sky where there used to be a tree."

Obviously, Stennes has a soft spot in his heart when it comes to trees. For example, the trees he maintains on the Minnesota State Fairgrounds in St. Paul aren't making him a fortune, he'll readily admit. But, Stennes said, the fairgrounds are where he conducted research for his master's degree.

"I'm not making much money there, but it's important to me," he said. "I know those trees by name. And I'm at least partially responsible for there being an elm population on the fairgrounds at all."

Stennes started his business just six years ago, and today he employs six people with his gross revenues approaching a quarter million annually. His clientele range from commercial accounts like 3M to homeowners who mostly live in Edina, a suburb of Minneapolis with the highest per-capita income in the state.

Stennes launched his business the same month he received his master's degree in plant pathology from the University of Minnesota in St. Paul. He began by injecting elm trees for Dutch elm disease control.

"By the end of my first summer, I discovered that injecting elm trees just wasn't profitable enough to go to Florida and play golf all winter," he recalled.

So, he extended his efforts into total



Tree care is a way of life for Mark Stennes, whose passion for trees makes his business thrive.

tree care, focusing on maintenance, trimming, structural support systems and spraying and injecting to control pests.

The combination of a proven background in plant pathology and a genuine love for trees has made it easier for Stennes to sell his services.

After all, he said, many tree maintenance firms are come-and-go types — "Gypsies," he calls them. People who are really serious about maintaining their trees are looking for someone with education and a true interest in trees.

Stennes' credentials alone are enough to intimidate most competitors. In addition to his extensive education, he has conducted a great deal of research on tree care and given countless presentations on elm diseases and tree maintenance on behalf of the several professional associations he belongs to.

"My clients aren't concerned only with price," he said. "They want training and education and quality service. So, the more I know about trees, the more value I offer them."

Many times he won't even bother to bid on a job if price will be the deciding factor.

"Often times, people don't recognize the difference between top quality and mediocre quality tree work," he said. "They've got to go with the lowest bidder, whether or not they think it's the proper thing to do."

Once clients decide to employ Stennes' firm, they will receive a prescription program tailored to their specific trees and ornamental shrubs. That means a combination of different treatments.

In addition to trimming, structural support and various maintenance practices, Stennes applies fungicides for control of Dutch elm disease and anthracnose, and he sprays or soil injects insecticides to control birch leaf miner, European honeysuckle aphids and other insects.

Stennes says his use of pesticides is limited. "There are so few pests you can control with just one shot," he said. "And if you can't get acceptable control with one application, people are unhappy."

To control pests like birch leaf miner and European honeysuckle aphids, however, Stennes said his clients are willing to pay extra to have pesticides injected.

"It's more expensive but the results are guaranteed," he said. "If my clients want me to be able to assure them some kind of control that will last for more than a few days, I tell them it's not cheap."

Finding new ways to make his expertise work harder seems to be the future of Stennes' business. He plans to add some new equipment to his lineup next spring. Specifically, he'd like to use a hydraulic sprayer for fertilizing trees and other plants.

The hydraulic sprayer would enable him to apply fertilizer and pesticides more cost effectively, he says. In addition, the capability would allow him to treat trees and other plants early in the summer when the propensity for pests is highest. "Keep the bugs off the trees to begin with and you have a lot of power," he said.

One service Stennes probably won't add to his business is tree removal. Although he advertises "total tree care," Stennes is the first to admit that he doesn't actually offer everything. "I don't do a lot of tree removal," he said. "But, then again, removals is not really tree care, it's a service."

Maybe the real reason is that Mark Stennes just can't bear to look at those blank spots in the sky. — *Valentine-Radford Inc.*

The public relations firm represents the Moby Corp.

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ARE CONTRACTORS PAYING FOR INCREASED COMPLIANCE?

UNCLE SAM — AND MANY STATE and local governments — are making increasing demands on landscape contractors in the name of environmental protection, employee health, welfare and safety, etc. But, rarely, do those lawmakers provide the funds needed by the contractor to comply with those mandated changes, improvements or reporting requirements.

Fortunately, our federal income tax law does provide at least partial relief from that added financial burden — if the landscape contractor knows where to look. Plus, those same tax rules also provide tax deductions for expenses incurred in fighting the new regulations — or the fines which often result if the new laws are ignored.

First, on the downside, any landscape contractor may be faced with the need to make substantial expenditures relating to the health and safety of their employees. However, even though that expenditure may be required under the law, it is not immediately tax deductible if it can be labeled a capital expenditure. Thus, whether or not a particular expenditure for health or safety is currently deductible depends on the nature of the expenditure. If it's a repair, it's currently deductible; if a capital expenditure, it must generally be recovered through depreciation.

Under our extremely complex tax laws it is difficult to state a general principle or principles by which current business expenses can be distinguished from capital expenditures. Normally, a capital expenditure is one that results in:

1. the creation or acquisition of a new asset with a life of more than one year;
2. an increase in the value of an existing asset or a prolongation of its useful life; or
3. the fitting of an existing asset to a different use.

Obviously, if item 2, above, is taken literally, it could be argued that the fitting of a safety device to a machine rarely increases its value or prolongs its useful life. Indeed, the result is all-too-often a loss of operating efficiency. However, in one case that involved safety devices on elevators, the U.S. Tax Court stated "[I]t is not necessary that the monetary value be increased or that the life of the asset is prolonged...a betterment of operating conditions, whether voluntary or involuntary, is a sufficient reason for capitalization."



Illustration: OPEAA

In other words, the attitude of the courts appears to be this: The fact that the expenditure relates to another asset and does not increase its value or its life is irrelevant. It is not made for that purpose, but to protect workers, customers or the public from injury. The expenditure results in an asset (the safety device itself) with a useful life of more than one year and therefore must be capitalized.

Those incidental repairs mandated by government that neither materially add to the value of the property nor appreciably prolong its life, but, rather, keep it in an ordinarily efficient operating condition, may be tax deductible — provided the cost of acquisition or production or its basis or book value is not increased as a result.

One rule of thumb is that an item with a useful life in excess of one year is a capital expenditure and not a repair expense.

Further confusing the issue, special assessments and levies tending to increase the value of the property, such as paving, sewer, sidewalk, drainage, etc., are generally not deductible, but are capital expenditures that must be added to the cost of the land.

A landscape contractor is, however, permitted to deduct the cost of removing certain existing architectural and transportation barriers in the year when paid or incurred instead of capitalizing these costs and depreciating or recovering them over the life of the asset. The costs that qualify are those paid or incurred in order to make any facility more accessible to,

and usable by, the handicapped and the elderly. Into this category would fall the costs of constructing a ramp to remove the barrier posed for wheelchair users by steps. Of course, the maximum deduction each year is limited to \$35,000.

Engaging an attorney — or any professional — whose services are needed to explain, implement or fight any government mandate is usually a tax deductible expense so long as it is business-oriented. However, if the legal expense corresponds to an expenditure for the purpose of acquiring or improving a capital asset,

it, too, is a capital expenditure.

Compliance, in other words, is usually tax deductible either as a current or as a depreciable expense. Never deductible, however, are bribes, kickbacks or other illegal payments — regardless of how tempting that solution might be.

Probably the most important tax deduction of all in this area is for so-called "lobbying" expenses. The federal tax law permits an income tax deduction for certain expenses related to appearances before and communications with a legislative body, a legislative committee or even an individual legislator.

The principal restriction here is that the lobbying must be on a matter that is of direct interest to the landscape contractor. It is not enough that a law, rule or regulation, existing or proposed, will affect business in general.

Two limitations exist: (1) no tax deduction is allowed for any amount paid or incurred for participating or intervening in any political campaign and (2) no deduction is allowed for expenditures to influence the general public with respect to any specific legislative proposal, election or referendum.

From initiation to implementation and enforcement, those increasing burdens placed on landscape contractors in the name of the environment, employee health and safety or the general good, all have tax consequences. — **Mark E. Battersby**

The author is a tax and financial adviser in Ardmore, Penn.



White



Rickard

STEVE McCARTER HAS BEEN named specifications manager for the turf products division of GardenAmerica.

McCarter's responsibilities include interacting with specifiers and architects, providing them with updated information on products and programs. His territory includes Texas, Oklahoma, Colorado, New Mexico and Arizona. McCarter brings more than 11 years of experience in the landscape and irrigation industries to his new job.

CoRoN Corp. recently appointed David

R. White its director of marketing.

White will be responsible for all sales and marketing efforts for the company on a national and international basis. He was most recently sales manager of foliar products for the Triazone Corp., and previously Northeast agricultural sales representative for the Arcadian Corp.

H. Ray Rickard has been promoted to vice president of finance, and appointed as a member of the board of directors for Exmark Manufacturing Co.

Rickard is responsible for managing Exmark's financial operations — accounting, finance and data processing departments — as well as forecasting Exmark's long- and short-term needs. He is also director of human resource management for the company.

Prior to joining Exmark, Rickard worked 12 years for the Pillsbury Company and its subsidiaries in various financial management positions.

William E. Dunn was recently ap-

pointed to the newly created position of sales manager of Lofts Seed company's professional turf division.

Dunn most recently worked in sales at Rockland Chemical.

Working out of Lofts' Bound Brook office, Dunn will be responsible for expanding the company's sales and service to independent garden centers, the lawn care industry, landscape contractors and suppliers, professional landscape and athletic field managers and sod growers.

Jesse C. Key has been appointed vice president, Arrowood Operations, for Jacobsen Division of Textron Inc. He will be responsible for the overall operation of Jacobsen's Charlotte, N.C.-manufacturing facility.

Key previously held the position of vice president of operations in the Racine, Wisc.-facility. Most recently, he was vice president of manufacturing at Homelite Division of Textron, also located in Charlotte. ■

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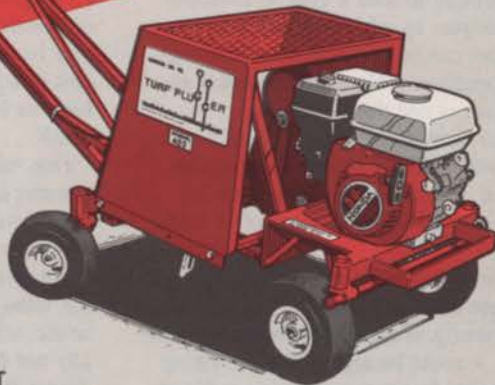
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This commercial rider features a Kohler cast-iron, twin-cylinder engine, and includes many features not duplicated by others. The Eaton 850 hydrostatic drive transaxle offers smooth transition with a touch of the foot. Scag's exclusive hydraulic cooling reservoir is said to offer twice the cooling surface of others. Every Scag hydro rider comes with a standard 5-gallon polyethylene fuel tank and oversized tires for better traction.

Circle 101 on reader service card

RAIN BIRD SALES R-50 SERIES HAS been expanded with the introduction of the new R-50C commercial rotor and R-50S shrub rotor.

These new vandal-resistant models incorporate the standard R-50 features, and are designed specifically for use on schools, sports fields, slopes, parks and other commercial/industrial applications.

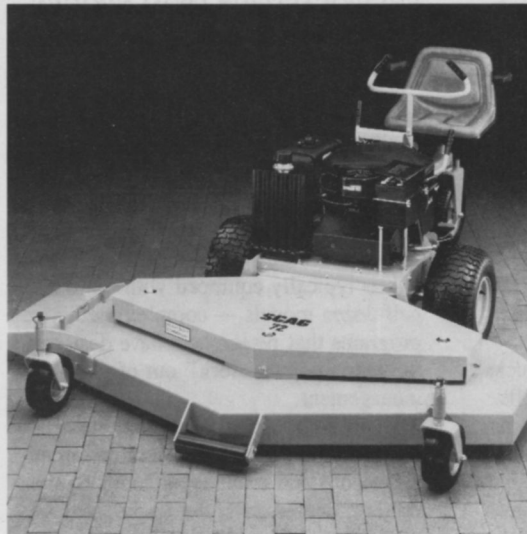
The R-50C, with its Seal-a-Matic™ device and durable rubber cover, is ideal for use in parks and in high traffic commercial areas. The R-50S is designed for shrub or slope applications where there is a special need for vandal resistance, uniform coverage and erosion prevention.

The R-50C and R-50S feature a non-strippable, internal impact turbine drive; full or part circle capability; Memory-Arc™; easy arc adjustment with no tools; color-coded, matched precipitation rate nozzles; a low angle of trajectory; and superior close-in watering.

Circle 102 on reader service card

PARKWAY RESEARCH INTRODUCES Big Foot — a blue spray indicator with a new nonstaining formula.

Big Foot is used to mark spray solu-



tions at the rate of 16 ounces per 100 gallons of spray mix, and washes off hands and equipment with no stain.

Circle 103 on reader service card

PRODUCT INFORMATION ON Encore Manufacturing Co.'s complete line of commercial lawn and turf equipment can now be found in a new color brochure. PRO 36- and 48-inch walk-behind mowers, the PRO Power-Thatch and a new grass catcher and sulky are all included.

The brochure highlights the PRO mowers' double V-band drive belt to eliminate slippage. It also includes complete specifications for each machine and attachment.

Encore's PRO sulky and grass catcher, with its no-tool, easy assembly and on/off attachment is also highlighted.

Circle 104 on reader service card

IN AN UNUSUAL MID-YEAR INTRODUCTION, Rio, a vibrant new zonal geranium is now being offered to growers by

Fischer Geraniums, U.S.A..

An ample quantity of cuttings are available for the 1989 spring season.

The geranium has been extensively tested in Europe where its dramatic coloring and vigorous growth have already attracted significant interest.

Rio is the first of a special new series. Its flowers are a clear pink with bold magenta markings in each petal, resulting in a dramatic look, whether viewed close-up or in the garden. Individual flowers are large and combine in the flower head to make a striking picture. It has also shown a

high level of weather tolerance.

Plant habit is compact and self-branching and the dark foliage makes a superb contrast with the blossoms. In production, it forms well-shaped plants quickly, and flowers resist petal shattering.

Circle 105 on reader service card

NEW 1989 PRODUCT LITERATURE IS now available from **Exmark Manufacturing Co.**

The eight-page, full-color brochure explains Exmark's complete line of professional turf care equipment. The literature contains information on product specifications and details on Exmark's accessory items.

Updated operator's manuals for all intermediate mowers and parts manuals for Exmark's five-speed and variable-speed commercial mowers are complete, as are the 1989 turf rake parts and operator's manuals.

Exmark also offers dealers a new series of product ad slicks featuring the 21-, 36- and 48-inch mowers. These black-and-white ads feature an illustration, headline and copy, as well as space for the insertion of prices and dealer identification.

106 on reader service card

BRAVO® 720 AND BRAVO® 500 fungicides for use in the control of lacy scab/russet scab on prune plums has been registered by the U.S. Environmental Protection Agency.

PRODUCT SPOTLIGHT

SPRING VALLEY TURF Products recently introduced a preemergent herbicide for the control of crabgrass.

Crab Spray 10 percent, the new sprayable TEAM crabgrass preventer, has an active ingredient ratio, that has never been offered before in the sprayable

formulation.

The product is packaged in convenient 40-pound bags that will cover two acres, and provide a full two pounds of active TEAM per acre along with 0.13 pounds of nitrogen per 1,000 square feet.

The flexible rates of applica-

tion allow Crab Spray 10 percent to fit into a variety of programs. The labeled rates range from one and a half pounds to three pounds active ingredient per acre. The label also provides information that provides for split applications.

120 on reader service card

The registration expands the fungicide use ranges of products made and marketed by **Fermenta Plant Protection Co.**

In experimental testing by the University of California at Davis, Bravo 500 was considered to be "up to 100 percent effective" in preventing lacy scab on French plums, according to a research report. Bravo 500 will be marketed for the control of lacy scab in California; Bravo 720 is available for this use throughout the rest of the United States.

A broad-spectrum disease-control fungicide, Bravo was previously labeled for use against brown rot blossom blight on prune plums.

Circle 107 on reader service card

THE WAG CO. HAS INTRODUCED A small backhoe for ATVs, small trucks, small tractors and carts, as well as a backhoe for one-half-ton or larger trucks, tractors, skid-steer loaders and forklifts.

The small backhoe, or Hydra-Hoe, has a swing of 360 degrees allowing loading into the bed of a vehicle, a digging depth of five feet, a reach of nine feet six inches, a lifting height of 10 feet, joystick control valves with power beyond capacity for operating hydraulic tools and a variety of attachments.

The larger backhoe, The Little Dipper,

has a swing of 160 degrees, a digging depth of seven feet, a reach of nine feet six inches, a lifting height of 10 feet, joystick control valves with power beyond capacity for operating hydraulic tools and a variety of attachments.

Circle 108 on reader service card

ENVIROCASTER™ FROM NEOGEN Corp. is the new name for its old product PestCaster.®

The computerized EnviroCaster system monitors constantly changing environmental conditions that can drastically affect the growth and health of plants, or trigger infestations by damaging diseases or insects. It's used on turf, golf courses, farms, and orchards.

It is typically equipped with up to a half-dozen models — complex predictive programs that researchers have designed to "take the guesswork" out of plant management.

When equipped with appropriate sensors, the field-installed system can monitor, record and evaluate air temperatures, rainfall, degree-days, dew-point, leaf wetness, relative humidity, soil temperatures, solar intensity, wind direction and wind speed.

Easily field-installed, EnviroCaster is fully automated and solar-powered. Its

onboard computer has sufficient capacity to store up to two weeks worth of data, and a built-in printer can generate "hard copies" on demand. EnviroCaster can be linked to another computer to download its data.

Circle 109 on reader service card

THE STONE EX TRACTOR IS NOW available from **Terracare Products Co.**

The unit will remove surface stones in minutes. The Ex Tractor is fully hydraulic and used with a three-point hitch tractor. It can also be used for many other heavy lifting jobs.

Circle 110 on reader service card

NIGHTSCAPING'S PRO-LITER series of 12-volt outdoor lighting fixtures are fabricated of two-piece, extruded aluminum with a powder-coated finish — a combination that produces a strong, yet lightweight, weathertight, corrosion-resistant fixture.

Comprising bollard-type, hanging and wall-mounted fixtures, in a variety of finishes and colors, the seven fixtures in the pro-liter series have extruded "fins" which provide three times the surface area for improved heat dissipation. Each fixture has a built-in, indirect heat vent.

Circle 111 on reader service card

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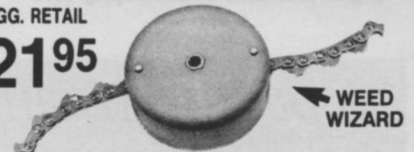
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WEED WIZARD, INC., P.O. Box 275, Dahlonega, Georgia 30533

Hiring in the 1990's

(continued from page 44)

and employees are not loyal to companies. That need for loyalty is with their direct supervisor and peer group. Feeling you have a kinship with that group keeps people with a company longer," she explained.

"This creates a more productive environment because nobody wants to let anybody down. Money is important, but their job and what they are doing is most important," Hochler said.

Day also believes team building is a key to effective personnel management. "The companies that are most successful in retaining and recruiting people are those that encourage and build teamwork. We've got to be more people-oriented in our management style," he advised.

Another part of the interview process that is often not done, but is an important indicator of an employee's future job performance, is checking references, according to Troutman.

Finally, Hochler advises that every company should devise a job offer letter that includes starting salary, date and time a new employee is expected on the job, as well as any special conditions of employment.

"Nine times out of 10, candidates walk out with a different picture of the job than the manager thought was being conveyed. The best way to offer the job is in writing," she suggested.

One of the nagging problems leading to high employee turnover rates in the lawn and landscape industry, according to Day, is noncompetitive compensation packages. Though industry executives indicate wages are increasing, Day believes the answer lies more in career development. "Companies have been focusing too much on the short-term rather than long-term career development."

Denny McKeown, vice president for marketing at Natorps Companies in Cincinnati, Ohio, said the industry must appeal to "those who are dedicated to this life and to the love of the outdoors."

Natorps Companies, a family-owned business, emphasizes the importance of people — both employee and customers. The motto of the company, which provides landscape, irrigation and tree services, is "We are in the people business first, and the plant business second."

Carrying out this philosophy, McKeown said, "leads to the stability of our work force. We are open with employees and keep the communication lines open — just like we want to know when the customers are unhappy."

Due to the competitive labor market Natorps has had to advertise for second and third men for their three-man crews. The company also meets with students at two-year technical schools and makes career development presentations at state

and regional meetings.

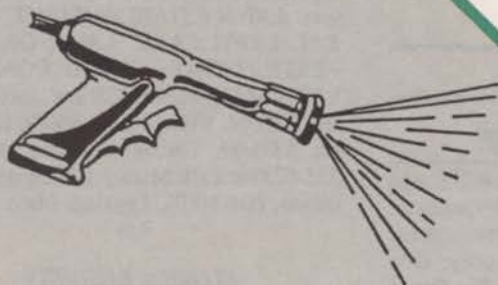
McKeown adds that its foremen work on straight commission based on a percentage of contract labor, time and material based on a set rate per hour. "This is more rewarding and both enhances their income and the team approach," he said.

Regarding the relationship between compensation and turnover, Liggins pointed out, "The key to turnover is not necessarily more pay, but equitable pay practices. You must be an effective leader, not just a manager." The alternative is what Liggins calls "the spiral of no returns" in which a company is constantly involved

with hiring.

Troutman describes Liggins' spiral of no returns as presented in the PLCAA training session. "It starts innocently enough — you lose two people and it takes five or six weeks to replace them. One works out. The crews work extra. Then someone else leaves because of the work load. You get into a spiral of constantly hiring people. The manager goes out and pulls in the first guy who walks in the door." — *Michael Marcellino* ■

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



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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 Karnes, Senior Vice President, Tru Green Corp., 404/442-8700. Strict confidentiality maintained.

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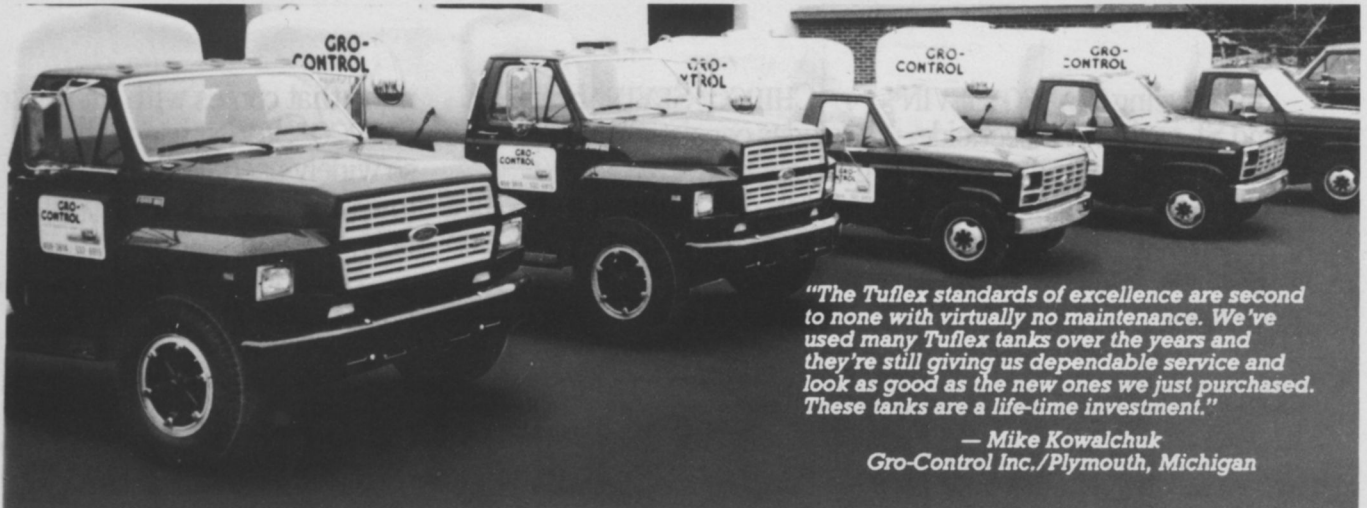
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