

# MLAWN AND LANDSCAPE MAINTENANCE

NOVEMBER 1989 • \$2.50

## Issues Composite

*Industry Gets Down to Brass Tacks*

"There are no laws that require blood testing, but responsible companies have done it for years...When it all shakes out, if you're going to be in this business, there's certain things you must do for your employees, your customers and whomever else may be affected by the materials you use."

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# EDITOR'S FOCUS

THE EFFECTIVE MANAGEMENT OF issues pertaining to the environment and, more specifically, how these issues relate to the lawn and landscape maintenance industry is something which cannot be avoided in the 1990s.

To date, contractors have been fairly successful in complying with state and federal legislation. For the most part, however, compliance has followed, not preceded, the enactment of specific laws and regulations.

Yes, green industry groups in a number of states are proactively taking part in posting and prenotification regulations, water conservation and regulations to prevent groundwater contamination. However, the industry must work collectively, rather than singly to make an impact.

Contractors can't afford to wait any longer. Issues such as groundwater contamination, water conservation, horticultural waste disposal, employee shortages and worker protection must be addressed if maintenance firms hope to flourish in the coming years.

Take horticultural waste disposal, for instance. Mowing contractors in Wisconsin, Illinois and New Jersey, among others, are finding it difficult to dump grass clippings. With landfill space continually diminishing, contractors may soon find themselves in a position of not being able to rid themselves of grass clippings.

In Wisconsin, such disposal will be outlawed in 1991, according to Chris Kujawa of Kujawa Enterprises, Cudahy, Wis. If landfills won't accept the wastes and only so much can be composted — where does that leave the mowing/maintenance contractor?

Mulching mowers and mowers with side-valve chutes have been identified as temporary solutions to the problem, but more long-term solutions are needed for the survival of the industry.

Worker protection is another vital area in which contractors must work.

Such standards are currently under development by the federal EPA, but it's not known what regulations will be expected from maintenance contractors and when they will have to be enacted.

And once again, contractors can't afford to wait. With employee shortages across the country and in some cases a reduced desire — motivated by fear — to work in the lawn and landscape maintenance industry, contractors must show their employees they care.



Many companies have already begun to provide for the daily cleaning of work clothing, provide workers with a clean place to change into work clothes as well as an area to wash up at the end of the day and inform employees of the name and location of a facility where emergency medical care is available.

Top operators today are always picking up signals from within the company, talking with all kinds of people, even in informal conversations, to get a sense of what's on people's minds. As a result, they've developed a richer idea of how their company is operating.

All of these points must be taken into consideration when dealing with today's informed and discriminating consumer, because these and others are issues of today, not tomorrow.

Because these issues can spell the success or failure of a company, the enclosed Issues Management Edition was designed to help the readers of *Lawn and Landscape Maintenance* magazine better manage these issues as they relate to an individual business.

Profiles of leading companies from across the country are included in this special edition on issues management, to give all contractors — big and small — a chance to see how these issues can be successfully tackled.

This edition doesn't hold all the answers, but it certainly goes far in alleviating concerns triggered by the unknown.

Issues identified in this Issues Management Edition are difficult, but most lawn and landscape contractors are in a better position today to manage these issues than they were several years ago. — *Cindy Code*

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## DOW ELANCO PICKS GLOBAL HEADQUARTERS SITE

Global headquarters for the new Dow Elanco joint venture will be located in Indianapolis, Ind.

The Dow Elanco joint venture, announced last April, combines the plant science and specialty pest-control businesses of Eli Lilly and Co. and The Dow Chemical Co. Projected sales for the new joint venture in its first year of operation are estimated at more than \$1.5 billion.

The new complex, which consists of a research building and an administrative building, will be situated on property owned by Dow, and is expected to house about 900 employees by 1995.

"Agriculture has its eye on Indianapolis today," said John Hagaman, president and chief executive officer of Dow Elanco during a recent conference announcing the site. This new complex will be the headquarters of the largest research-based agricultural products company in North America and the sixth largest in the world.

Cost of the proposed 800,000-square-foot facility is estimated at more than \$100 million. The proposed complex will be located on 325 acres, south of the global headquarters for DowBrands, a wholly owned subsidiary of Dow.

"We chose Indianapolis as the site for our new headquarters for a number of reasons," Hagaman said. "Here we're close to some of the world's finest corporate and university research organizations. We're also in one of the world's most productive farming communities. In-

## DOW ELANCO JOINT VENTURE

- **Ownership** — 60 percent Dow, 40 percent Lilly
- **President and CEO** — John Hagaman
- **Board of Directors** — 5 members: 3 elected by Dow, 2 by Lilly
- **Sales** — more than \$1.5 billion
- **Global Headquarters** — 9500 Zionsville Rd., Indianapolis
- **Temporary Headquarters** — P.O. Box 681428, 4040 Vincennes Circle, Suite 601, Indianapolis, Ind. 46268.

- **Venture includes business** — plant science businesses from both companies plus Dow's industrial pest control business. (Elanco's animal health business not included).
- **Personnel** — all sales, marketing, research and selected staff are involved. (With few exceptions, manufacturing employees will remain with their parent company).

### Key Features:

- Among the Fortune 500, the new company will rank 260th, a venture of equivalent size to Dow Corning.
- The company will be supported by more than 4,500 people, with more than 2,800 people as joint venture employees.
- Complementary product lines include Dow's strength in insecticides, Elanco's strength in fungicides and their combined strengths in herbicides.

dianapolis is a great place for our employees to live and work, and we want to be a part of that."

E.R. (Ted) Roberts, president of Elanco Products Co., who will serve as a Dow

Elanco board member, added: "It isn't often that two companies have this opportunity to come together and form a stand-alone company of this stature. To combine the research and marketing horsepower of these two businesses means that Dow Elanco will be more than just a member of the industry."

Operation of the new Dow Elanco global headquarters will bring approximately 500 new professionals into the Indianapolis area. Some of these employees will be research and administrative staff who will relocate from Dow facilities in Midland, Mich.; Walnut Creek, Calif.; and Champaign, Ill.

An estimated 300 additional employees will transfer to the new complex from Lilly facilities in the Indianapolis area. Operation of the new headquarters will require a staff of about 100 secretarial and technical support employees.

"We want to be an asset to Indianapolis and the state of Indiana," Hagaman said. "And one of the most important things we bring to it is our

people. Most of them will come from the veteran ranks of Lilly and Dow. It is this cross-fertilization that will shape the character of our new company.

"Like both Lilly and Dow, we intend to place great emphasis on corporate ethics, product quality, stewardship of the environment and the needs of our employees, customers and the communities in which we live. We're looking forward to making Indianapolis, Ind., our new home."

Construction of the new facilities will require the efforts of about 600 tradespeople at peak levels over a three-year period. Assuming all approvals are granted, construction will begin in March 1990 with completion of the commercial building scheduled for July 1991 and completion of the research facilities in October 1992. Design en-



An illustrative site plan of the proposed world headquarters for Dow Elanco.



gineering for these buildings is under way.

The new Dow Elanco complex will house the worldwide headquarters for the venture's marketing, agricultural and biotechnology research and support group efforts.

#### GARDEN WAY DONATES EQUIPMENT TO HURRICANE RAVAGED AREAS

Garden Way Inc. donated six Bolens chipper/shredders and six Troy-Bilt® Tomahawk® Chipper/Shredders to help eight communities in North and South Carolina communities as they recovered from the devastation left by Hurricane Hugo.

In addition, 12 chipper/shredders were immediately rushed to some of the hardest hit areas in the Carolinas. The equipment was being presented to city officials by Bolens and Troy-Bilt dealers in each area.

Nathaniel Stoddard president of the New York-based company, said the donation was "something we wanted to do as a concerned corporate citizen."

Chipper/shredders, priced from about \$600 to \$1,500, depending on size and capabilities, are good for all kinds of cleanup projects, as well as for recycling organic wastes into mulch or fertilizer.

#### NOR-AM CHEMICAL BUYS ICI RESEARCH FACILITY

The Nor-Am Chemical Co. recently purchased the ICI Agricultural Products Group Eastern Research Center in Goldsboro, N.C., for an undisclosed price.

The Goldsboro research facility, now known as the Nor-Am Research Center, includes about 265 acres of land as well as research laboratories, greenhouses, environmental testing sites, a formulation pilot plant, office buildings and a research farm.

With the purchase, Nor-Am gains further capabilities for residual analysis, formulation and field testing, according to George Jones, director of communications.

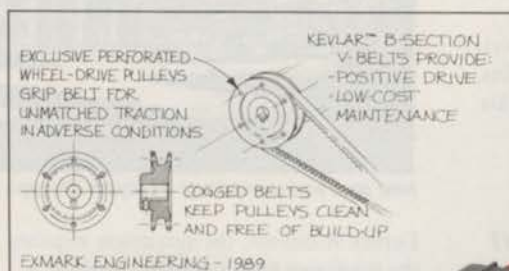
The sale of the Goldsboro research facility was a direct result of ICI's 1987 acquisition of Stauffer Chemical Co. The buy out included the research, manufacturing and marketing interests of Stauffer giving ICI new research facilities.

Nor-Am will close its Lionville, Pa., research center.

#### ORKIN NAMES VICE PRESIDENT TO LAWN CARE DIVISION

Orkin Exterminating Co. named Joe Cline vice president of its lawn care divi-

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sion headquartered in Atlanta. In that position, Cline will be responsible for the division's 59 branches throughout the country.

"Cline is well prepared for his new challenge at Orkin," said Gary Rollins, president of the parent company, Rollins Inc. "He has worked in several areas of the company and has a strong knowledge of our business."

Cline joined Rollins Inc. in 1981 as vice president of the Cable Television Division, which was sold in 1984. He then headed the Orkin Commercial Division before becoming assistant to Rollins, a position he has held until assuming his current role.

#### **PARK DISTRICT AGREEMENT SETS DEVELOPMENT PRECEDENT**

An unusual agreement between Trammell Crow Co., Chicago, Great Lakes and Itasca, Ill., and the City of Oakbrook Terrace will result in a major new park and recreational facility serving both city residents and area office workers.

The ILT Co., Prairie View, Ill., has been awarded the contract for the design and construction of the park.

According to Trammell Crow Chief



*New park and recreational facility for Chicago area residents.*

Dennis Redmond, the agreement requires the developer to substantially upgrade a 10.25-acre portion of Oakbrook Terrace's Terrace View Park in return for air rights to a three-acre site at the southern end of the park.

Trammell Crow will build the nine-story Park View office building on the site.

"To our knowledge, this is the first such agreement between a municipality and a developer in Illinois and per-

haps in the country," Redmond said. "By law, park districts cannot sell land or develop it for commercial purposes.

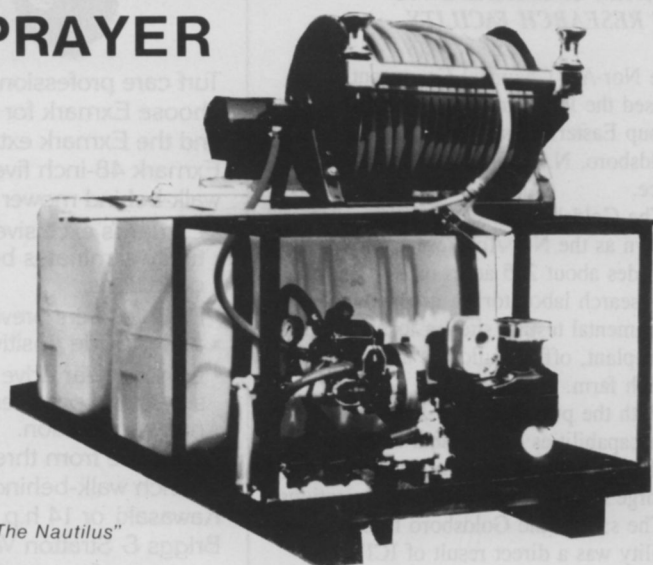
However, the three acres where the office building will be built was essentially waste ground that had been used as a fill site."

A court-ordered judgment decree approving the project sets a precedent which will be of interest to other park districts and developers, according to Redmond.

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Park improvements will include expansion of an existing pond, the addition of a jogging and bicycle path around it and relocating and refurbishing an existing baseball diamond.

"The pond will be enhanced with the addition of lights, an aerator and a dock and floating stage, which the city plans to use for summer concerts," said John Stewart, president of ILT. "A sledding hill and extensive new plantings of shrubs, ground covers and shade trees are also planned."

#### BRIGGS & STRATTON RECEIVES WISCONSIN NEW PRODUCT AWARD

Briggs & Stratton recently received an award from the Wisconsin Society of Professional Engineers for introducing the second generation of Quantum engines. Quantum is an engine line introduced by the company in the early 1980s.

The second generation of Quantum engines was designed to bring a new dimension of power and performance to the power equipment industry.

The award was presented during the Governor's New Product Award Ceremony.

The GNPA is an annual competition sponsored by WSPE in conjunction with the Wisconsin Department of Development and the Wisconsin Association of Manufacturers and Commerce.

#### SECOND PLANT EXPANSION IN TWO YEARS FOR GOOSSEN

Goossen Industries and Construction, Beatrice, Neb., will expand its facilities for the second time in two years, with new construction on four acres in the Gage County Industrial Park.

The new 18,000-square-foot facility will provide much needed assembly, storage, crating and shipping space for the company, according to President Louis Goossen.

Current buildings will continue to house manufacturing operations.

#### AMIGO GRANTED PLANT VARIETY PROTECTION

Amigo dwarf tall fescue from Northrup King's Medalist Turf Division has been granted plant variety protection by the U.S. Department of Agriculture.

Amigo (coded FHF) is entered in the national tall fescue turfgrass trials and is said to rate in the top 10 percentile.

Amigo, a fine-textured, low-growing plant, will be commercially available in the fall of 1990.

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## PLCAA SET TO ELECT 1990 OFFICERS, DIRECTORS

Members of the Professional Lawn Care Association of America will elect new officers and directors when they hold their annual business meeting Wednesday, Nov. 8 in Las Vegas, Nev. The slate was previously approved by PLCAA's board of directors. Following is the slate for 1989-90.

President, Rick Steinau, Greenlon, Cincinnati, Ohio; Vice President (two positions) Dave Fuller, Fullcare, Louisville, Ky., and Joe Winland, Tru Green Corp., Alpharetta, Ga.; and Secretary/Treasurer, Neal DeAngelo, Lawn Specialties, Hazleton, Pa.

Directors: Pat Nibler, Pro-Grass, Wilsonville, Ore.; Jerry Faulring, Hydro Lawn, Gaithersburg, Md.; Daryle Johnson, All American Turf Beauty, Van Meter, Iowa; Denny Linnell, Lawn Life, Salt Lake City, Utah; and Ed Coia, Lawnmark, Hudson, Ohio.

## PGMS NOMINEES FOR 1990 OFFICERS, DIRECTOR SPOTS

Members of the Professional Grounds Management Society will elect new of-

ficers and members of the board of directors Friday, Nov. 10 in St. Louis, Mo.

Following is a list of nominees for the positions:

President, Theodore Shull, Kettering Medical Center, Kettering, Ohio; First Vice President, Thomas Smith, Spring Grove Cemetery and Arboretum, Cincinnati, Ohio; Second Vice President, John Abernethy Jr., City of Lenoir, N.C.; Treasurer, John Michalko, Case Western Reserve University, Cleveland, Ohio; Directors-at-Large, Teddi Davis, The Garick Corp., Cleveland, Ohio, and Doyle Watson, Belle Meade Country Club, Nashville, Tenn.; S.E. Regional Director, Larry Ward, Medical College of Georgia in Augusta, and Donald Voorhees, Opryland Hotel, Nashville, Tenn.; and Mid-Atlantic Regional Director, Paul Thomas, Towson State University, Towson, Md.

## 1990 IA OFFICERS, DIRECTORS TO BE SELECTED IN ANAHEIM

Members of the Irrigation Association will elect new officers and directors when they meet in Anaheim, Calif., Monday, Nov. 13.

Two already determined positions for 1990 include President Glenn Tribe, Cor-

nell Pump Co., Portland, Ore., and President-Elect Mike Sybolt, Normac Inc., Sacramento, Calif. Tribe is the association's current president-elect and Sybolt is currently vice president.

Following is the remaining slate:

Vice President, Robert Emmerich, The Toro Co., Riverside, Calif.; and Treasurer, Tom Kimmell, Hardie Irrigation, El Cagon, Calif. Board of Directors, Joe Goecky, Valmont Industries, Valley, Neb.; Jack Buzzard, Rain Bird Inc., Glendora, Calif.; and Sam Duke, Russell Daniel Irrigation, Athens, Ga.

## 60th ANNUAL MICHIGAN TURF- GRASS CONFERENCE JAN. 15-17

The 60th Annual Michigan Turfgrass Conference will be held Monday, Jan. 15 through Wednesday, Jan. 17 at the Clarion Hotel and Convention Center in Lansing.

The conference will be expanded to three days with nearly a dozen basic schools from which to choose.

An environmental issues session will be held Tuesday afternoon featuring David Hales, director of the Michigan Department of Natural Resources.

Contact Paul Rieke 517/355-0266 for more details.

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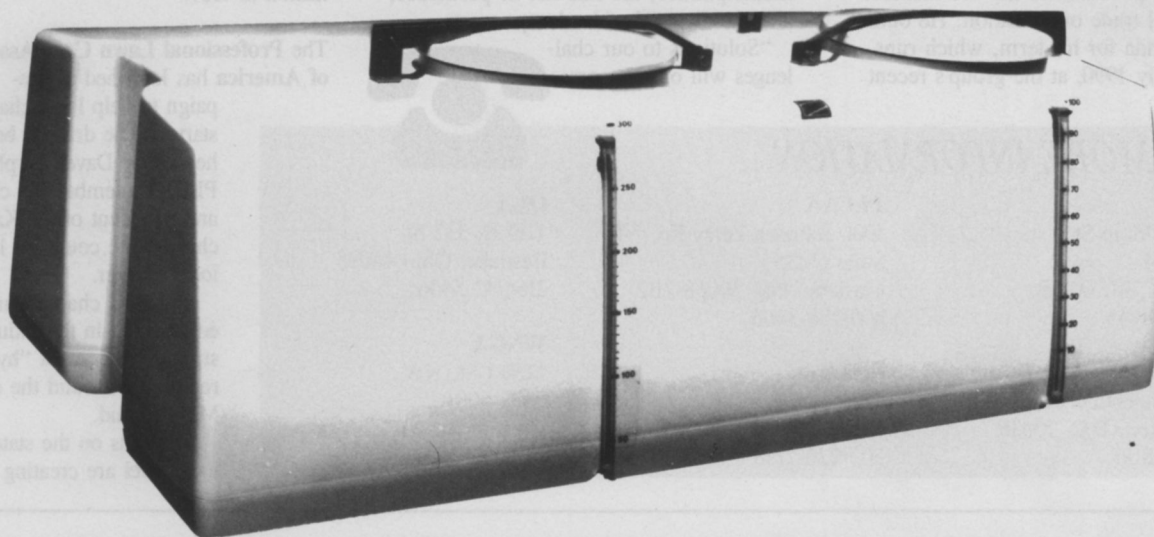
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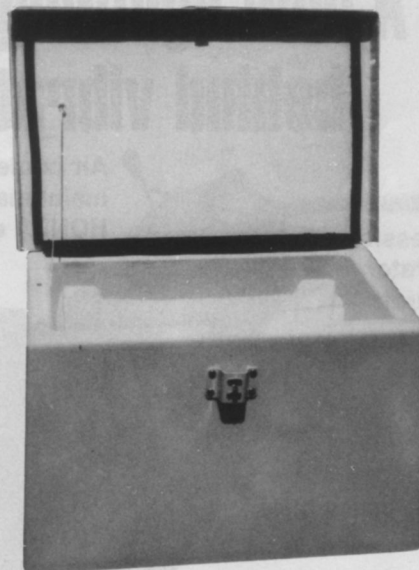
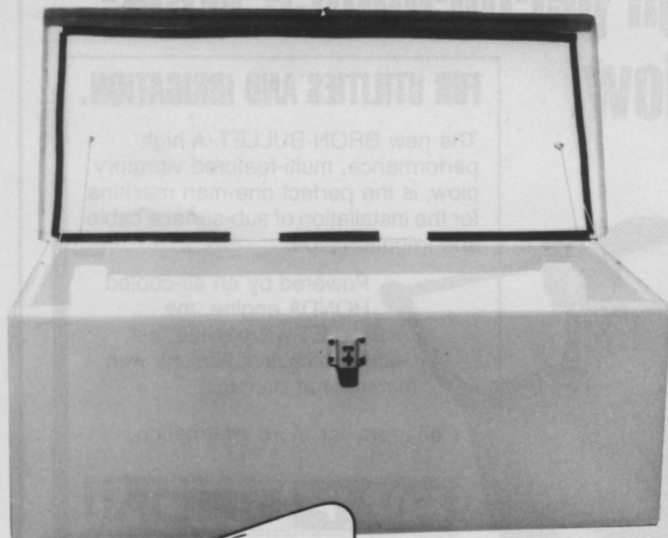
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# ASSOCIATION NEWS

**WILLIAM DAVIDS, CHIEF OPERATING officer, Clarence Davids & Sons Inc., Chicago, Ill., has been elected president of the Illinois Landscape Contractors Association.**

Davids, 34, is the youngest person ever to serve as president of the 700-member educational trade organization. He outlined his agenda for his term, which runs through July 1990, at the group's recent

annual meeting.

Important issues facing the industry in the coming year, he said, will include: The effects of the Drought of 1988 — plant shortages and price increases; annual watering restrictions imposed by municipalities; the safe use of pesticides; and the disposal of landscape waste.

"Solutions to our challenges will only become

a reality if we work as a team — among ourselves, and with our clients, vendors and government agencies," Davids said.

His father, Clarence Davids Sr., was also an ILCA president in 1970-71 as well as being a founding member of the organization in 1959.

**The Professional Lawn Care Association of America** has launched a cam-

paign to help local chapters get started. The drive is being headed by Dave Murphy, PLCAA membership chairman and president of the Kansas chapter, the country's largest local chapter.

The local chapters are needed to assist in the industry's struggle to control "hyper-regulation around the country," Murphy said.

"Activists on the state and local level are creating a lot of



## FOR MORE INFORMATION...

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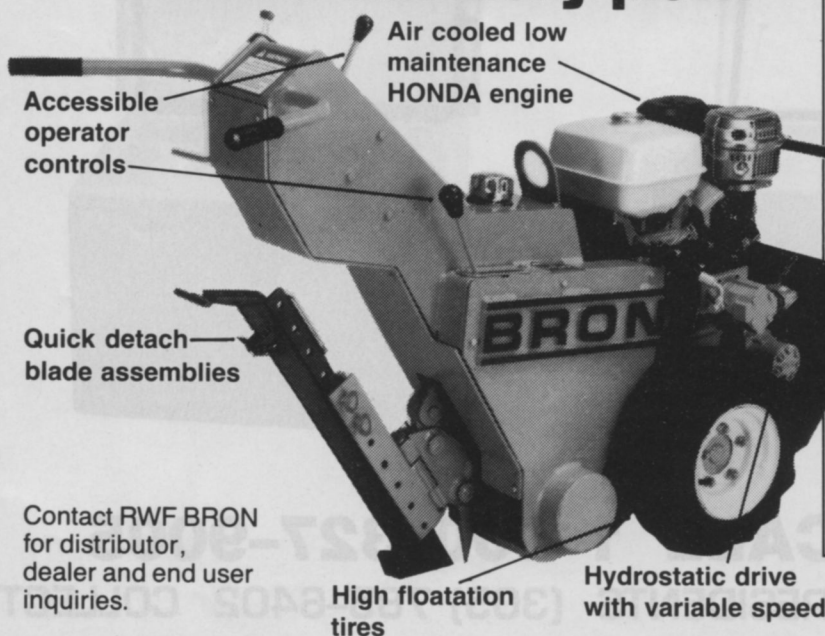
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fox fires," he said. "It's difficult for a national, centralized organization to deal with all of them. The only way to work effectively is to have local chapters with local people keeping a pulse on what's going on."

Local chapters set their own dues and pay PLCAA \$150 a year for the chapter status.

The program includes help in finding like-minded leaders in each state who might be interested in forming a chapter, provides mailing lists and other paper supplies to help announce the first organizational meeting and can help develop promotional newsletters and flyers.

One of the downfalls of many new associations is membership recruitment, Murphy said. The organizers often concentrate too heavily on finding good leaders and forget about enlisting members.

As a chapter grows, the national organization can help it become proactive with its state and local governments.

"We can help support their news media and public relations efforts with information, then show them how to conduct these efforts themselves when needed," Murphy said.

Creating and maintaining strong local chapters will also help PLCAA in the long run because, Murphy said, "tomorrow's industry leaders will come from the cream of our chapter membership."

Currently, chapters are located in Kansas, Colorado, New York, Kentucky, North Dakota, Michigan, Minnesota and Massachusetts.

**The Chemical Specialties Manufacturers Association** has information available on a new Environmental Protection Agency groundwater report. The interim final guidance document provides assistance on the statistical evaluation of groundwater monitoring data.

The data will be particularly informative to technical staffs of companies that own or operate Resource Conservation and Recovery Act hazardous waste facilities.

Regulations require RCRA facilities to use design features and control measures that prevent release of hazardous wastes into groundwater.

"Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities" outlines the procedures approved by the EPA to be used to determine whether releases into groundwater have occurred.

William Meyer has been elected president of the **Oregon Seed Trade Association**. Meyer is vice president of research for Turf-Seed Inc., Hubbard, Ore. OSTA is an alliance of Oregon seed companies working together to improve standards and promote the state's turf seed industry.

The **Ohio Landscapers Association** is offering five short design courses for

landscapers through March. They are designed to help individuals update their approach and develop skills to prepare well-drafted landscape plans.

All courses will be held at the Garden Center of Greater Cleveland, Ohio, and will feature Fred Buscher, professor emeritus, The Ohio State University, as instructor.

The first is set for Nov. 21-23 and will cover drawing, graphic skills, plan drawing and the landscape design process.

Emphasis will be on individual critiques in a studio setting. This course is a prerequisite for the four subsequent courses.

Course II, Advanced Design, is scheduled for Dec. 20-22. It will feature a series of small design exercises leading to a master plan for a single family residence. Emphasis will be on speed and graphics in a studio.

Course III, Design Detailing, held Jan. 3-5 will concentrate on design details of construction elements such as grading, steps, patios, fences, decks, plus plants and plan drawing.

Course IV, Landscape Drawing Rendering, scheduled for Feb. 20-22 will emphasize the development of drawing skills with lead pencils and the use of colored pencils and magic markers to color and render landscape plans. Also included will be elevation, section and isometric drawing.

Course V, Planting Design, slated for March 13-15 will focus on the development and landscape planting plans and the selection of specific plant materials.

**The Wholesale Nursery Growers of America** is actively supporting and participating in the Mid-America Trade Show, Jan. 19 at the Suisse Grand Hotel, Chicago, Ill.

The show will start with a "New Ideas" presentation by Dwight Hughes Jr., Dwight Hughes Nursery, Cedar Rapids, Iowa. The session will offer attendees 12 innovations geared to the needs of the grower.

Another session will have Ben Bolousky, the association's director of government affairs, presenting the Washington Legislative Update. This report will chronicle the effect of government activities on grower businesses.

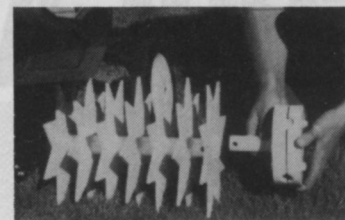
Bolousky will discuss current developments in labor, tax legislation, government mandated employee benefits, pesticide use and groundwater contamination. His main focus will be "preventing government from interfering with profit making." Also included will be a review of the educational sessions scheduled for the 1990 Management Clinic in Louisville, Ky. Some of the topics slated to be covered are labor relations, water management and growing for the marketplace. ■

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## FOCUS ON:

### IRRIGATION



#### AGREEMENT ADDS NEW SLATE TO IA CERTIFICATION PROGRAM

The Irrigation Association and the national Assessments Institute recently signed an agreement that will expand the IA's certification program.

The expansion includes adding Certified Irrigation Contractor (installer) and Certified Water Manager (auditor) programs to the Certified Irrigation Designer program. Additional test sites and quicker, more efficient testing procedures will be provided.

The agreement resulted from the industry's increased interest in certification.

The NAI will verify each applicant's experience and education, and will administer and grade the exams. In addition, the two groups will develop a new application and brochure that will give applicants a better understanding of the exam's requirements.

Currently, NAI administers licensing exams for electrical and plumbing contractors among others, in 22 states. With this agreement irrigation exams will be given with these other exams, increasing the number of IA testing sites and making the program more convenient for applicants.

The IA will continue to establish test

sites in conjunction with state meetings and its International Irrigation Exposition and Technical Conference.

The certification includes three steps:

- Reaching a required educational and/or experience level.
- Demonstrating basic irrigation knowledge by passing an exam.
- Requires a demonstration of knowledge in a particular specialty area through testing. The first two steps are the same for all three certification programs.

Those interested in taking the certification exam should continue to send their applications to the IA office.

#### COMPUTERIZED SOFTWARE ON TAP FOR IRRIGATION MAINTENANCE

Irrigation Management Systems, Fresno, Calif., has introduced the Irrigation Manager, the first computerized software program for irrigation system maintenance.

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Some of the features include: work order development control, planning and scheduling of irrigation cycles, equipment warranty tracking, automatic inventory usage and replacement, complete maintenance records and others to make the maintenance job easier and more efficient.

#### ARID EUROPEAN WEATHER SPURS IRRIGATION INTERESTS

The Irrigation Association's export marketing committee is organizing an irrigation pavilion at the Water & Wastewater 1990 International Conference and Exhibition. The event is scheduled for April 24-27 in Barcelona, Spain.

Several major irrigation equipment manufacturers from the United States have already decided to exhibit at the show.

The potential market in Spain for irrigation equipment, supplies and services is reportedly strong. Arid conditions throughout much of the country and the surrounding Mediterranean and Middle Eastern countries present the need for irrigation.

Spain has surpassed the rest of Europe in economic growth. The peseta is one of the world's strongest currencies and major international corporations are establishing operations in the country.

Top experts in the fields of water resource development, irrigation, water supply, sanitation, water treatment and wastewater/sewage treatment will gather at this conference to share their expertise and ideas throughout four days of technical sessions.

All of the sessions will feature a panel discussion followed by an open forum. Some of the sessions will be:

"The 1990s — priorities and issues" presenting the viewpoints from the United Nations Development Program, Africa, Asia and Latin America.

Four groundwater and surface water experts will debate whether groundwater or surface water resources should be tapped to boost existing water supplies in "Groundwater vs. Surface Water."

Technical papers in the field of irrigation include: irrigation methods, irrigation system design, water conservation, wastewater reuse in irrigation and wastewater treatment for irrigation.

For more information on the exhibition, contact Pamela Wolfe, P.O. Box 125, Scotch Plains, N.J. 07076; 201/322-9461.

#### N.J. ASSOCIATIONS FORMING GREEN INDUSTRY COALITION

Representatives from various green industries in New Jersey, including the nurserymen's association, the turfgrass association and the irrigation association, met recently to discuss the formation of a state Green Industry Coalition. The primary purpose of the group would be to combat negative publicity that affects the industry. Pesticides and water use rights were two areas of concern immediately identified by those in attendance.

"Undoubtedly, as expressed by just

about every person at the table, (the) media has a field day with the emotionally charged minority who seem hypersensitive to pesticides and water issues, but who succeed in finding a forum for their causes, even to the point of enlisting legislative support without the aid of objective research," said Bill Waddington, the group's chairman.

The coalition plans to present a united voice stressing the aesthetic, environmental and economic importance of the green industry in New Jersey. The group decided professional media assistance would be required to accomplish this. ■

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## FOCUS ON:

### LANDSCAPE

MATARAZZO DESIGN INC. HAS been selected as the landscape architect for the 1990 Innovation House.

The 1990 Innovation House will be built in Atlanta, Ga., as a model home for the 1990 National Association of Home Builders convention/exposition. Sponsored by the Innovations in Housing Program, the annual architectural design program is open to students, designers and intern and licensed architects.

Matarazzo Design Inc. is a nationally recognized land planning, architecture and landscape architecture firm located in Concord, N.H., and Boston, Mass.

Matarazzo was selected for its fresh, appealing and ideal approach to residential landscaping.

The pie-shaped lot of the Georgia home lends itself to the kind of challenges Matarazzo enjoys solving and gives Joe Hochrein, Matarazzo's senior project manager for the Innovation House, the opportunity to dramatize terrain which is



Matarazzo Design will design the landscape for the 1990 Innovation House in Atlanta, Ga.

particularly steep and rough for the Atlanta area.

"The house is sited on a cul-de-sac and provides interesting landscaping opportunities for the areas off the kitchen, living room and master suite where Matarazzo's landscape design will heighten the indoor/outdoor relationship through the use of decks, patios and lawns oriented toward

the site's views and woodlands," Hochrein said.

Matarazzo's design creates a "sense of home" and addresses issues of privacy and interlocking spaces through the introduction of "outdoor rooms" which expand on the indoor rooms within the home itself.

Matarazzo has also taken special interest to include elements in the landscape design which homeowners can easily incorporate into their own backyards.

The Innovation House will be included on a national tour Jan. 19-21.

Matarazzo Design Inc. is also the mastermind behind the landscaping for GE Plastics' Living Environments Concept House.

The Pittsfield, Mass.-based GE Plastics' Living Environments Concept House is

(continued on page 20)

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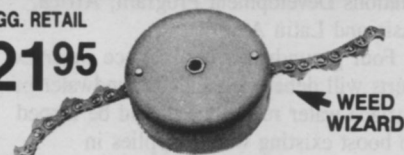
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part of a \$4 million look into the 21st century.

The two-story, single family, 2,900-square-foot home is a living laboratory investigating the use of advanced plastic materials in building and construction.

The Living Environments Concept House also recognizes the need to evaluate new technologies and demonstrates the full capabilities of engineering plastics. GE Plastics plans to continually remodel and retrofit the concept house and will continue to explore new ideas, materials and building processes in order to pass on savings and convenience to component manufacturers and builders.

Chosen for its award-winning creativity and ability to get the best out of every site, Matarazzo's landscape plan for the Living Environments' six-acre site is an innovative and sensitive integration of spaces, adding livability and comfort to the home.

"Matarazzo has created a landscape plan which responds to the technology and efficiency of the GE Plastics' house through the introduction of outside 'rooms' and private areas which creates a unique relationship between indoor and outdoor



*Matarazzo was awarded for excellence of total overall design at The Stonehedge Inn.*

spaces," said Hochrein, senior project manager for the Living Environments House.

The landscape design expands on Matarazzo's commitment to lower maintenance and affordability by introducing a man-made, split-rail fence and an innovative conceptual lighting plan which will also pass on savings to the homeowner.

Developers, builders, designers and component manufacturers from all over the world visited the Living Environments Concept House for its October grand opening.

Matarazzo Design is the recipient of two awards for its work on The Stonehedge Inn, Tyngsboro, Mass.

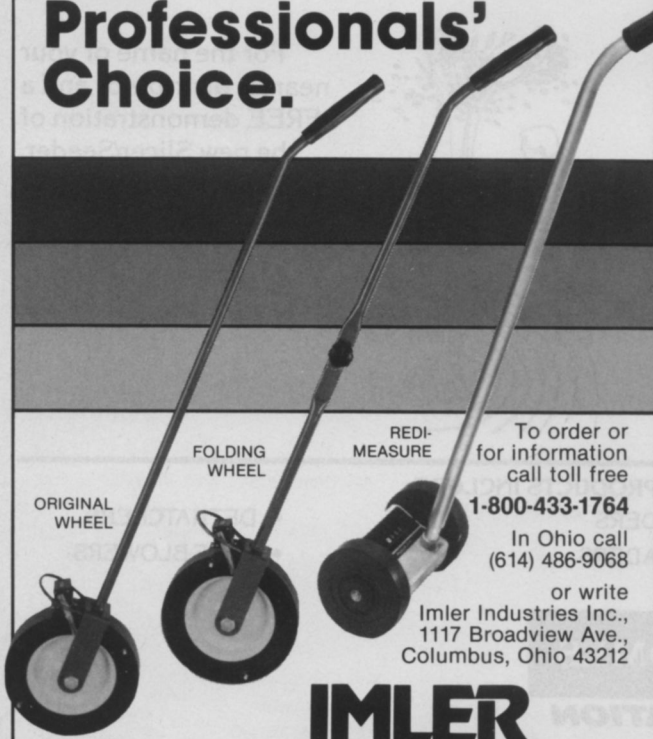
The project is a grand turn-of-the-century, shingle-style inn nestled in horse country overlooking the Merrimack River. The Stonehedge Inn was recognized on the basis of excellence of total overall design.

The landscape theme reflects the Inn's setting in a rural horse farm landscape through the inclusion of details such as carriage lanterns and rail fencing.

Matarazzo will receive its award this month in Boston.

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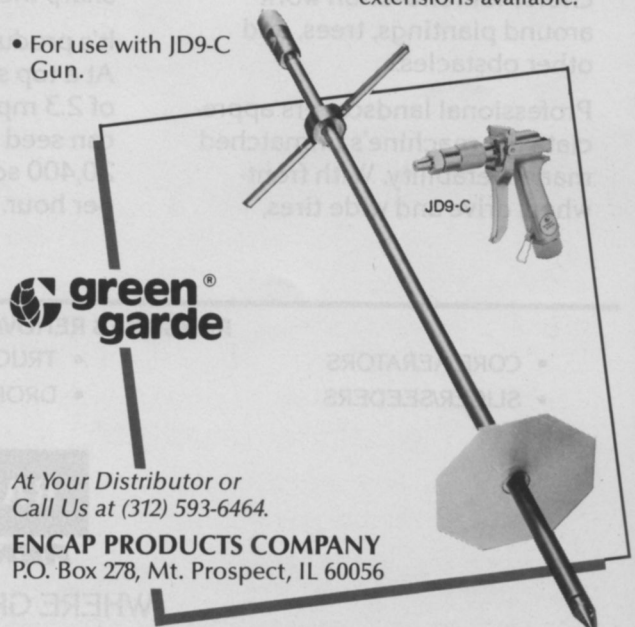
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# Readying Ornamentals, Trees for the Long Winter

**T**HE BEST TIME TO BE THINKING ABOUT HOW TO HELP plants survive the winter is actually during the growing season, according to William Eubank, GrowScape Consultants, Houston, Texas.

If the plant was ignored — underwatered or underfertilized for example — during the summer and is weak or defoliated, not much can be done to ensure a healthy plant after the snow has melted.

When plants become defoliated during the growing season, they end up using the energy and manufactured food — sugars and carbohydrates — that are needed for the spring season.

"They have to have generated and stored enough energy to sustain the winter months and produce a good spring flush," he said. "If it begins to utilize that energy it will end up in a deficit, and that is not going to help it get through the winter."

There are critical periods during the fall, winter and early spring when plants are most susceptible to injury from freezing conditions. These are: early fall before a plant has become completely hard, winter during extreme cold spells, late spring frosts after a plant has lost its cold hardiness and cold periods after a generally mild winter.

When plants are in good condition coming out of the summer, two important practices can generally help them through the winter — surface mulching and late fall watering.

While there is nothing that can be done to entirely protect a plant from winter injury, these methods will lessen the potential for injury.

Surface mulching involves the application of wood chips, shredded bark, bark nuggets or similar material to a depth of three to four inches. Apply the mulch in early fall. A 4-to 8-inch circle is sufficient for most trees, while coverage to the dripline and beyond is recommended for shrubs.

Exactly when a maintenance operator should mulch varies from year to year, depending on the weather. Eubank recommends just after the first freeze as the best time for laying mulch. Mulching conserves soil moisture and enhances the conditions for root elongation, which takes place in the fall. As long as the soil is not frozen, roots are still growing, he said.

Mulching's main purpose is to reduce the depth that freezing conditions reach in the soil, said Elton Smith of The Ohio State University department of horticulture. The insulation that mulching provides helps prevent smaller plants from being heaved — or moved around when the soil freezes.

Exceptions to the mulching practice, according to Joseph Medved, Outside Unlimited Inc., Lutherville, Md., are ground covers and vines. They should be mulched only after their first season when the plants are rooted shallower and are much more susceptible to damage from cold and freezing conditions.

The mulch acts as an insulator protecting roots from quick temperature changes.

Because roots are still active after the main growing season, watering is an essential part of plant care in the fall months. This insulates roots against rapid freezing and thawing.

*When plants are in good condition coming out of the summer, they have a better chance of surviving winter stress. Photo: Elanco.*







*Preparation for the winter survival of turf and ornamentals should be considered during the growing season. Photo: Rhone-Poulenc.*

Eubank suggests two waterings per week when high temperatures reach 60 degrees Fahrenheit and low temperatures fall to 40 degrees Fahrenheit. That should be dropped back to one watering as the temperatures fall even further.

As soon as the plants begin to lose their foliage, waterings should be limited to one every four to six weeks. These are basic guidelines; the best way to determine whether water is needed, however, is simply by feeling the soil.

During periods of no rain or snowfall during the winter, hand watering is a good idea for many plants. Water is the best thing to help reduce low temperature damage in plants, Eubank said.

Generally the Midwest has enough fall rainfall that additional watering is not necessary. In years when summer rains are limited, fall watering is encouraged. This year's rainfall, however, was adequate in most regions, Smith said.

Conifers require much more water than deciduous trees because they remain intact the entire year, said Bill Robotham, owner of Denver Tree Specialists, Denver, Colo.

He recommends three good waterings through the winter to prevent the trees from suffering desiccation from winter winds.

While many people don't realize it, fall is the best time of the year to do both transplanting and original planting.

Waiting until the dormant season is in gear is important because there is less chance of transplant shock occurring, and the plant has a longer time to establish and gear up for the spring push.

"I know a lot of people don't think about it until the spring, but that doesn't work as well," Eubank said. "When you plant in the spring, that plant basically has three months — April, May and June — to get its feet into the ground, to get used to and accustomed to its surroundings.

"But when you look at doing it in November, there's almost a six-month headstart over those put in in April. Fall plantings have a much better chance of resisting heat and diseases."

While Smith agreed that fall is the best time for planting decid-

.....  
**Because roots are still active after the main growing season, late season watering helps insulate roots against rapid freezing and thawing.**



uous trees and shrubs, he said, that for the Midwest and East October is probably better.

In St. Louis, Mo., transplanting can be done almost all winter, said Jay Turner of Custom Tree and Lawn Service. It's rare for temperatures to dip below the freezing mark for any extended period of time to freeze the soil.

"I've been here 23 years and really only remember one two-week period one winter when we couldn't do any transplanting," he said. "Other than that we're able to transplant all winter."

As long as the temperatures are above 32-degrees Fahrenheit, plants and trees, especially recently transplanted ones, should be kept watered.

"The most important aspect of transplanting is making sure you get the plant into the ground the next day after taking it out," Turner said. "Otherwise, it will become disfigured. And no matter what you do then, you'll have a poor looking, unhealthy plant that'll have to be replaced again."

After planting, it's usually a good idea to sturdy them with a stake. Also a little more mulch than other plants and slightly more water before the first freeze will help them become established for when the growing season arrives.

To keep all plants healthy through the winter, fall fertilization is vital. Plants are capable of consuming a considerable amount of food during this period.

With the beginning of cooler

EVERY YEAR, THE OHIO Nurserymen's Association provides an analysis of the availability of a wide range of nursery stock being produced in Ohio. Ohio nurseries are well-known nationally for producing quality plant material.

Voting by the association's plant committee recently was completed. The complete results will be published in a report early next year. Below is a partial list:

#### EVERGREEN OR CONIFEROUS.

*Taxus media* — Anglojap Yew; *Calocedrus decurrens*; *Picea omorika* — Serbian spruce; *Abies nordmanniana* and *Picea pungens* — Blue spruce

DECIDUOUS. *Forsythia suspensa* — Climbing Forsythia; *Fagus sylvatica* — European Beech; *Parrotia persica*; *Calycarpa japonica* and *Crataegus viridis* — Winter King.

HERBACEOUS. *Astilbe chinensis*; *Perovskia atriplicifolia* — Russian sage; *Astilbe taguetti*; *Miscanthus sinensis* and *Dryopteris*.



Photo: Mickey Jones

this is important because the roots remain active until the soil freezes.

A major part of the root activity during the winter is spent on preparing for the coming growing season. Because the plant tops are dormant, the food cycle changes in the fall and winter.

During the growing season, nutrients from fertilization are spread throughout the plant and used almost immediately to produce the deep green color and new shoots. During the winter, however, the fertilizer is stored by the roots, enabling them to become

Turner said he prefers to use this type of fertilization on a tree every several years instead of every year. But in some cases where trees are located close to sidewalks or streets and traditional deep-root fertilizing doesn't work, it probably needs to be done on an annual basis.

Another important aspect in assisting plants through the harsh winter months is pruning because it prevents the loss of moisture from bare branches. It also reduces the number of branches the plant can lose water from. Pruning can also improve the shape and appearance of trees and plants.

The amount of pruning depends on the desired effect. If a tree is full and becoming top heavy, it will probably need to be pruned quite a bit. For trees that aren't so full, but have several branches rubbing or scraping against one another, only a small amount of pruning needs to be done — mainly for appearance reasons.

A more thorough fall watering is necessary for evergreens and other conifers to reduce the damage caused by winter desiccation. Sunny and windy days during midwinter can cause moisture loss from leaves which a frozen root system cannot replace.

Another way to help conifers is through the use of anti-transpirants which also slows down the loss of moisture. Combined with the extra water, ever-

greens should have a sufficient amount of moisture stored in their limbs and roots to get through the freeze.

Although they are also marketed for deciduous trees and ornamentals, Eubank said, anti-transpirants really are not necessary on these plants.

"There really isn't that much of a benefit to using them on deciduous trees because there's not as much of an opportunity to lose moisture as there is with conifers," he said.

Watering before the soil freezes increases the amount of moisture retained by the branches and twigs. As a result, much of the potential desiccation damage can be avoided.

Turner, a 46-year veteran of the tree maintenance business, had some basic advice for those caring for trees and ornamentals, whether it's winter or summer: Know what you're doing.

"At any given stop sign, I can run into three to five units working on trees and plants. Some know what they're doing and some don't," he said. "Those that don't know what they're doing hurt the public. They expect you to know what you're doing. When someone doesn't, it's a bad reflection on the rest." — David Westrick

### Watering before the soil freezes increases the amount of moisture held by the branches and twigs, preventing potential damage.

temperatures, plants begin a complex process of growth in the root systems that prepares the plant for the spring. While it occurs naturally, this growth process is greatly enhanced by plentiful fertilization.

Eubank promotes one subsurface application of a slow-release fertilizer. It needs to be applied below the layer of mulch so the nutrients can penetrate the soil and reach the roots. From two to six inches into the soil is ideal. Again,

thicker and stronger.

Another form of fertilization to consider for larger trees is systemic injection, Turner said. Numerous holes are drilled in the tree's trunk close to the ground and then a certain number of fertilizer capsules are inserted into the holes.

"The results are just tremendous," Turner said. "It's practically like giving a human penicillin. You can literally see the results within about 48 hours."

The author is Assistant Editor of Lawn and Landscape Maintenance magazine.





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# It's Business As Usual for Cushman, Ransomes

**I**N THE AFTERMATH OF what is being called the largest buy out in the lawn and landscape maintenance industry, its business as usual for Helmut Adam.

Adam, president of Ransomes, repeatedly insists that no major changes are in store for either Ransomes or Cushman after the \$150 million sale.

Ransomes bought Cushman from the Outboard Marine Corp. of Waukegan, Ill., Aug. 30. The sale included Cushman industrial vehicles, Ryan turf maintenance products and Brouwer sod harvesting and turf maintenance products.

"I don't think the industry will notice any changes in the equipment," Adam said. "Cushman remains independent. We expect them to continue the good work they've always done."

Cushman will be treated as a subsidiary of Ransomes America,

a division of Ransomes plc. It will run independently, but be expected to meet performance objectives set for all Ransomes divisions, Adam said.

Despite the enormous sale, Adam said, Ransomes doesn't hold a clear-cut number one position in the lawn and landscape maintenance industry.

In some areas the company is considered number one or two, but in other areas, he conceded, Ransomes is no where near the top. Those kind of numbers don't concern Adam, however.

"We have substantially broadened our whole line to a point where we feel very few companies can compare," he said.

Ransomes plc of Ipswich, England, reported \$170 million in sales last year. Sales for the Ransomes group were up 22 percent over the first six months of 1989.

## CHRONOLOGY OF THE CUSHMAN BUY OUT

**June 30:** OMC Corp. announced third quarter earnings to be 50 percent below 1988 when the company reported net earnings of \$23.3 million or \$1.48 per share.

OMC announced plans to sell both Cushman and Lawn-Boy. Both were expected to be sold by Oct. 1.

**Aug. 30:** OMC announces its intention to sell Cushman, including Ryan and Brouwer, to Ransomes for \$150 million.

**Sept. 26:** Cushman sale is final.

"This isn't something that will change overnight, but an evolution — a marriage of two companies that will allow us to share in (each other's) strengths," Adam said. "Our intent was to buy a good company, not one where we'd have to go in and turn things upside down."

This wasn't the first time Ran-

somes was interested in acquiring Cushman. Several years ago, the company approached OMC about buying Cushman, but was told the company was unavailable, according to Adam. He said he didn't know if previous interest by Ransomes helped with the fall acquisition.

"I think any growth-oriented

## TORO ACQUIRES LAWN-BOY FOR \$85 MILLION

THE TORO CO., MADE A DEAL OCT. 3 TO BUY OUT competitor Lawn-Boy, Plymouth, Wis., for \$85 million.

Outboard Marine Corp., parent company of Lawn-Boy signed an agreement to sell the lawn mower subsidiary to Toro, Bloomington, Minn. Pending federal acquisition regulations, the deal is expected to close this month.

In August, Outboard Marine sold its Cushman group to Ransomes. From the onset, it was clear that both Cushman and Lawn-Boy wouldn't be sold to the same buyer.

Toro said it planned to retain the Lawn-Boy name and would not make any immediate changes in the day-to-day running of the company.

"We fully intend to continue with the brand name because it's a strong name," said Dennis Himan, Toro vice president/treasurer. "It's a separate business and will keep a separate brand name."

No plans have been announced regarding changes in Lawn-Boy's manufacturing facilities. Lawn-Boy employs 800 employees in three U.S. plants, including about 640 at its headquarters in Plymouth. Lawn-Boy also has an engine manufacturing plant in Oxford, Miss., and an assembly

plant in Sardis, Miss.

Toro's manufacturing facilities are located in South Bend, Ind.; Tomah, Wis.; Windom and Minneapolis, Minn.; and Riverside, Calif.

"We need to assess the Lawn-Boy operations before we make any decisions," Himan said.

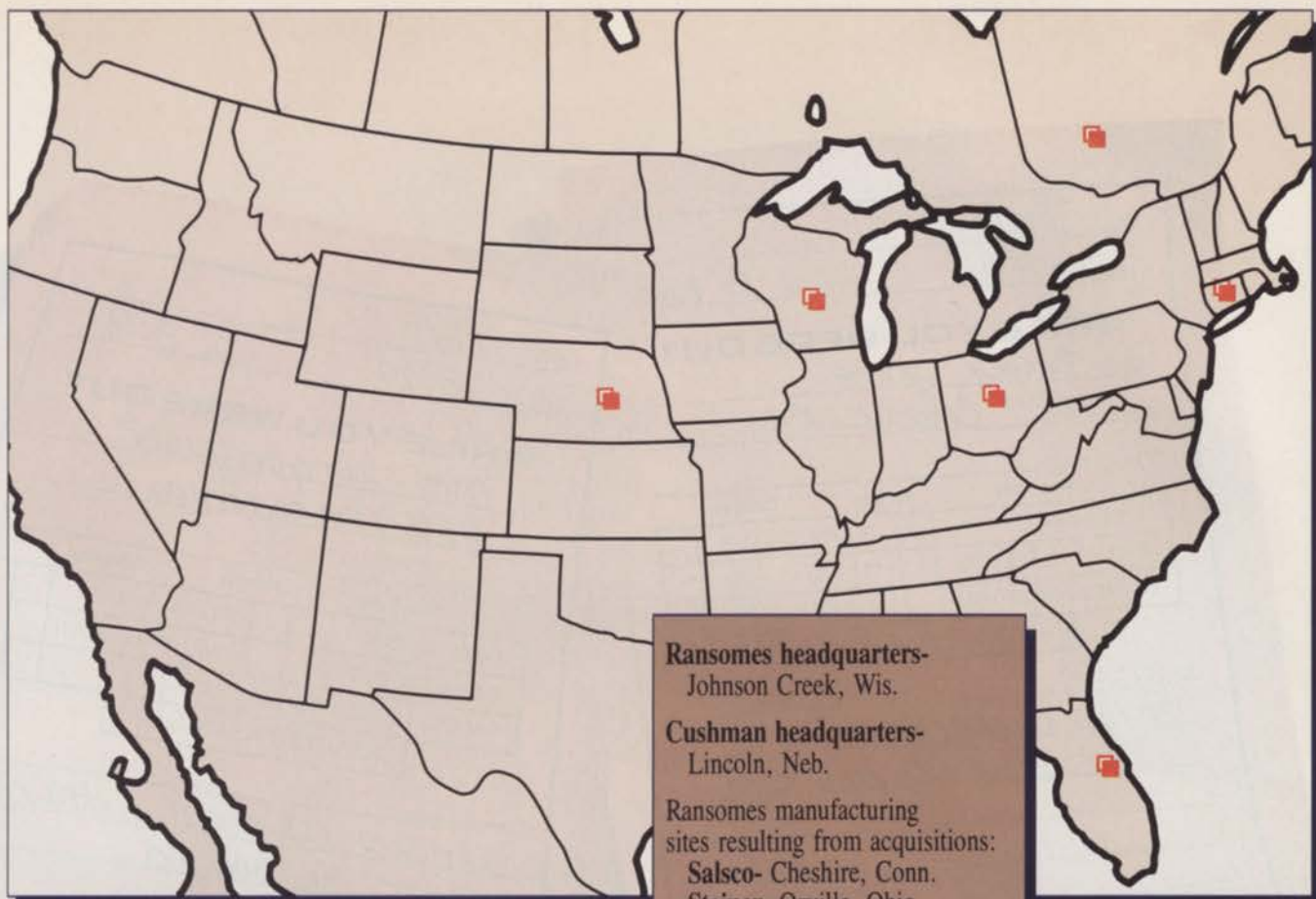
Some advantages of the acquisition: greater manufacturing efficiencies and a proprietary Lawn-Boy engine, which Toro may or may not incorporate into its system, according to Himan.

"The acquisition will make us more competitive and more responsive against our major competitors in the market," Himan said.

In an article in *The Milwaukee Journal* the day of the sale, an area research consultant likened the buy out to "Coke buying Pepsi."

Lawn-Boy which makes mowers, tractors and snowblowers, recorded \$153 million in sales in 1988 and is expected to have sales of \$120 million in 1989, according to Toro. Toro, which manufactures similar products, reported fiscal 1989 profits of \$22 million on sales of \$643.5 million.





company would look at Cushman as a diamond," he said.

Although it's too early to reveal the company's specific plan of attack, Adam said, he's anxious to go ahead and pursue corporate objectives.

One area of the alliance which should benefit Cushman is Ransomes' well-known overseas distribution system. Adam said Ransomes would certainly offer Cushman an opportunity to work with its distributors.

"Our strength abroad is one of the attractions that put the companies together," he said.

Cushman President Stuart Rafos estimated that projected increases in both international and domestic sales will double Cushman's current \$100 million annual sales in the near future.

"The strength of Cushman in North America and Ransomes in the international market certainly will result in tremendous growth opportunities with limited conflict between product lines and distributor organizations," Rafos said.

"The new partnership means Cushman is now aligned with a business partner that is close to its core business," he said. "We

now have the international marketing expertise and organization to substantially extend Cushman's growing international business with continuing enhancement of its domestic market position."

To meet this sales volume, a substantial increase in Cushman's plant facilities is planned. Rafos said the Lincoln facility will be expanded by 25 percent in the next two years.

Ryan products are manufactured from the same Lincoln-Neb. plant as the Cushman vehicles. Brouwer products, on the other hand, are manufactured in Keswick, Ontario, Canada.

Both the Florida and Canadian facilities have been expanded in recent years.

Despite some overlap among the company's current and new product lines, Adam said, no product reduction or elimination are in store. Both companies will maintain separate distribution networks.

In addition, no management changes are expected.

To alleviate any concern among current Cushman dealers, Robert Dodsworth, chairman, Ransomes America Corp., distributed a let-

**Ransomes headquarters-**  
Johnson Creek, Wis.

**Cushman headquarters-**  
Lincoln, Neb.

**Ransomes manufacturing sites resulting from acquisitions:**  
Salsco- Cheshire, Conn.  
Steiner- Orville, Ohio  
Cushman (including)  
Cushman Ryan- Lincoln, Neb.  
Noland- Edgewater, Fla.  
Brouwer- Keswick, Ontario Canada

ter among dealers stating that it wasn't Ransomes intent to "exert any undue influences on the Cushman and Ryan marketing policies that could be construed as interruptive or detrimental to their distribution system in North America."

He added that the mutual efforts of Cushman and its dealers is paramount to the future success of the company.

Overall, Rafos said, Cushman's dealers are satisfied with new ownership by Ransomes.

"They feel positive. We've received almost 100 percent endorsement from our dealers. They're absolutely delighted," Rafos said.

Nearly 75 percent of Cushman's dealers also represent Toro and Jacobsen. At one time, both companies were interested in buying Cushman. Toro was said to have gone down to the wire with Ransomes in the acquisition.

Despite perceived antagonism between Toro and Ransomes, Cushman will continue its strong relationship with dealers who also represent Toro and Jacobsen.

Answering questions over why Cushman hasn't aligned with Ransomes North American distribution, Rafos said, that it isn't the professional plan of Ransomes.

"Ransomes plc has a tremendous amount of respect for the independent American distributor and will not attempt to destroy the very business relations that have built Cushman into the market strength it represents today," he said.

Since the acquisition, manufacturers and end-users view Cushman differently. Manufacturers view it from the standpoint that Cushman is now owned by a competitor of companies such as Toro and Jacobsen, Rafos said, rather than a company not even aligned with the lawn and landscape maintenance industry.

In terms of the end-user, Rafos said, Cushman has been swamped with phone calls.

(continued on page 86)



To Bill  
Date 9/21 Time 8:42

**WHILE YOU WERE OUT**

M Susan Jones  
of 2087 Cowan Rd

Area Code	Number	Extension
TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL
CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN
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 Time 3:14  
Date 8/27

**WHILE YOU WERE OUT**

M Mrs. Lingenfelter  
of 952 Macedonia

Area Code	Number	Extension
TELEPHONED	<input type="checkbox"/>	PLEASE CALL
CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN
WANTS TO SEE YOU	<input checked="" type="checkbox"/>	URGENT
RETURNED YOUR CALL <input type="checkbox"/>		

Message Insect damage. Wants  
lawn re-seeded

Beth  
Operator

Management  
Series™

# Triumph gets rid of the toughest

Constant callbacks and retreatments can drive even the best lawn care business right into the ground.

But you can reduce your callbacks —and increase

your profits— simply by replacing whatever insecticide you've been using with Triumph®.

Because no other insecticide is proven more effective

at controlling problem turf pests, including white grubs and mole crickets.

For example, in 10 years of university testing, Triumph has been shown to deliver



Two pink "Management Series" call logs are shown, one in the foreground and one slightly behind it.

**Call Log 1 (Top):**

To: Bill Date: 9/4 Time: 11:00

**WHILE YOU WERE OUT**

M: Irvin Minor  
of: 405 Howard Way

Phone: Area Code Number Extension

TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL
CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN
WANTS TO SEE YOU	<input type="checkbox"/>	URGENT

RETURNED YOUR CALL ☐

Message: "Get rid of grubs or else"

Beth  
Operator

Management Series

**Call Log 2 (Bottom):**

To: Bill Date: 9/22 Time: 10:15

**WHILE YOU WERE OUT**

M: Gary Knutson  
of: 225 Poplar Ct.

Phone: Area Code Number Extension

TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL
CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN
WANTS TO SEE YOU	<input type="checkbox"/>	URGENT

RETURNED YOUR CALL ☐

Message: Wants re-treat now!

Beth  
Operator

Management Series

# st turf pests, including these.

90 percent control of white grubs within just 2-3 days of application.

And, unlike other insecticides, Triumph consistently provides lasting control

for a full 8-10 weeks. So one late summer or early fall application is all you need for effective turf protection.

Which doesn't mean you won't still collect notes from

your clients.

Just that they'll more often be the green, negotiable variety.



sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the applicator certification.



# Promoting Excellence Through Company Service Philosophies

*Editor's note: In the following article, Mike Holcomb, an urban and industrial entomologist in Decatur, Ala., examines the important role a company's service philosophy plays. With today's discriminating consumer, successful firms are finding it necessary to put these beliefs into print.*

ON A RECENT BUSINESS trip to Jackson, Tenn., I had the distinct pleasure of eating breakfast at the Old Country Store.

Those who know me well are aware of the fact that eating is always a distinct pleasure for me, but my experience at this restaurant

was something special. The establishment was clean and the food was as good as I expected, but the atmosphere created by the warm country decor and the smiling faces and conciliatory attitudes of the employees was something rare.

Standing in line to pay my bill, I noticed that a large 18-inch by 24-inch "Mission Statement" (Figure 1) was framed behind the cash register for all to plainly read.

After paying the bill, I was casually walking around the country store thinking about the mission statement and the service attitude that seemed to pervade every department in the establishment, when I came across a clerk diligently recording a stack of receipts with an adding machine.

I disliked interrupting her labor, but barged in anyway and asked if I could buy a plaque from the store that exhibited the company's mission statement. The clerk smiled and courteously answered, "No, but if you like I will make you a photocopy of the one over by the cash register."

The lady was plainly busy and the framed statement was so large that I regretfully declined her offer. "No problem," she said as she dropped what she was doing, walked the full length of the store to retrieve the framed statement, and disappeared upstairs to the copy machine.

Five minutes later she returned smiling and handed a copy (manageably reduced from the over-sized original) to an amazed stranger.

The food was good and the restaurant was clean and orderly, but this was expected. What was not expected was the value-added service exhibited at all levels in this establishment. Needless to say,

I can hardly wait for my next business trip to Jackson.

**A SECOND EXAMPLE.** Recently, my wife made one of her frequent shopping trips to our local Wal-Mart store. For those unfamiliar with Wal-Mart, it is one of the most successful chains of discount department stores in the United States. My wife is a repeat customer because Wal-Mart's prices are competitive, they sell only major brand products, the store is always clean, and the people who work there are always courteous.

As Wal-Mart customers, we have come to take these features for granted. For this reason, on the rare occasion when we shop elsewhere, we immediately notice when other stores fail in these value-added service areas.

Like many people in the maintenance field, I like to read advertisements and observe business techniques from other industries in hopes of learning that one trick that may give me a competitive edge. The antics often shock my wife, but nonetheless I have learned much from this practice. I recently tore one side from her brown Wal-Mart shopping bag because it contained a statement about their service philosophy that intrigued me (Figure 2).

Like the Old Country Store, Wal-Mart is so brazen about their commitment to service quality that they print, for all the world to see, their mission statement on every bag that leaves the store.

Personally, I think these two successful enterprises are on to something. We in the lawn and landscape maintenance industry have our success stories as well. In fact, there are many service lessons that American industry can learn from maintenance oper-

## OLD COUNTRY STORE

OUR MISSION IS TO OFFER THE HIGHEST QUALITY service, food and gifts to everyone who enters our doors. We want our service to be such that every customer feels as welcomed guests in our home. We will accomplish this by providing personal attention and giving good measure at a fair price.

We are committed to preserving a special place in time surrounding the turn of the century general store and providing genuine Southern hospitality.

We also have a special responsibility to each employee. As a key part of our business, we want to develop the full potential of each person.

We are committed to excellence. The extent of our success depends on the service we give to our guests and our community.

Figure 1. This statement of business philosophy was displayed on the wall in the Old Country Store, Jackson, Tenn.

## WAL-MART

WE, THE ASSOCIATES HAVE PLEDGES TO BE BETTER than we were before...to strive for excellence in all we do, because what's important is you.

Our Pledge to You:

- To give you quality and values at the lowest price every day.
- To stand behind our products so you can purchase with complete assurance of satisfaction.
- To keep your store well-stocked at all times.
- To keep your store clean and orderly.
- To do our part in making our community a better place to live.
- To listen and follow-up on your suggestions.
- To serve you with the speed and efficiency that you deserve.

Figure 2. This statement of business service philosophy is printed on every shopping bag leaving Wal-Mart's department stores.



# "STATEMENT OF SERVICE PHILOSOPHY"

LAWN AND LANDSCAPE MAINTENANCE is a service industry. At all times our people should demonstrate that serving the customer's needs is a number one priority. In our organization, service is everybody's business.

Our primary objective and utmost desire is to satisfy each customer individually. Our company exists for this purpose for without satisfied customers, jobs may be sacrificed.

A customer is not dependent upon us; we are dependent upon him/her. A customer is not an interruption of our work; he/she is the purpose of it.

We are always polite and courteous to customers, regardless of how we are treated in return, and regardless of what we think of them, their behavior or their requests of us. We treat our customers with respect, and act as though our job depends



Photo: Mickey Jones

upon their evaluation of us...IT DOES!

We always demonstrate that we have the skills to do an exceptional job, and the knowledge and desire to answer questions, solve problems and be a public relations representative for our company.

Every day and in every way, we demonstrate our pleasure to serve each customer personally, and that he/she is individually important to us at that moment. No customer is worth less than another, and none deserves a second rate service or experience with our company.

We believe that potential and existing customers will respond favorably to us when we courteously

provide a quality service at every customer contact, and exhibit pride in our work and in our company.

We, the undersigned, dedicate ourselves to this philosophy.

Name \_\_\_\_\_

President \_\_\_\_\_

Company \_\_\_\_\_

Date \_\_\_\_\_

Figure 3. Sample agreement for use by lawn and landscape maintenance firms to enlist a commitment for value-added service from front-line and support people alike.

ators, but rather than sing our own praises, I would rather investigate this mission statement technique further.

Lawn and landscape maintenance is a service industry; we do not manufacture anything, and we sell very few items that the customer can hold in his hands, look at and say, "This is what I got for my hard earned dollars."

Likewise, there are very few secret techniques in the lawn and landscape maintenance industry that inhibit the exchange of ideas. For the most part Company A eliminates pests and diseases just as Company B. As an industry we are expected to maintain turf, tree and ornamental health and to accomplish this in such a way as to make a profit and not endanger our service people, the customer and his property and other non-target organisms.

At the very least, this is what the customer expects and deserves from every maintenance firm. So what is it that makes the customer

buy from Company A and not from Company B, or worse yet, purchase the materials from a do-it-yourself center?

From the buyer's perspective, assuming that all lawn and landscape maintenance operators can deliver the same quality of service, price is always a consideration. Consequently, as a prudent businessman, it is to your advantage to control costs and pass any savings along to your customers.

Today, foreign competition in the manufacturing sector has fostered a much more discriminating buyer in the United States. American consumers demand quality products and services for their hard earned dollars. The Old Country Store and Wal-Mart both realize that consumers can buy their products at a hundred other places, but do not because these successful firms offer more value for the dollar via customer service.

This value-added service can

be seen at all levels in these organizations, and is considered to be so important to their success that they print their goals conspicuously for all the world to see, including their own people who are challenged by these statements to keep up the service.

**A VALUABLE EXERCISE.** One successful Midwestern lawn maintenance firm believes in this principle of value-added service, and prints the following list of statements in its company policy manual:

- To provide the best turf maintenance and other services available at competitive prices to the business people and homeowners in our service area.

- To continually study and work to improve maintenance techniques and service, and to use only the highest quality, the most effective and the safest materials and procedures possible in our work.

- To treat our customers with respect and dignity, and to deal

with them fairly and courteously at all times.

- To treat our employees as vital and important members of the company; to provide them fair wages and safe working conditions; to treat them with equity and equality; and to provide them an opportunity to develop and advance within the company through internal and external training programs and challenging work assignments.

- To operate as responsible business citizens in the community, participating in community service activities and abiding by the spirit as well as the letter of all laws which relate to our work.

- To respect our community and all its citizens by maintaining our record as an equal opportunity employer.

- To respect our competitors as worthy and honorable business firms, but to continually strive to provide better service than they can do.

- To continually expand the



number and types of services which we provide and to anticipate needs for services so we may fulfill them.

• To put customer service as the principal objective of all our efforts, recognizing that in doing so, we may, at times, need to subordinate our self-interest.

This firm is to be commended for such progressive ideals, especially since this philosophy was a radical business approach when written in 1976. Fortunately, for our industry, many lawn and landscape maintenance firms believe in this philosophy, and several have gone so far as to put these beliefs into print: a formal declaration of belief and commitment.

However, in dealing with today's informed and discriminating consumer, successful firms are finding it necessary to take these beliefs from the dusty old policy manual, display them in a printed form which boasts this philosophy to customers and employees alike, and even apply these as guidelines for hiring and promoting employees capable of

translating these beliefs into action.

Once your firm's service philosophy is established, a mission statement should be printed for everyone to see (employees, customers, potential customers, business associates, etc.). Furthermore, if this process is to engender a true service attitude among your people, secure your position in the marketplace and contribute to positive growth, then this philosophy must be manifested at all levels in the organization and in each task performed by the members of the organization (sales, service, clerical and management).

One technique used to ensure that your people accept this business philosophy is to have them read and, if found acceptable, endorse a Statement of Service Philosophy as a prelude to employment. To help you in the design of your own statement, a sample is shown in Figure 3.

While not a legal document, this statement becomes an agreement in principle between two parties when signed by both and

filed for future reference. I suggest that a copy be given to the new hire and a duplicate placed in his employee file.

This simple process serves several purposes: (1) it signifies, right up front, how you as an employer view your responsibility to the customer; (2) it communicates to the new hire his role in the big picture; and (3) the physical act of signing this document seals a gentlemen's agreement about your service philosophy. In effect, both parties "buy into" the concept and are held responsible when actions prove otherwise.

**SUMMARY:** Consumers today are much more discriminating about their purchases than they were just a decade ago. They demand quality at a fair price, but will return to buy again only if the value-added service experience was enjoyable.

Successful lawn and landscape maintenance firms are those able to deliver a quality service at a competitive price, and do it in such a way that the customer en-

joys the service. An individual company's philosophy should advocate that management and clerical positions are designed to support the efforts of front line sales and service people.

After all, in any service business you either serve the customer directly, or serve someone who does. The simple act of writing down your company's service philosophy gives direction to your service. Advertising this philosophy to your people, current customers and potential customers assures all concerned about your intentions.

The pitfall, however, is that unless your people translate these ideals into action at every customer contact point, you are wasting effort and dooming your business to mediocrity.

The simple act of signing a Statement of Service Philosophy binds you and your people into a common goal. Teamwork and attention to detail will contribute greatly to positive growth for your company in today's "me too" marketplace. — Mike Holcomb ■

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Just one of the many reasons to use **GSL Sulfate of Potash**

In addition to 52%  $K_2O$ , **Sulfate of Potash** contains 18% Sulfur in the sulfate form, which is the form preferred by turf authorities. **Sulfate of Potash** gives better disease resistance to Fusarium Patch, Ophiobolus Patch, Dollar Spot Fungus and Powdery Mildew. It is also effective in suppressing Poa Annua.

Use of **Sulfate of Potash** also results in better rooting, drought resistance, heat and cold tolerance and better wear resistance. And, its excellent potassium/sulfur ratio increases grass response to nitrogen, phosphate and other nutrients.

**The safest and most effective potash money can buy!**

**Avoid turf burn.**

**Sulfate of Potash** is nearly chloride free and has a salt index of 0.85 vs 1.94 for muriate of potash. Other sources of sulfur, such as ammonium sulfate, have salt indexes higher than 3.25. There is far less chance of burning turf if **Sulfate of Potash** is mistakenly over applied, spread unevenly or unexpected weather conditions favor damage.

A 3:1:3 (nitrogen:phosphate:potash) ratio can be applied without fear of turf burn from potash as long as the potash is in sulfate form. It can also be applied any time of year, including mid-summer.

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# Understanding the Principles of Proper Drainage

**T**OO MUCH WATER can be as harmful to a landscape as too little. In other words, proper drainage is as important as proper irrigation.

"Every grass, shrub and tree requires a correct balance of oxygen and water," said Dave Beck, research engineer, Contech Construction Productions Inc., Middletown, Ohio. "Unless you're dealing with a plant like a water lily, excessive water in the top soil and root zone will cut off oxygen to the plant and prevent it from thriving. If such a condition exists, then an artificial drainage system is needed to relieve the soil of its moisture saturation."

Beck added that landscapers should be aware of the principles of proper drainage not only because of its positive results in turf maintenance, but also in terms of engineering — how excessive soil saturation can affect structures such as septic tanks and retaining walls.

"Saturated soils exert high hydrostatic pressure on retaining

walls," he said. "Saturated soils exert high hydrostatic pressure on retaining

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is placed a round drainage pipe. The trench is then completely filled with gravel and finished off with a piece of fabric.

The purpose of the various components are to let the water through, but to keep the original soil particles out. If the soil is apt to clog the pipe, then the pipe may also be wrapped in a fabric. The purpose of the gravel is to intercept the water through the soil, channeling it down through the pipe and finally carrying it to an outlet.

In the late 1970s and early 1980s a new category of products called prefabricated drainage systems came into the market. The products carried such names as geocomposite drainage systems and geosynthetic drains.

Vicko Von Stedingk, president, Burcan Industries Ltd., Ontario, Canada, the manufacturer of one of these systems, explained that this new technology is "an improvement over the homemade systems since it contains filtration, interception and discharge in one prefabricated product."

He maintained that the geo-

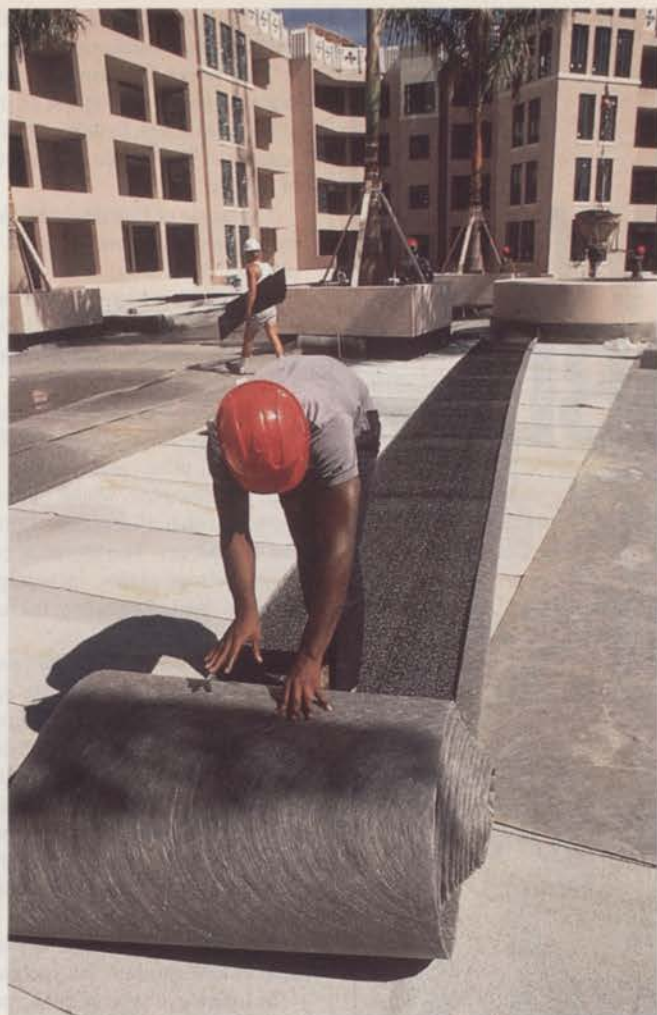
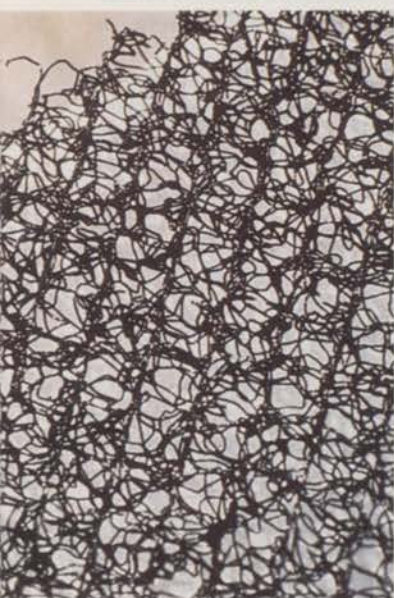
**The purpose of the various components are to let the water through, but to keep the original soil particles out.**

walls," he said.

How can a landscaper know if a soil has a proper moisture content?

"A keen observation of soil conditions can indicate a soil's natural permeability and whether it has a tendency to contain water," Beck said. "Also, not many people are





A close-up of Enkadrain fabric (far left). Enkadrain being rolled out on the base of a large planter (above). Mizner Village site where Enkadrain was installed (below). Photos: Akzo Industrial Systems.



composites are easier to use; involve cutting a much narrower ditch which can be filled with native material, eliminating the need for gravel; and is more effective than the round pipes, which can eventually become clogged.

Various geocomposite systems on the market work on similar principles, but vary in terms of how the plastic is shaped; the types of resins and fabrics used; the discharge capacities; physical dimensions, specifically width; and compressive strength.

Emory Hunter, manager of the seed and special products division, Warren's Turf Nursery, said that the geocomposites are not necessarily better than the older, round perforated pipes for "some are inefficient and move the water slower than the pipes."

Hunter reported that his company has come out with a variation on the geocomposite or pre-fabricated systems called Waterworks, which is the first to use a computer to design a drainage system.

"Our object was to design a sub-surface drainage system to draw out excess water to a prescribed depth over a specified period of time," he said. "For instance, you can input the number of hours you want turf to be pliable after a specified rainfall of a specific intensity and duration. The system does all of the complex mathematics in a matter of minutes which would otherwise take hours to calculate."

The program can be altered at will. "It's a very simple program to operate, but very powerful and allows you to come up with the best overall performance and costs," he said.

Another aspect of this product, Hunter added, is that drainage systems usually approach the problem from the point of view of agriculture. Agricultural and turf needs are different, however.

"Agricultural systems are not concerned about surface water as they are deep water," Hunter said. "But our program is designed to draw water from the top four inches during a specific period of

time, and then continue drawing down to a 12-inch depth, which is the optimum depth for turf-grass."

For interiorscaping, Akzo Industrial Systems Co., Asheville, N.C., has a product called Enkadrain, which representative Jeff Renk has described as a "three dimensional compression resistant geomatrix matting, with a filter fabric on one side."

It's used as a lightweight alternative to gravel for roof decks, plaza slabs and landscaping planters. The fabric holds back the adjacent soil while allowing

excess water to pass through the planter into a drainage system, eliminating standing water that can lead to root rot.

"More plants in containers are killed by excess water and poor drainage than any other single factor," Renk said.

A successful application of the product was at the new Embassy Suites hotel in Charlotte, N.C. Entering guests are greeted by a spectacular eight-story atrium characterized by a "Roman ruins" motif incorporating a 14-foot waterfall and more than 5,000 tropical plants.





# NEW TROUBLE FOR PESTS.

Lebanon Pro 20-3-5  
with  
**SEVIN®**

Announcing Lebanon Pro 20-3-5 with Sevin. A new, economical combination product with 20% Coated Slow Release Nitrogen from SCU — and 5.93% active Sevin insecticide — for a balanced feeding with dependable insect control. Or try Lebanon Sevin 7G, for straight granular pest control. Together, they're double trouble for pests. From your source for premium quality Lebanon turf products.

**Lebanon**  
TOTAL TURF CARE  
A division of Lebanon Chemical Corporation

SEVIN® is the Registered Trademark of Rhone-Poulenc Nederland and B.V. for carbaryl insecticides.

Circle 38 on reader service card

The height and unconventional nature of the structures in the atrium created some problems for the landscape architects.

"One of our concerns was reducing the weight of a large planter that stood atop the highest of the structures," said Ken Hutcheson of Foliage Design Systems, the firm that supervised the atrium landscaping. "The fragile construction material wouldn't support a lot of weight."

The tangle of Enkadrain black nylon solved the problem. "We cut the matting to size and placed it in the bottom of the 400-square-foot planter," Hutcheson said.

The plants, which are kept in nursery pots, were then placed on the matting and the planter filled with pine bark. Water used to irrigate the plants seeps through the pots, filter fabric and open matrix into a floor drain.

Enkadrain also has an external application at the exclusive Mizner Village residential complex in Boca Raton, Fla., with its profusion of tropical plants and trees.

In this complex, where individual units sell for up to \$1 million, there are two half-acre courtyards that front each of the main residential complexes. The identical courtyards are graced with a variety of indigenous plants, including bougainvillea, philodendron, wax jasmine, bird of paradise, banana plants, plus areca and royal palm trees.

Landscape architects attempted to design the grounds on a scale to complement the formality and stateliness of the village.

"We had originally considered using six inches of gravel as our drainage medium in the courtyards," recalled architect Doug Kulig of William Cox Architects. "Using gravel is standard practice here in Florida. In the past we have used round river rock gravel that had to be brought into the area from outside the state at considerable expense. Using gravel would have disturbed the site because we would have had to bring in heavy trucks and equipment to deliver and spread it."

By using the wire mesh in place of the soil, the landscapers were able to add another five inches of growing depth to the soil.

In looking at new and innovative ways of tackling drainage problems, it's good to remember that there is still a place for traditional approaches.

In comparing old-fashioned pipe to the geocomposite or prefabricated systems, Mark Stuhldreier, vice president of marketing for Columbus, Ohio's Advanced Drainage Systems said, "The manufacturers of geosystems are not here because pipes can get clogged up. Pipes have been a source for drainage since the 1600s or before. If certain soils require a filter, the pipes can be filters just as are the geosystems."

Advanced Drainage Systems produces the perforated round pipe.

Stuhldreier added that his company has introduced a new product called Advanedge, which is comparable to the geosystems. It's a panel shaped pipe, one by 12 inches, to be used as an alternative to a round pipe in a gravel bed. Like the geosystems, Advanedge can be applied to a narrow area.

"If you're building a landscape from scratch, a round pipe, with a drainage fabric is the simplest, most cost effective solution," Stuhldreier said. "But if you want to improve an existing landscape, the panel shaped Advanedge, like the geosystems, can be used to minimize the disruption to the landscape."

Stuhldreier maintained that the panel pipe is a rigid pipe which can't fold up, be rolled, folded or crimped, and so can better withstand abuse, such as being hit with a shovel.

Stuhldreier said round pipe costs about 50 cents per square foot while panel pipe or geosystems cost \$1.50 or more for the same amount.

A survey of landscapers across the country revealed that most don't have strong feelings about one type of drainage system over another, maintaining that differing situations call for different solutions. A product necessary in one situation may be unnecessary in another.

Jim Stevenson, construction manager, Clauss Brothers Inc., Roselle, Ill., said, "If we have any trees or plants that we can't directly drain

(continued on page 82)



# THE TOUGH ONES



## BUILT FOR TOUGH COMMERCIAL APPLICATIONS

Ev-N-Spred™ spreaders have been developed over the years to meet or exceed the needs of most commercial spreading requirements. All models feature massive enclosed gears that are fully guaranteed for 2 years, self cleaning flow control/ shut off plate, and a controlled uniform broadcast unequalled in the industry. What's more, many have tough stainless steel frames and greaseable axle bearings. Additional options also available.

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# Secret



It's here. Your secret weapon against the destructive insect pests that threaten your entire course.

Introducing CHIPCO® SEVIMOL® brand carbaryl insecticide. CHIPCO® SEVIMOL® is a special formulation of SEVIN® brand carbaryl insecticide that offers proven control of your most damaging turf, ornamental and tree pests: including white grubs, sod webworms, chinch bugs, bluegrass billbugs, cut-

worms, and more than two dozen other insects.

CHIPCO® SEVIMOL® gives you the added advantages of improved handling and superior formulation characteristics. Plus, a unique attractant system effective against selected insect species.

And, as effective as CHIPCO® SEVIMOL® brand is on turf pests, it's equally reliable against 86 insects known to attack a wide variety of trees



# Weapon



and ornamentals.


Plus, CHIPCO® SEVIMOL® is one of the most environmentally favorable insecticides you can buy. In fact, other formulations containing SEVIN® brand carbaryl are used to control pests on poultry, pets and even some species of game birds.

CHIPCO® SEVIMOL® brand carbaryl insecticide. Your secret weapon against your most

damaging insect pests. Make it a part of your arsenal by calling your turfcare supplier today.

## Chipco Sevimol®

Brand Carbaryl Insecticide

 **RHÔNE-POULENC**

As with any crop protection chemical, always read and follow instructions on the label. CHIPCO and SEVIMOL are registered trademarks of Rhône-Poulenc. © 1990 Rhône-Poulenc Ag Company. SEVIN is the registered trademark of Rhône-Poulenc for carbaryl insecticide.

Circle 7 on reader service card



# Some Long-Awaited Products Ready for Industry Use

**LAWN AND LANDSCAPE MAINTENANCE CONTINUES** to bring its readers a preview of an assortment of chemical products new to the industry in 1990.

New herbicides, insecticides and fertilizers among others, give maintenance professionals a wide selection from which to choose when planning for the new season.

Read through the following product selections noting new products and new variations of well-known products. Many of these products will be introduced at one or more of the fall convention and trade shows, so keep them in mind.

**The Andersons** is introducing several new products for the 1990 season. Heading the list will be a new Andersons' Tee Time insecticide product with 6.2 percent Dylox. The product is designed for control of grubs and sod webworms.

In addition, the Andersons will be offering three new granular fungicide products — Bayleton 1.0 percent, Benomyl 1.5 percent and Daconil 2.5 percent.

Sevin 7.3 percent granular and 30-3-8 with Sevin will also be added to the new insecticide line of products.

**Circle 101 on reader service card**

**CoRoN** is offering a controlled release liquid nitrogen fertilizer without clogged nozzles, "gunk"



in the spray tank or cans that won't pour.

CoRoN is a highly concentrated clear-liquid nitrogen that mixes easily with other nutrients as well as turf protection products. It provides turf with a nitrogen source that promotes even growth over an extended period with a low burn potential.

Unlike other controlled release nitrogens, recent university trials have shown that CoRoN-treated turf will receive the full benefit of an application this season, without the headaches of surge growth. Turf becomes a deep, even green without high amounts of nitrate nitrogen lost to leaching.

**Confront®** herbicide from **Dow Chemical Co.** has received Environmental Protection Agency registration for the control of annual and perennial broadleaf weeds in ornamental turf and cool-season grasses.

An example of triclopyrpyralid chemistry, the product is composed of an amine salt formulation containing one part clopyralid to three parts triclopyr per gallon. Both active ingredients act as a plant hormone mimic, disrupting plant cell growth. Initial control results noticed four to six days after treatment, with full results occurring in the following weeks.

Each active ingredient in Confront controls a variety of weeds. Triclopyr controls ground ivy, oxalis, spurge, violets, chickweed and speedwell, among others while clopyralid controls such weeds as musk thistle,



clover, dandelion and plantain.

Research on Confront herbicide was conducted over the past three seasons by Dow specialists working with universities. Results showed excellent control of major broadleaf weeds and performance on a level equal to or better than standard three-way herbicides in the field studies. Confront will be available for sale after Jan. 1.

**Circle 103 on reader service card**

Be sure to look for the new 2-gallon by 2 1/2-gallon case, as well as larger sizes and bulk. CoRoN formulators can offer local distributors customized N-P-K mixes with CoRoN in both packaged and bulk lots.

**Circle 102 on reader service card**

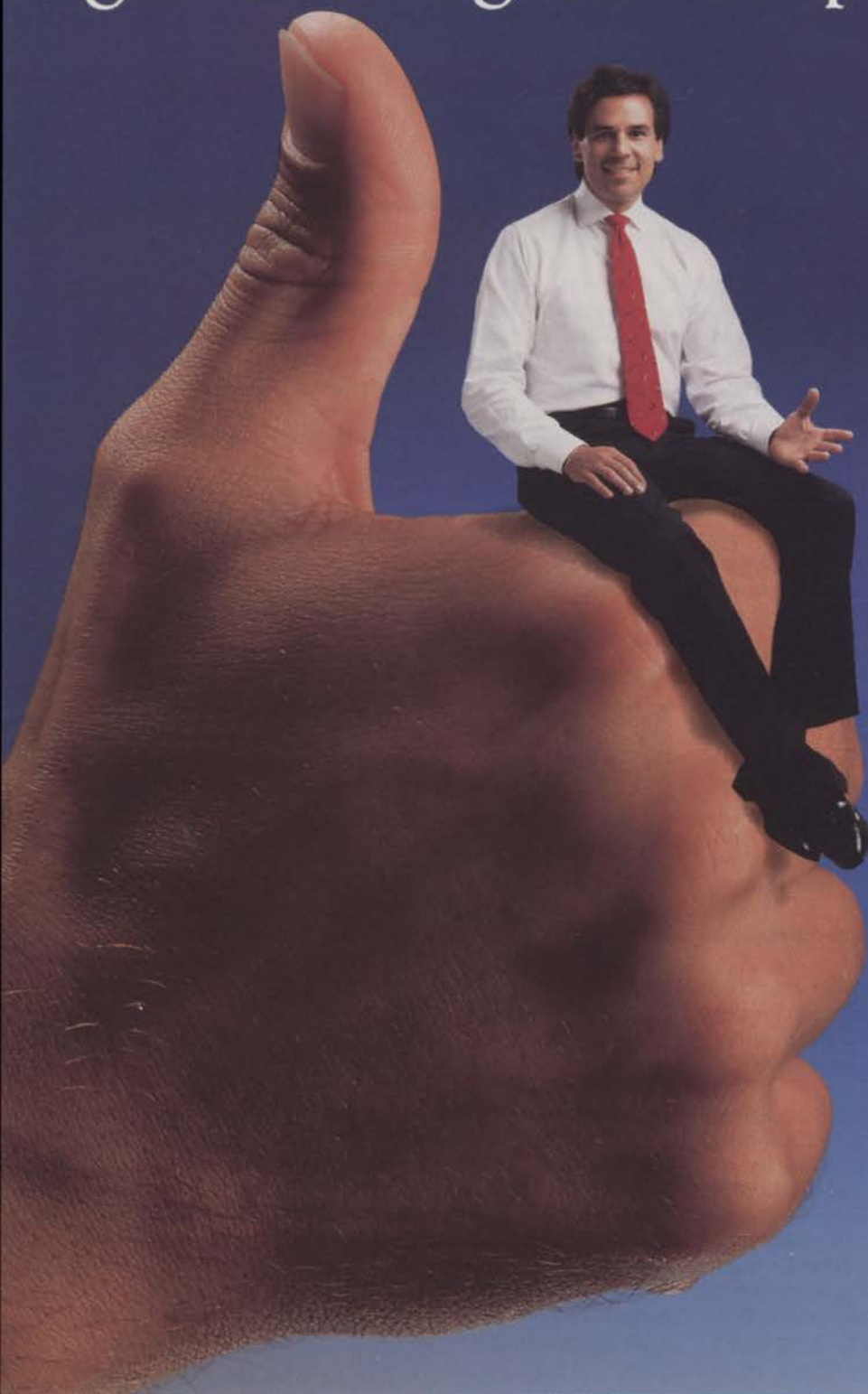
Effective protection against more than 65 destructive diseases that can damage ornamental foliage, flowers and bulbs, shrubs, trees and turf is available with new Daconil 2787® WDG, an easy-to-use, broad-spectrum fungicide from **Fermenta ASC Corp.**

Daconil 2787 WDG is a water-

(continued on page 42)



# When Rick Steinau moved up to the performance of TURFLON, his customers gave him a big thumbs-up.



"TURFLON\* herbicides give us about 95% control of problem weeds. The standard three-way products give control in the 80-85% range."

Rick Steinau, president  
Greenlon Lawn Care Services  
Cincinnati, OH

In the lawn care business, you know that exceptional performance reduces callbacks and cancellations—and costs less in the long run.

#### **Less callbacks.**

"We started using TURFLON three years ago," explains Rick Steinau. "TURFLON simply does a better job on the hard-to-control weeds like spurge, oxalis, ground ivy and wild violets. These are the problem weeds that customers usually complain about most. With TURFLON, we've seen a 25% reduction in weed-related callbacks and a 15% drop in cancellations."

#### **More savings.**

"We are definitely saving money by using a premium herbicide," continues Rick. "We know that a treatment with TURFLON costs about 50¢ more per lawn than a standard three-way herbicide, but we actually realize a 30% savings in our herbicide program."

Rick Steinau knows that the performance of TURFLON herbicide has made a big, big difference in his business. Just think what it can do for yours. Call us to find out more. 1-800-373-2DOW (2369).

Move up to TURFLON



\*Trademark of The Dow Chemical Company

Circle 5 on reader service card



## Chemical Preview

(continued from page 40)

dispersible, granular fungicide that mixes quickly and easily with water, without causing dust. It is packaged in a 5-pound reclosable plastic jug to ease pouring and storage.

Daconil 2787 WDG contains the active ingredient chlorothalonil. This broad-spectrum contact fungicide protects 25 types of broadleaf trees and shrubs, 17 bulbs and flowering plants, eight foliage plants, three varieties of conifers and a wide range of turf-



grasses against 65 fungal diseases.

This fungicide is ideal for use in field or container plant nurseries, greenhouses, parks and memorial parks. It is also ideal for use on sports turf and for lawn care.

**Circle 105 on reader service card**

Two new fertilizers with Sevin brand carbaryl insecticide are available from **Lebanon Total Turf Care**.

Country Club 19-4-6 and Lebanon Pro 20-3-5 are for use on lawns, parks and other professionally maintained turf areas. They provide premium feeding together with safe, dependable control of common white grubs and a broad range of surface feeding insects.

Turf maintenance professionals can rely on the economical combination of products to prevent damage to turfgrass areas and ensure fast green-up and sustained feeding. When used as directed, the products will provide control of turfgrass pests such as white grubs, armyworms, chinch bugs, cutworms, earwigs, grasshoppers, sod webworms and ticks.

Country Club has a 26 percent organic, homogeneous fertilizer base and 5.3 percent active Sevin insecticide. Lebanon Pro contains 20 percent (four units) coated

Gallery 75 Dry Flowable from **Elanco Products Co.** has received Environmental Protection Agency registration approval for use on certain broadleaf weeds in established warm- and cool-season turf.

This unique, selective preemergence herbicide contains a new chemical compound called isoxaben, which controls 44 broadleaf weeds, including chickweed, henbit, plantain, purslane, oxalis, spurge and white clover.

Gallery's convenient dry flowable formulation mixes easily with water and is compatible with other turf chemicals, so it can be tank mixed for control of species listed on the respective labels. Recommended use rates vary depending on the weed species.

Product labels should be read carefully for directions, mixing instructions, precautions and limitations before using.

Gallery is stable on the soil surface, but it must be activated by 1/2-inch rainfall or irrigation within 21 days. Established turf can be reseeded in the fall after spring application of Gallery. Application should be made in the spring or in the fall before weed emergence.

Gallery is also labeled for use on trees, ornamental shrubs and ground covers. Refer to the label for the ornamental species where Gallery can be applied.

Also from **Elanco**, a new barrier that keeps unwanted tree and plant roots out of landscaped and highly maintained areas promises to provide new utility to green managers looking for a way to protect these areas.

Tybar Biobarrier was developed by Reemay Inc., Old Hickory, Tenn., using technology from Battelle Memorial Institute's Pacific Northwest Laboratories and the assistance of Elanco.

Originally developed to protect hazardous waste

**Circle 104 on reader service card**

slow-release nitrogen from SCU and 5.93 percent active Sevin insecticide. Both are available in 50-pound bags that provide up to 16,600 square feet of treatment.

When applying, three pounds per 1,000 square feet is recommended for 7.77 pounds active Sevin per acre.

**Circle 106 on reader service card**

The Environmental Protection Agency has accepted registration of Tempo® insecticide from **Mobay Corp.** for use on residential turf.

Tempo, an advanced-generation pyrethroid, was introduced for indoor pest control and ornamental insect control in 1988.

Tests show Tempo to be compatible with commonly used fungicides, liquid fertilizers and other insecticides in tank mixes.

Mobay will also promote Tempo for tick control in response to



concerns about Lyme disease nationwide.

Registration for use on commercial turf is pending.

**Circle 107 on reader service card**

**Rhone Poulenc Ag Co.** is making an addition to its Chipco® line of turf and ornamental protection products. Chipco® Sevimol® is a special formulation of Sevin®



burial sites from encroachment of plant roots, the barrier can also be used to protect sidewalks, streets, swimming pools, septic tanks and fields, landfills, tennis courts, building foundations and landscaped areas from damage by tree roots.

Tybar Biobarrier is a spunbonded, non-woven, polypropylene geotextile fabric studded with carbon black and polyethylene pellets containing an active ingredient.

When buried underground, it releases a vapor into the soil at a controlled rate that can be engineered to last for many years. The vapor barrier forms on both sides before attaching to soil particles and staying there. As a result, roots either stop growing or deflect away from the treated area.

brand carbaryl insecticide which contains an attractant system to certain insects such as the mole cricket.

This is the only turf insecticide offering the attractant property. In addition, it also provides broad spectrum control of damaging subsoil and soil insects such as white grubs, sod webworms, chinch bugs, bluegrass billbugs, cutworms and more.

This insecticide can also be used to control 86 insect species that damage trees and ornamental plantings and as a premise spray to control mosquitoes, ticks, ants and other nuisance insects.

While Chipco Sevimol provides broad spectrum insect control on many sites, other formulations of Sevin are used to control pests on poultry, pets and even some species of game birds.

**Circle 109 on reader service card**

(continued on page 44)



# For the cost of a candy bar, Bob Kapp made the sweet move up to TURFLON.



"Our customers expect and demand quality—and we deliver. If it costs an extra 50¢ a lawn to keep customers, it's well worth it."—

Bob Kapp, President and CEO  
Kapp's Green Lawn  
Munster, IN

How much is customer satisfaction worth? For Bob Kapp of Kapp's Green Lawn, it's worth the performance difference that TURFLON® herbicide can provide.

#### What price customer satisfaction?

"We switched to TURFLON two years ago because we weren't pleased with our previous herbicide," says Bob Kapp. "Cost has never been a deciding factor in the products we use. The extra 50¢ per lawn for a treatment with TURFLON herbicide doesn't make a bit of difference. In this day and age, you simply have to retain customers—it costs too much money and time to replace them."

#### Its rewards.

"TURFLON did a much better job, particularly on our problem weeds like wild violets, ground ivy and spurge," Bob continues. "Since switching to TURFLON, we've reduced our weed related callbacks and service cancellations by 50% from a year ago." With performance like that, you'll be able to add some sweetness to your bottom line. Call us to find out more. 1-800-373-2DOW (2369).

Move up to TURFLON



\*Trademark of The Dow Chemical Company

Circle 6 on reader service card



## Chemical Preview

(continued from page 42)

Triamine™ II W.S. broadleaf weed killer has been introduced by **Riverdale Chemical Co.**

This new water-soluble powder contains the acids of MCPA, Mecoprop and Dichlorprop. Packaged in convenient 4-pound and 15-ounce canisters, the product puts an end to concerns about container storage and disposal.

In addition to easier container disposal, it takes up less space in warehouses, is easier to transport and won't freeze.

The weed killer goes into solution instantly and gives you effective, economical weed control on a wide range of troublesome broadleaf weeds.

A single 4-pound fiber canister contains enough herbicide to treat an acre of cool-season turf while the 15-ounce can be used for smaller jobs of 10,000 square feet. When used on some warm-season grasses, an even larger turf area can be treated.

**Circle 110 on reader service card.**

Ruffin Tuff Chelated Iron Granule from **Ruffin Inc.** is a fully chelated 10 percent iron that gives full summer control on iron chlorotic trees and shrubs.

The fertilizer will provide excellent results on flower gardens, vegetable gardens, roses, azaleas or any plant needing iron.

**Circle 111 on reader service card**

**UAP Specialty Products** has introduced a fertilizer that contains Sevin brand carbaryl insecticide for control of white grubs, chinch bugs, armyworms, cutworms,

Nutralene™ fertilizer, a homogenous controlled-release granular nitrogen product with a guaranteed analysis of 40-0-0, is available from **Nor-Am Chemical Co.** in limited quantities this season.

A reacted methylene urea polymer nitrogen source, Nutralene™ releases nitrogen both by hydrolysis and through microbial activity. The product is completely consumed by plants or turf within 12 to 16 weeks.

Hydrolysis releases nitrogen quickly so plants get a boost at the beginning of the growing season. Then microbial activity releases nitrogen more slowly, to sustain growth over several months.

Nutralene does not leach as readily as water-soluble nitrogen fertilizers. Because of dual-action release modes, it provides an excellent feed in cooler temperatures or overwintering situations.

Nutralene is the latest addition to the Nor-Am line of T&O products which include: Nitroform,® Banol,® Turcam,® Proxol® and Progress.®

**Circle 108 on reader service card**



**NUTRALENE**

**The New Name in NITROGEN!**

This advanced controlled-release fertilizer...  
This quality nitrogen source offers:  
• Quick growing  
• Continuous nitrogen release feeding for up to 16 weeks  
• Both hydrolysis and microbial action...  
• Minimal leaching and volatilization  
• Continuous release of all nitrogen in the growing season, under all conditions, from during cool and wet weather conditions  
• Low salt and low burning potential  
• 40-0-0 guaranteed analysis

**NOR-AM**

Chemical Co.

10000 Highway 100, Dallas, Texas 75243

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grasshoppers, ants, fleas, ticks, adult mosquitoes and numerous other insects.

It provides a complete analysis fertilizer with 50 percent sulfur coated urea as a non-burning, long lasting nitrogen source. A 50-pound bag treats 12,500 square feet.

**Circle 113 on reader service card**

Stirrup M, a biological pest control product from **Fermone Chemicals Inc.** has received approval from the Environmental Protection Agency and all state agencies for use on any ornamentals for which miticides are registered.

Stirrup M is a patented behavior modifying product that is added to registered miticides to increase the miticide's efficacy. Applied

with miticides in a conventional manner, the tetranychid pheromone in Stirrup M causes spider mites to move about the plant more actively, which brings them into frequent and prolonged contact with miticide-treated plant foliage.

This product has been used successfully in combination with traditional miticides such as dicofol, Pentac, Vendex, Omite/Comite, sulfur as well as with pyrethroids that have miticidal activity such as Capture/Talstar and Mavrik/Spur. It has also been used with the new miticide chemistry of Avid/Agri-Mek.

Stirrup M has been used on cotton, grapes, citrus and almonds under its former label, which included use on a wide variety of field crops, vine crops, tree fruits

and nuts, greenhouse plants and ornamentals.

The new registration allows the use of Stirrup M with any miticide and on any plant for which miticides are labeled.

The product is sold as a liquid controlled-release concentrate that is tank-mixed in water or emulsifiable oil with any registered miticide. It may be applied by any conventional application equipment including backpack sprayers, ground sprayers or aerial applicators.

**Circle 114 on reader service card**

For those maintenance professionals who prefer spraying to control vine- and rosette-type dicot weeds, **O.M. Scott & Sons Co.** is now offering ProTurf® Fluid Broadleaf Weed Control.

Made for use on bluegrass, fescues, ryegrass, bermudagrass, bahiagrass and zoysiagrass turf, the product can be applied on lawns, athletic fields, parks or other large turf areas.

It controls 68 weeds including oxalis, spurge, dandelions, clover and black medic. For different weeds, a second application may be necessary.

**Circle 115 on reader service card**

Although we have spotlighted many companies and their new offerings for 1990, space restrictions prevent us from including every new product available in the lawn and landscape maintenance industry.

**Sierra Chemical Co.** has released a new fertilizer called Customblend for the turf industry.

These resin-coated controlled release fertilizers are based upon Sierra's Osmocote technology. They release nutrients to the turf plant for up to one year with one application.

The product has been used by nurseries for 20 years, but has just been introduced for turf use.

The resin coating releases

the nutrients in a different manner than slow release materials like sulfur-coated ureas. Osmocote's nutrient release is strictly dependent upon temperature. When the temperature is higher, the plant needs more nutrients.

Two longevities, five- to six-months and eight- to nine-months, are available and under trial. The eight- to nine-month release formula would be used for the majority of the country, including most of the Midwest, lower East Coast

**Circle 112 on reader service card**

and West Coast areas.

The five- to six-month formulation would be used in northern climates such as the upper Midwest, North and New England. For Sunbelt areas, two applications of the eight- to nine-month release products are recommended.

Turfgrass analyses available are 34-0-7; 24-6-10; 0-0-46; and 25-0-1. A 15-12-13 flower and ornamental fertilizer is made in the five- to six-month longevity only.



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



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

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

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

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

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

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

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

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

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

**Move up to TURFLON**



\*Trademark of The Dow Chemical Company

**Circle 27 on reader service card**



# Environmental Concerns Setting the Stage for New Releases

AS LAWN CARE AND MAINTENANCE CONTINUES to be the fastest growing segment of the professional green industry, new equipment is needed to accommodate those flourishing needs.

And it seems equipment manufacturers are attempting to meet the demands of the maintenance professional by offering new, improved versions of currently available equipment as well as innovative, new product lines.

Irrigation equipment to thwart increasing water conservation concerns, precalibrated sprayers to reduce over and under applications, mowers which make grass clipping disposal easier and utility vehicles for easier hauling are all on tap for the 1990 season.

For more specific information on products vital to individual company needs, read on.

**AMS Plastics** introduces Pree-Set Manifold Tees, Slip-Fix and Coupler-Nipples for irrigation contractors.

The one-piece manifold tee guarantees correct valve spacing, proper in-line angle positioning and no leaky joints.

Ideal for areas where space is limited, Slip-Fix is designed for use in repairing broken water

lines, installing valves and adding laterals. Because of its telescopic movement, it requires little back-trenching, easily fits into small openings and needs no bracing. Slip-Fix can be installed with a valve on either the pressure or non-pressure side, saving time and reducing labor costs.

Coupler-Nipples are designed to be used as riser extensions or, when reversed, to accept impact sprinklers. The combining of a coupler and a nipple saves contractors installation time and trouble, lowers material costs and reduces the number of fittings needed for the system.

**Circle 116 on reader service card**

**Briggs & Stratton Corp.** is introducing the 9-h.p. horizontal shaft OHV engine.

The engine is designed for continuous, heavy-duty work on rental equipment used for construction and agricultural applications. This engine is outstanding for power and torque, which translates into more watts generated

and more gallons pumped in less time.

Long life is achieved by combining top-of-the-line features like a cast iron cylinder sleeve for extended wear, high capacity dual element air cleaner for the ultimate in air filtration, float type carburetor and Magnatron electronic ignition for sure, dependable starts.

**Circle 117 on reader service card**

Seven walk-behind snow clearing machines are being offered by **John Deere**. The machines have Tecumseh engines ranging from 4- to 8-h.p.

The line includes a two-cycle single stage snow thrower propelled by the auger, and six four-cylinder two-stage snow blowers that are self-propelled — some by wheel drive and some by a trademarked track drive system. All models have an operator-presence safety system allowing one-hand operation.

The 4-h.p. model TRS21 single-stage thrower is available with either recoil or electric start. A 9-inch diameter ribbon-type impeller propels the machine forward to clear a 21-inch path in addition to gathering and throwing the snow.

Four midsize models provide a choice of wheel drive or track drive. The wheel drive models include the 5-h.p. TRS24 that clears a 24-inch path and the 8-h.p. TRX 26 for a 26-inch path.

The track drive models include the 5-h.p. TRX 24 providing a 24-inch path and the 8-h.p. TRX 26 for another 26-inch path.

Two large frame models provide greater snow clearing capacity for heavy snow areas and blizzard conditions. The 8-h.p. model TRS27 cleans a 27-inch path while the 10-h.p. provides a 32-inch

(continued on page 48)

**Canaan Industries** is introducing its Walkover line of sprayers.

The full range of Walkover sprayers operate on the same principle: A gear pump, driven by one or more land wheels, ensures that the liquid fed to it under gravity from the tank is delivered through the precision nozzles at an accurate, precalibrated rate. The only pressurized area within the mechanism is that from the pump to the nozzles.

Filters provide protection for the pump from any solid matter such as grit or undissolved powder.

**Circle 118 on reader service card**



The Walkover virtually eliminates noise, fuel requirements and downtime. With an added option, the Walkover, is available as a sports stripe marker, enabling it to mark off athletic fields with spray paint.



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## Equipment Preview

(continued from page 46)

clearing.

**Circle 120 on reader service card**

Echo Inc. will expand its line of trimmers/brushcutters with the introduction of the new SRM-2310.

This dedicated blade-capable model comes equipped with U-handle, shoulder harness, debris shield and the heavy-duty, dual-line ECHOMATIC trimmer head.

The SRM-2310 is powered by a commercial-duty 21.2 cc air-cooled, two-cycle Echo engine, featuring a carburetor shroud to protect critical engine components and a felt air cleaner to promote engine longevity.

This reliable trimmer/brushcutter has heavy-duty cable drive and a 59-inch shaft.

**Circle 121 on reader service card**

The rugged **Feldmann Engineering and Manufacturing** Model 80 portable power earth auger sports a new increased capacity translucent gas tank (up to 24 ounces) and new heavy-duty centrifugal clutch for more working hours on the job without refueling.

Like its cousin, the Model 70, the 49 cc engine is built to last. Adaptable for drilling earth, ice, wood, plastic, stone and concrete, the Model 80 features quick-start solid state ignition, easy rewind starter and flocked insulated muffler. The Model 80 can handle from 2-inch drill bits through 8-inch drill bits. Interchangeable



Two new turf sprayers with low profile tanks are now available from **Cushman**.

The turf sprayers are available in either a 120- or 150-gallon tank size, and both are designed to mount easily on the Cushman® Turf-Truckster® chassis with the exclusive pin-disconnect system.

Both spray tanks are lightweight, centrifugally cast fi-

berglass and colored to resist ultraviolet action on the contents. The tanks are designed with a sloped bottom and center sump for complete drainage. A large 16-inch fill-well with threaded cover and 4-inch center cap permit easy filling.

The spray tanks feature a new quadra-jet agitation system that constantly recir-

culates the tank contents to maintain proper chemical mix.

A choice of 15- or 21-foot boom selection is available. Both booms are three-section design with outer boom guards and four-way spring tension hinges to provide a break-away action if the outer boom hits a tree or other object.

**Circle 119 on reader service card**

augers are available as accessory add-ons.

**Circle 123 on reader service card**

Flowmaster™ PH-1 is the result of a new technology from the **Trebor Corp.** It's the first accurate, portable, lightweight, hose-end, attachable flow meter with no internal moving parts.

Model PH-1 employs the mass flow technology of differential pressure. Its flow tube is straight through design with no rotating

mechanical vanes or turbines. The elimination of moving parts prevents problems common to flow meters currently on the market — corrosion, abrasion and chemical contamination.

Model PH-1 has a flow range of 1 to 10 GPM, at pressures to 150 psi and memory storage to 10,000 gallons. Control is by four membrane pressure switches, providing digital readout of flow rate, volume in gallons, reset to zero, calibration and a special in-

jection volume function for use in termiticide injections.

**Circle 124 on reader service card**

Options and attachments add new dimensions to **The Grasshopper Co.**'s dual-hydrostatic, zero-turn-radius outfront mowers, including the Gemini 700 Series.

All four 700 models incorporate the new Gemini high-performance direct drive hydrostatic system and can be equipped with PTO-driven outfront decks ranging from 44 inches to 72 inches.

The Roll-Over-Protective-Structure is now available for not only the Model 721, which is powered by a 21-h.p. liquid-cooled gas engine, but also for the three 718 Models: 718 (18-h.p. B&S gas engine), 718D (16.5-h.p. liquid-cooled diesel) and 718K (18-h.p. Kohler gas). The ROPS includes an overhead canopy for added operator safety.

Quik-D-Tatch® vacuum grasscutters transform Grasshoppers into a productive tool with powerful vacuuming action. Fall leaf cleanup, wet grass, pine straw and dethatching debris are handled with ease.

**Circle 125 on reader service card**

**Gravely International** has developed a new control system that



**Excel Industries Inc.** has introduced a Turbo Shredder™ mower deck. The new deck chops grass clippings into fine particles which return to the soil surface easier and faster than is possible with standard mower deck designs.

The shredding action of the Turbo Shredder improves decomposition of the clippings and returns valuable nutrients to the soil.

The 8-blade Turbo Shredder assembly eliminates clogging and increases the air flow for better dispersal of clippings. When shredded grass clippings are collected in the 8-bushel BAC-PAC™ grass catcher, less air is trapped in the catcher so the grass is packed more densely.

The Turbo Shredder 51-inch deck is now standard on all Hustler 251K models. The 251K is an 18-h.p. dual hydrostatic mower that provides the ultimate in maneuverability and true zero radius turning.

**Circle 122 on reader service card**



works off a single switch placed under each hand grip. The operator just holds the grip as he normally would while working. If he lets go of the grip the engine shuts off, just as with external handle grips.

The new switches will be standard on all Gravely walk-behind units, including all Gravely Pro Series intermediate commercial mowers and Gravely's versatile and powerful two-wheel tractors.

**Circle 126 on reader service card**

**Hahn Inc.** is introducing a boom system for its Multi-Pro 418 and Maxi-Pro 435 spray systems. This new boom features independent electric controls to raise and lower boom extensions with a flip of a switch. The operator is able to adjust boom height to follow the terrain or avoid obstacles. An optional pivoting feature absorbs shock to help minimize boom bounce. The new Hahn boom will retrofit all Hahn work vehicles previously produced.

**Circle 127 on reader service card**

A hose reel ideal for various lawn

**Jacobsen Division of Textron** has introduced two Crew King midsize rotary mowers with floating decks. The new decks and other changes are said to make these walk-behind mowers easier to operate with improved mowing quality.

Available in 36- and 48-inch cutting widths, Crew King F-Series mowers are designed to reduce the chance of scalping. The cutting deck rises up over contours in the turf to give a smooth, uniform finish.

Both Jacobsen F-Series Crew Kings also feature a quick height of cut adjustment that can be done without tools. New low profile caster struts are less likely to catch on low hanging trees and give the operator a better view of the cutting path. Smooth tread pneumatic casters virtually



eliminate marking of soft or wet turf.

**Circle 129 on reader service card**

maintenance procedures including general grounds maintenance, spraying herbicides, pesticides and water, steam cleaning and vehicle maintenance is available from **Hannay Reels**.

Called the Series 1500, this hose reel handles 1/4-inch through 1/2-inch I.D. hose and comes equipped with either a direct-crank rewind or a chain and sprocket drive powered by electric or compressed air motor. A

crank is available on the power rewind model as well.

**Circle 128 on reader service card**

The ability to stretch tons of power over delicate sites or past stationary obstacles is provided by the Loadall 505-19 from **JCB Inc.**

The Loadall 505-19 combines the best qualities of loaders, forklifts and tractors for daily use in nurseries and landscaping jobs.

Materials handlers that can lift

and reach are staple machines for construction and industrial use. With the addition of greater power and versatile three-way steering, JCB's Loadall has been adapted to the rough terrain needs of nursery operators and landscape contractors.

Vital statistics of the Loadall 505-19 are: 102-h.p. diesel engine, 5,500 pounds of lift capacity and a hydraulically activated boom that extends to a forward

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- 3 Lifetime warranty on the cutting deck
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- 5 Special high lift blades

Count on the Encore PRO-Line of 36" and 48" commercial mowers to deliver the features lawn and turf maintenance professionals ask for. And quality you'll ask for again and again!

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*Quality you'll ask for again and again.*



reach of 12 feet or raises to 19 feet.  
**Circle 130 on reader service card**

**Kubota Tractor Corp.** has launched the Verti-Reel Product Line, mowing and cutting units built for complete turf maintenance, representing a new market penetration and emphasis for the company.

Specifically designed for the turf market, the hydraulically driven verti-reel products are ideal for sports fields, sod farms and other commercial mowing applications.

The 5-gang hydraulic Verti-Reel is really two units in one: a quality cut blade reel mower that easily converts to a verticutting unit. For mowing, the cutting height can be precisely set from 3/8 to 3 inches in any increment.

For verticutting, the verti-reel has heavy-duty, reversible blades with close spacing for efficient thatch removal. Powerful direct-drive reels are 30-inches wide which permits an 11-foot-2-inch swath to be cut with only five gangs.

**Circle 131 on reader service card**

**MF Industries** introduces the 6500H turf model with a 4,000-pound lift capacity.

The 6500H turf model features a lighter design reducing ground contact pressure for tender turf operations. The redesigned narrow width of 78 inches and 50 degree steering angle allow this model to move easily between orchard rows. It is available in both 10.5 feet and 14 feet mast heights. A 14-foot mast with a free lift of 84 inches is also offered.

The 6500H Turf is equipped with the proven Powershuttle transmission. It allows for smooth, full power shifting with precise fingertip control.

**Circle 132 on reader service card**

**Expedite** — a new application system designed to eliminate many of the problems commonly associated with pesticide application is now available from **Mon-santo**.

Consisting of specially formulated, premixed pesticides and a "user friendly" application lance, Expedite offers professional results through advanced spray technology.

For example, operators can "program" precise low-volume spray accuracy through built-in

controls on the Expedite lance. Two application discs and a pacing beeper also help reduce spraying errors and waste.

In addition, Expedite provides a closed system, with ready-to-apply formulations that are packaged to fit directly into the backpack. This system is designed to reduce worker exposure to pesticides during mixing and handling.

**Circle 133 on reader service card**

The new "patented" Vac-N-Mulch from **Promark Products** reduces the volume of ground litter and leaves at a rate up to 8 to 1.

Commercial landscape and maintenance firms faced with the high cost of dumping at landfills, can reduce their dumping expense by more than 80 percent and justify the cost of the unit in a few weeks. An additional benefit is that the leaves are ground fine



enough to be returned to the ground as mulch, if so desired.

Powered by an 18-h.p. twin-cylinder Kohler engine, the Promark 750 Vac-N-Mulch is a debris-eating machine. Leaves and debris are reduced as they pass through the patented mulching chamber before it enters the vacuum.

**Circle 134 on reader service card**

**Ransomes'** new Twin Trak zero turning radius mower is featured in an informative new brochure available now from the manufacturer.

The colorful, six-page brochure reviews the individual product features which contribute to making the new Twin Trak one of the most productive commercial mowers available. Full specifications information is also provided.

As a zero turning radius machine, the Twin Trak easily maneuvers in and out of tight spots. The rear discharge to grass collector design allows close trimming on both sides of the mowing deck. As an added feature, the operator's seat is positioned to allow a clear view of both sides of the deck at all times.

Two Twin Trak models are available: Model XT2030/SD5002 features rear discharge and has the positive-feed grass collection system. Model XT2030/XD5001 has right side discharge. Both models have 50-inch cutting widths.

**Circle 135 on reader service card**

Designed to satisfy professional needs, the reciprocating edger from **RedMax** is durable and easy to handle. It's good for all edging jobs — including sidewalks, driveways and stone or concrete walls.

Redmax has equipped its edger with features that help ensure the safety of its operators and those nearby. Its two 20-tooth blades reciprocate, moving in a scissor-like motion, instead of rotating in a complete circle. This action helps prohibit debris from becoming hazardous projectiles.

In addition, the reciprocating blades stop immediately when the unit is turned off.

**Circle 136 on reader service card**

**Scienco Inc.** has just added the SEM-20B electronic flow meter to its product line. Scienco offers unique rubber shock mounting that insulates the meter from mounting bracket for problem free metering on mobile spray rigs.

Its stainless steel and Ryton plastic internal construction provide excellent corrosion protection which makes the SEM-20B a versatile meter suitable for use with many chemicals.

Other features include: automatic-shutdown, replaceable standard AA batteries, sealed electronics and large display for easy visibility and a flow range of 1-20 GPM and a capacity of up to 10,000 units, with a maximum pressure of 150 pounds.

**Circle 137 on reader service card**

**Shindaiwa's** new model 360 gas-powered chain saw offers a perfect combination of lightweight, high-performance and professional features in a sleek vertical cylinder design.

Standard equipment includes electronic ignition, full 6-point anti-vibration system, fully automatic and adjustable clutch driven oil pump, a one-piece, 4-bolt spark arrestor muffler and a fully adjustable Walbro WT carburetor.



Standard safety equipment includes front and rear hand guards, chain brake, rubber-coated catcher, throttle interlock, low kick-back chain and a choice of 14- or 16-inch fully reversible double guard guide bar.

Even though the 360 weighs only 8.6 pounds, its 2.1-cubic-inch (35.2 cc) engine delivers responsive 2.5-h.p. at 9,000 RPM. It's the most powerful chain saw in its class.

**Circle 138 on reader service card**

**Snapper Power Equipment's** 21-inch Hi-Vac® push mower — with a complete line of 3.5-, 4- and 5- h.p. two- and four-cycle engines — is durable and powerful.

Its high vacuum steel deck, a simple one-piece construction, has a rolled lip deck for strength and greater vacuum action. Snapper's special blade and vacuum power pick up leaves and heavy pine straw and converts grass for uniform cutting to create a well-manicured lawn.

The grass bag — conveniently located between the handles — allows for 1/2-inch trimming on both sides, provides balance and stability, allows for easy emptying and prevents dragging. A deflector shield suspended from the axle protects the operator.

The wheels, with easy height adjustment, allow for six cutting heights ranging from 1 inch to 3 1/2 inches.

On the Blade-Brake-Clutch® model, simply releasing a control bar stops the blade without stopping the engine.

**Circle 139 on reader service card**

**Spyker Spreader Works'** 24-22 is only one Model in the new series 22 spreaders featuring Spyker's new Accuway® Spread Pattern Evener.

The evener is dial-controlled. It is effective with all products under all conditions. It does not change the spread width.

Quality construction includes pneumatic tires, stainless steel axle, hopper and fasteners.

**Circle 140 on reader service card**

(continued on page 52)



# Ryan brings quality aeration from golf greens to green lawns.



## Introducing the new Ryan Lawnaire® 28.

The revolutionary Lawnaire 28 combines the technology and precision of golf course aeration with the demands of lawn maintenance. Its reciprocating, crank mounted tine arms feature a vertical coring action similar to larger Ryan aerators. Tines penetrate straight in to a depth of 2½ inches, and come straight out. The results are a more professional-looking job, better root development, greener lawns, and more satisfied customers.

## Make more money by the yard.

Because time is money, the Lawnaire 28 is designed to cover big jobs quickly — up to 24,000 sq. ft. per hour. But because not every job is big, it's also compact and maneuverable. Just 34 inches wide, the Lawnaire 28 easily fits through yard gates. The unique tricycle front wheel gives the unit a zero turning radius while aerating!

Even the tightest spots are no problem. And because it's a Ryan, you can rest assured that the Lawnaire 28 will keep you on the job and out of the repair shop for years to come.

Check out Ryan's reliability in your own backyard. Contact your Ryan dealer and ask for a free demonstration today. Or call toll free: **1-800-228-4444**.

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Circle 16 on reader service card



## Equipment Preview

(continued from page 50)

An addition to **Tufflex Manufacturing Co.'s** line of seamless fiberglass tanks is now available. The model 0400HXBU features two 300/100 compartments ideally suited for van or flatbed installations 83 1/2 inches long, by 47 3/8 inches wide by 31 inches high.

In addition, two new storage boxes have been added. Model 159SCHEST29, 29 3/4 inches long, 19 1/2 inches wide and 18 1/2 inches high, can be deck- or underdeck-mounted. Model 159CHEST61, 61 1/2 inches long, 25 1/2 inches wide and 22 1/2 inches high, can be mounted on a flatbed or behind the wheelwells of a standard 8-foot bed pickup truck.

**Circle 142 on reader service card**

Westmac aerators, a division of **Lawn Masters Inc.**, introduces a seed-spiker that fits all Rototillers.<sup>TM</sup>

The new product has 112 1/4-inch thick steel spikes, 11 inches tiptop. Fast and efficient, it saves the expense of having to buy an

**Teledyne Total Power's** Wisconsin "R" Series diesels offer a wide variety of single-, twin- and three-cylinder models in power ranges from 5.5- to 36-h.p.

The engines are both designed with horizontal and vertical shaft configurations, and have engine speed capabilities varying from 2,000 rpm to 3,600 rpm depending on the model selected.

Wisconsin "R" Series diesels feature an efficient direct fuel injection system for increased efficiency and fuel economy.

Using short feed pipes and Sacless 20 degree injectors with thin needles and reduced inertial masses, the fuel is sprayed directly into the combustion chamber, which is machined into the top of the piston.

**Circle 141 on reader service card**



entire machine. Making a 30-inch path, it's rugged and durable with no moving parts.

Included weights slip into axle ends for extra hard clay soils. Good for overseeding and planting new lawns.

**Circle 144 on reader service card**

The WS-480 Grounds Wheelie, manufactured by **Wheel Spray Corp.** is a precision applicator

which may be used to apply liquid herbicides, fungicides, insecticides, fertilizers and growth regulators.

Designed for professional turf maintenance, the twin-wheel pumps deliver a fan of solution 72 inches wide at the rate of 1,000 square feet per gallon. The WS-480 provides uniform applications which are relatively unchanged by the speed at which the

sprayer is pushed. The faster it's pushed, the faster it pumps. This feature is said to reduce the chance of over- or under-application.

The Grounds Wheelie is pre-calibrated. The unique ground-driven pumping system is made of corrosive resistant materials which includes a 6-gallon pull-out tank for convenient mixing and cleaning.

**Circle 145 on reader service card**

A utility vehicle for the turf industry incorporating the pure work characteristics of a rugged cargo carrier with both the maneuverability and ease of use of a Yamaha four-wheeler has been introduced by the Pro-4 division of **Yamaha Motor Corp., U.S.A.**

Featuring turf tires specifically designed to protect delicate or expensive turf from unnecessary damage, the new, single-seat work vehicle is called the Pro Hauler.

It has a cargo capacity of more than 400 pounds that allows it to perform many hauling jobs tackled by landscapers, caretakers and superintendents. For example, it can easily carry four bags of cement, six bags of fertilizer or a 40-gallon spray rig.

Yamaha's design is engineered to provide superior maneuverability, tight turning radius, rugged construction, ease of handling and a more comfortable ride.

**Circle 146 on reader service card**

*Although we have spotlighted many companies and their new offerings for 1990, space restrictions prevent us from including every new product available in the lawn and landscape maintenance industry.*



**Walker Manufacturing** continues to improve and refine the Walker Mower for commercial service.

For 1990 models, the Kohler engine has an additional

balancing gear for smoother operation and the air intake pre-cleaner is easily serviced with a new glass jar dust collector. The door frame of the GHS grass catcher is now con-

**Circle 143 on reader service card**

structed of heavier steel for increased toughness in service while hydrostatic transmission cooling is improved with molded plastic fans.



# For the long run.



## Introducing a powerful new force in riding rotary mowers.

Now there's more to Cushman® Front Line® Mowers than top cutting performance. More power. More operator comfort. More endurance.

Now there's the new diesel-powered model Cushman 807.

Its totally integrated power train and new hydraulically-powered steering gives you unmatched performance over the long run. The 807 dispatches thick, wet grass on tricky maneuvers around obstacles without losing

ground speed. No other rotary mower gives you a cleaner cut.

At the heart of the new, four-wheel 807 is a powerful 21.5 horsepower, 3-cylinder Kubota 950 diesel engine. We've also included a heavy-duty Donaldson air cleaner and a new, heavy-duty Cushman PTO clutch to keep your new Cushman Front Line running longer. A complete family of Cushman Front Lines and a wide range of accessories are available to meet all your needs all

year 'round.

Choose a 3 or 4 wheel design with 60- or 72-inch side or rear discharge mower deck. Or add the exclusive Cushman Grass Caddy™ system, which lets you cut, catch, and hydraulically dump 16 bushels of clippings without leaving the seat.

For a convincing demonstration contact your Cushman dealer today. Or call toll-free: 1-800-228-4444.

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**BUILT TO LAST**

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Circle 41 on reader service card



# High Pressure Injection For Control of White Grub Pests



High pressure application at the International Golf Course, Bolton, Mass. Photo: Patricia Vittum.

**W**HITE GRUBS ARE difficult to control in turfgrass because the damaging stage (the grub) is not active on the surface. The turfgrass manager therefore must find a way to get the insecticide he is using to penetrate the thatch, and reach the soil where the grubs will come in contact with it.

Of course some materials (such as Dylox or Proxol) are able to move through the thatch fairly readily, while others are quickly tied up in the organic matter. Most turf insecticides currently on the market are intermediate in their ability to penetrate thatch, so anything the applicator can do to enhance that penetration will improve their performance.

Mole crickets are as difficult to control in the Southeastern United States as grubs are in the Northeast, because the mole crickets remain in the soil and are quite mobile. In particular, they move vertically in response to soil moisture conditions.

About three years ago Dr. Patricia Cobb of Auburn University and Dr. Randy Hudson of the University of Georgia both began

looking at the possibility of enhancing mole cricket control by using application equipment which would apply materials directly to the turf at a pressure of 1,500 to 2,000 psi.

The idea was that the unusually high pressure used during application would drive the insecticide deeper through the thatch or into the soil, thereby increasing its contact with the mole crickets. Some of their preliminary results indicated that at least with some materials, half the labeled rate applied at high pressure provided the same level of control as full labeled rates at conventional pressure.

Note that these results are still considered preliminary, as further field studies have suggested that local conditions at the time of application have a direct bearing on the efficacy of the application.

Their success prompted us in Massachusetts to look at the same high pressure injection technology for use in white grub applications.

Jimmy Lewis, president of Cross Equipment Co., Albany, Ga., designed and built a high

pressure injection unit for research purposes. The machine was towed to Massachusetts in May 1989 where we put out four tests on golf course roughs.

The unit (Figure 1) has a four-foot "boom" with three-inch nozzle spacing. When the boom (actually a drag bar with holes directly beneath each nozzle) is dropped for application, each nozzle rides no more than 1/2-inch off the ground.

The material is delivered at up to 2,000 psi directly into the ground. There is no cutting or slicing device with this unit. Instead, extremely high pressure is used to force the material through the thatch.

There are several obvious advantages to such an application, especially for applications to home lawns and grounds. There is virtually no drift of material into the air, as it's directed straight into the turf at high pressure. (Note in Figure 1 that the machine is operating, but there is no visible drift.)

Because of the pressure, most of the material is driven past the surface into the crown area. As a result, there is much less surface residue than with a conventional application and a reduced risk of exposure for children and pets walking over the treated area.

In addition, because the material is driven deeper into the turf, it is not subjected to nearly as much degradation by sunlight as are conventional applications. Therefore it may remain active longer than conventional applications, and yet the exposure level is reduced.

This technology does not actually slice the turf, but when our test applications were completed, we could see thin lines where the material penetrated the surface and compressed the turf. These

## HIGH PRESSURE INJECTION TESTS

University of Massachusetts

Location: The International Golf Course, Boston Mass.  
Insect: Japanese beetle grubs

Date treated: May 9, 1989  
Date samples: June 12, 1989

Treatment	Pounds AI per acre	Pressure	Avg. grubs per sq. ft.	Percent control
Check	—	—	7.1	—
Triumph 4E	2.0	high	0.5	93
Triumph 4E	1.0	high	0.4	94
Triumph 4E	0.5	high	0.9	87
Triumph 4E	2.0	low	0.4	94
Triumph 4E	1.0	low	3.2	55

NOTE: Each plot was 12 feet by 12 feet, four replications (2 end to end). High pressure was applied to 1,600 psi, 101.7 gallons per acre; Low pressure was applied at 28 psi, 37 gallons per acre. Sampling involved digging three 1 foot by 1 foot squares, each four to six inches deep, and recording the grub counts from each square separately. Plots were watered in one hour after application (0.25 inches, pH 6.4). Two inches of rain fell in the following 48 hours.





*A prototype high pressure injection unit designed by Jimmy Lewis, president of Cross Equipment Co., Albany, Ga. Photo: Cross Equipment.*

lines were only visible for two or three days on fairways, and perhaps a week in the rough, but certainly were not objectionable.

Observations of applications made with a dying agent on cool-season turfgrass suggest that the material is carried at least to the crown area of the turf, but may not penetrate the thatch very deeply.

Apparently in some of the less thatchy warm-season grasses, if there is a reasonable level of soil moisture at the time of application (in other words, enough moisture so the grass is not wilting), the material which is being "injected" at high pressure swirls about within the thatch and soil, providing an even distribution of the material.

We used the Cross Equipment Co.-designed research unit to apply four Japanese beetle grub tests in May 1989 on golf course roughs. We were not certain how the cool-season grasses would hold up under the high pressure, and so were unwilling to use the unit on fairways during the first test.

However, we did make short test runs on two fairways and even made one pass over the corner of one green, and we observed no

damage whatsoever to the turf. So we are quite confident that high pressure technology can be used on home lawns and grounds, with both cool-season and warm-season grasses, without detrimental effects.

During these first tests we wanted to see whether we could reduce the rate of application of Triumph 4E or Dursban 2E at high pressure, and maintain the level of control obtained at conventional rates and pressures.

For these first tests, we limited ourselves to emulsifiable concentrates. Since the labeled uses for diazinon had been reduced recently, we felt Triumph and Dursban would be suitable materials to consider for testing. Future tests will almost certainly include flowable formulations of various active ingredients.

All of these tests were laid out the same way: plots 12 feet by 12 feet, set end to end and replicated four times. The machine was towed by a Yamaha ATV which was able to maintain a constant speed. The high pressure applications were made at 1,600 psi, delivering 101.7 gallons per acre.

The research unit also has a conventional boom attached beneath the tanks which was set

to deliver 28 psi and 37 gallons per acre. Two of the tests were identical, looking at Triumph 4E applied at 2.0, 1.0 and 0.5 pounds AI per acre at high pressure vs. Triumph 4E applied at 2.0 or 1.0 pounds AI per acre at conventional pressure.

The other two tests looked at various combinations of rates and pressures for Dursban.

Figure 3 shows the results of one of the Triumph tests. Each of the tests was consistent in that the half labeled rate (1.0 pounds) at high pressure worked as well or better than the full labeled rate at conventional pressure. Unfortunately, the same trend did not hold for the Dursban tests.

In one of the Dursban tests, we saw 24 percent control with the labeled rate at high pressure. There had been an eight-hour delay between the application and watering in of the area which may have been a factor.

The other Dursban test provided 36 percent control with the full labeled rate at conventional pressure and 26 percent control with half labeled rate at high pressure. All of the test areas had thatch ranging from 0.8 to 1½ inches. It appears that in such thatchy areas, high pressure technology



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## THE BIRTH OF HIGH PRESSURE INJECTION EQUIPMENT

CROSS EQUIPMENT CO. (1401 RADIUM SPRINGS Road, Albany, Ga. 31705) is the only company I am aware of which builds the high pressure injection equipment described here. There are several custom applicators which use equipment designed and built by Cross Equipment Co.

Hiring such a custom applicator might be an ideal means of "experimenting" with the technology for the first year. Cross Equipment builds machines for a wide range of specifications (Figure 2) suitable for golf courses, commercial turf and home lawns.

Our research unit includes a handheld unit which can be used to reach corners of lawns or other hard to reach areas of turf. At least some of the commercial units have been designed for use on small turf areas.

There is another similar technology being tested for use on turfgrass. This combines slicing the turf and injecting an insecticide (or other material) directly into the sliced area.

While the efficacy of this approach appears to be comparable to that of the high pressure injection approach, there are still questions as to the effect of the slicing on the appearance of the turf after application. — *Vittum*

cannot get Dursban into or through the thatch.

Interestingly, we saw a marked difference in the performance of conventionally applied Triumph based on delays in watering. One test was not watered in until a 1 1/2-inch rainstorm occurred 48 hours after application. In this test the high pressure Triumph applications all provided 90 percent control or better, while the conventionally applied Triumph did not provide any control.

In an identical test which was watered in one hour after application (Figure 2), all of the high pressure applications did very well, and the full and half rates were at least comparable to the full rate at conventional pressure.

We have not yet had an opportunity to repeat these tests, but it appears that under some field conditions, the high pressure injection technique may provide an unexpected bonus of flexibility in the watering in of an application.

Water is still critical to the success of the material, but perhaps the high pressure technique will provide a few more options for the professional lawn maintenance applicator.

The field tests of high pressure injection will continue in New England, as I have purchased my own research unit identical to the prototype and built by Cross Equipment Co. This unit was delivered in August and was used to put out two tests this autumn.

The first test compared half the labeled rate of Triumph 4E, Dursban 4E and AG500 (diazinon 4E) at high pressure with the labeled rate of Triumph 4E or double the labeled rate of Dursban 4E and AG500 at conventional pressure. We found that there was no significant difference within any material.

In other words, the low rate and high pressure combination for Triumph worked just as well (about 90 percent) as the labeled rate and low pressure application. Similarly the same held for Dursban (about 65 percent) and diazinon (about 68 percent). Unfortunately, we do not know quite what to make of the results with diazinon and Dursban because the conventional pressure applications were mistakenly put on at twice the labeled rate.

The second summer test duplicated the spring tests looking at Triumph 4E at 2.0, 1.0, or 0.5 pounds AI per acre at high pressure vs. Triumph 4E at 2.0 or 1.0 pounds AI per acre at conventional

(continued on page 58)





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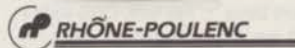
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## High Pressure Injection

(continued from page 56)

pressure. The results were virtually identical to the spring tests, with all of the high pressure rates providing at least 90 percent control of the grub population.

This test was particularly satisfying because the grub population pressure was very high in the test site, with 35 grubs per square foot in the untreated check areas.

In spite of the heavy pressure and the considerable thatch (about an inch), the full and half rates of Triumph at high pressure provided more than 99 percent control. (The full rate at conventional pressure yielded 95 percent control and the half rate at conventional pressure gave about 85 percent control.)

The high pressure injection technology is very new to turf, especially the cool-season grasses. While the first season's results are very exciting, we must remember that the results are preliminary.

Until we have conducted additional tests under a wider range of conditions, and until we have

had a chance to look at some other active ingredients, we must be careful about the assumptions and expectations we have for high pressure injection.

For the moment it appears that certain materials are still adsorbed on organic material so rapidly that high pressure technology does not enhance their performance, while more soluble materials are enhanced considerably.

Next year we will look at the performance of additional active ingredients, including diazinon and Oftanol.

Soil and thatch moisture at the time of application may play an important role in the effectiveness of that application. Just as with conventional liquid or granular applications, it is difficult to get a material to penetrate thatch or soil when the soil is saturated.

Similarly, extremely dry conditions induce the insects to remain deeper in the soil, where they do not come in contact with the material. Indeed it appears that the performance of soil insecticides when soil is extremely

dry can be enhanced by watering the area a day or so before the application, to "trick" the grubs (or mole crickets) into returning to the root zone.

As a result, superintendents must still consider soil moisture when timing applications, whether they are conventional or high pressure applications.

While high pressure injection may or may not ultimately reduce the application rate of some insecticides, it offers several major environmental advantages which should be considered, especially in the home lawn setting.

First of all, there is virtually no drift during the application process, so the technique could be used at times when moderate winds make conventional applications inappropriate. Similarly, there is much less surface residue, so there is reduced exposure for children or pets walking or playing on the treated areas.

The material is forced off the leaf blades and close to the crown area, where it is not subjected to nearly as much degradation by sunlight. While watering the ap-

plication is still critical, there is a preliminary indication that high pressure technology may extend the time delay between application and watering in. With home accounts, this may very well reduce the number of callbacks.

Unfortunately there is no current allowance for high pressure injection technology on turf insecticide labels. Some states (primarily in the Southeast) are considering labels at this time, but right now the use of high pressure injection and reduced rates is something of a "gray area."

University personnel are working with their state agencies to resolve the issue, but there will be some confusion in the coming months. Check with your cooperative extension personnel and with your supplier before committing to an application which may or may not be cleared in your state. — Patricia Vittum ■

*The author is an associate professor of entomology at the University of Massachusetts Surland Experiment Station, Waltham, Mass.*

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# Buffalograss: An Option For Drought-Wary Operators

**B**UFFALOGRASS IS A perennial, low growing, drought tolerant grass native to the central and southern Great Plains. Its area of adaptation extends from southern Canada to central Mexico, encompassing approximately 190,000 square miles.

For centuries, it supported the vast herds of buffalo which roamed the prairies, and provided set-

ly fires which used to sweep across the Great Plains were the practices credited for the decline.

Although these modern practices did reduce the growth and spread of buffalograss, it's possible that yearly changes in rainfall simply caused a fluctuation in vegetation that was misunderstood.

Cycles of wet years promoted the westward spread of the blue stem grasses of the tall grass prairie, and the retreat of buffalograss which could not survive the competition under adequate moisture conditions.

Dry years, however, allowed the eastward creep of buffalograss and a corresponding withdrawal of the tall prairie grasses.

Before 1932, many acres of buffalograss were plowed under to

make way for farmland before its true value to agriculture and soil conservation were known. However, interest in buffalograss was rekindled following the drought of the 1930s.

It survived both dust and drought while its stoloniferous growth habit and dense sod forming capabilities proved effective

at binding the soil and preventing both wind and water erosion. Erosion control studies done by the Soil Conservation Service at Fort Hays, Kan., from 1930 to 1938 determined that buffalograss sod lost an average of 0.44 tons of top soil annually.

This compared quite favorably to other common cropping options of that time — namely, continuous wheat which lost 4.03 tons annually, rotation of wheat, kafir and fallow at 4.41 tons and fallow ground 13.36 tons. Similarly, buffalograss was ranked first among the native grasses for wind erosion control and it exhibited high soil water holding capacities, usually 57 percent to 60 percent.

Buffalograss also emerged from the dry years of the 1930s as an excellent drought resistant native grass. In fact, it has been estimated by J.B. Beard and K.S. Kim that buffalograss grown under optimum conditions, within its area of adaptation, has an evapotranspiration rate of less than 6 mm per day, less than any other commonly used warm- or cool-season grass.

Extensive fine-branched root systems, aggressive low-growing aerial parts and the ability of the leaf blades to roll tightly during periods of moisture stress thereby limiting transpiration, are some

of the characteristics which enable buffalograss to be extremely drought resistant.

Typically, buffalograss will go dormant sooner than other native grasses under stress conditions, but will also revive within days following the first good rain or irrigation.

Recently, the value of buffalograss for drought resistance and water conservation in low maintenance turf areas has stimulated renewed efforts to develop superior turf-type cultivars which could be used to significantly reduce the amount of water and other energy inputs required to maintain a satisfactory home lawn.

In the past, common forage-type varieties of buffalograss have been used successfully on highway shoulders, airfield runways, terrace gullies, cemeteries and reservoirs. However, to extend the use of this grass to home lawns, athletic fields or other areas such as golf course roughs or fairways, which require a high standard of turf quality, improved turf-type cultivars of buffalograss needed to be developed.

A turf-type buffalograss differs from a forage-type in several important ways. The turf-type cultivar should have many stolons, short leaves and a dense canopy. Stolons should branch profusely and have closely spaced nodes to provide a smooth, highly resilient turf.

Another desirable characteristic for improved cultivars is a turf color which more closely approximates the blue-green color of Kentucky bluegrass than the typical gray-green of buffalograss.

In addition, as a warm-season grass which normally shows late spring greenup and early fall dor-

.....  
**Before 1932, many acres of buffalograss were plowed under to make way for farmland before its true value to soil conservation were known.**

tlers with tough, thick sod to build sod houses and service buildings. Although buffalograss was of little importance in the true tall grass prairie, on the semi-arid short-grass prairie, where annual rainfall averaged only 15 to 25 inches it played an important role then as it does now.

For many years, buffalograss was used primarily as a forage. It's still highly regarded among stockmen for good palatability and high nutritional quality. Toward the late 1800s, however, buffalograss appeared to have outlived its usefulness as improved forage mixes were introduced.

At that time buffalograss was expected to soon become extinct or exist only in isolated patches across the prairie. Overgrazing, plowing of large sections of prairie for farmland and control of year-

## A FEW SUPPLIERS OF BUFFALOGRASS SEED:

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**United Seeds Inc.**  
Omaha, Neb.

**Sharp Brothers Seed Co.**  
Healy, Kan.

**Arrow Seed**  
Broken Bow, Neb.

**Aurora McTurf**  
Aurora, Neb. (plugs only)





Overview of Buffalograss experimental area at the John Seaton Anderson Turfgrass facility near Mead, Neb.

mancy, an extended "green season" would be desirable.

Buffalograss is a dioecious plant, meaning that it has separate male and female flowers which normally occur on separate plants. The female plants, rather than the male plants, have been identified as most desirable for turf use due to a better correlation with the characteristics mentioned above.

Male plants also produce their inflorescence above the canopy which detracts from the appearance of the turf and requires more frequent mowing to maintain a uniform, low growing turf.

Early improvement of buffalograss, begun in 1936, emphasized the selection of superior types from large collections of native buffalograss. The collected plants were brought into observation sites and evaluated for such characteristics as canopy density and height, growth habit, seed production, seed stalk height and disease resistance.

Selections exhibiting relatively high canopy density coupled with low canopy height were chosen to increase the quality of buffalograss for turf while still maintaining its innate low maintenance character.

Increased seed production was important since low average seed yields restricted availability. Greater seed stalk height also improved availability through in-

creased ease of harvesting.

These early improvement efforts, done mostly at the Fort Hays, Kan., Agricultural Experiment Station, resulted in the release of Texoka, Hays "One-Eye" and "Sharps Improved," three improved forage types of buffalograss.

Although still forage types, Texoka and "Sharps Improved" were frequently used in low maintenance turf areas after their introduction.

Recently, through the sponsorship of the United States Golf Association and the Golf Course Superintendents Association of America, a buffalograss breeding program was established in 1984 at the University of Nebraska-Lincoln. The major goal of the research supported by the USGA is the 50 percent reduction of the energy inputs, water and fertilizer requirements for high maintenance golf course turfs.

The development of a superior turf-type buffalograss, with naturally low water use and fertilizer requirements, could easily meet this goal. The University of Arizona, University of California-Riverside, Colorado State University, Cornell University, Rutgers University, Texas A & M University, Oklahoma State University and Iowa State University have assisted in the evaluation of these new buffalograsses.

At Nebraska, large collections

of native buffalograss have been evaluated and superior types chosen for further testing and improvement. The release of an improved buffalograss cultivar available as seed is a major goal of the research at Nebraska.

Buffalograss seed is currently available from several seed dealers in the Nebraska-Kansas area, however the only varieties presently available are improved forage types: Texoka, Sharps Improved and Santa Fe.

Buffalograss seed is also relatively expensive compared to other common turfgrasses and will cost between \$7.50 and \$12 per pound. However, for those eagerly awaiting the release of the new improved varieties of buffalograss, three cultivars developed at Nebraska are currently being patented and will be available soon as vegetative plugs.

There is much that still needs to be learned about buffalograss. For example, vegetative establishment methods, optimum cultural practices, water use rates and crossing methods are just a few of the areas currently being studied.

However, buffalograss may soon make the leap from native prairie grass to be highly cultivated turfgrass. —Terrance Riordan and Sarah Browning ■

Riordan is an associate professor at the University of Nebraska-

Lincoln and a turf breeder specializing in buffalograss breeding. Browning is a graduate research assistant working with buffalograss breeding and progeny evaluations.

## References

1. Beard, J.B. and K.S. Kim. 1989. Low-water-use turfgrasses. USGA Green Section Record. 27(1):12-13.
2. Beetle, A.A. 1950. Buffalograss-Native of the shortgrass plains. Agricultural Experiment Station, University of Wyoming, Laramie. Bulletin 293, pp. 1-31.
3. Huff, F.R., T.P. Riordan and M.C. Engleke. 1987. Buffalograss Regional Evaluation Trial.
4. Pozarnsky, T. 1983. Buffalograss: Home on the range, but also a turfgrass. Rangelands. 5(5): 214-216.
5. Quinn, J.A. 1987. Relationship between synaptospermy and dioecy in the life history strategies of *Buchloe dactyloides* (gramineae). American Journal of Botany. 74(8):1167-1172.
6. Wenger, L.E. 1941. Improvement of buffalograss in Kansas. Kansas State Board of Agriculture. Thirty-Second Biennial Report. pp. 211-224.
7. Wenger, L.E. 1943. Buffalograss. Kansas Agricultural Experiment Station, Manhattan, Kan. Bulletin 321, pp. 1-78.



## FOCUS ON: SEEDING

### CENTIPEDEGRASS AT ITS BEST IN LOW MAINTENANCE ENVIRONMENTS



*Centipedegrasses are well adapted on the coastal plain from North Carolina south through northern Florida and on west into Mississippi. They aren't well adapted west of the Mississippi.*

CENTIPEDEGRASS CAN SURVIVE IN the upper South, but it's easily discolored by frost and it's not as well adapted as bermudagrass and zoysiagrasses. The variety's quality is also generally lower than these grasses.

The grass spreads by thick stems or stolons that lie flat against the soil. These have short internodes resulting in the development of a good leaf canopy. Leaf blades are of medium width, finer than St. Augustinegrass, but coarser than bermudagrasses and zoysiagrasses.

Stolons root at the joints and cause the development of a sound turf which comes in slowly and aggressively as a weed-free turf requiring little attention to maintain.

With little or no maintenance, other than mowing, centipedegrass is at its best. In fact, it often fails because of fertilization that forces growth. Mowing can usually be done at intervals of 10 to 20 days.

The open-textured turf promotes the use of light mowing equipment. A 1 1/2-inch mowing height is generally good.

Because it produces little thatch, properly maintained centipedegrass is rarely subject to scalping or other mechanical injuries. Seed heads are usually low and inconspicuous.

Because it doesn't recover from injury as quickly as bermudagrass, and is not as wear-resistant as zoysiagrass, centipedegrass is not recommended for athletic turf.

Centipedegrass thrives on sandy soil of relatively low fertility. Well drained soils are superior to heavier waterlogged conditions. Edging once a year will control the stolon spread at garden borders.

It does endure drought rather well. Although it turns brown from a lack of water, it does green-up quickly with rain. Irrigation systems are required to keep it uniformly green most summers.

Centipedegrasses are:

- Well adapted on the coastal plain from North Carolina south through northern Florida and on west into Mississippi.
- Not well adapted west of the Mississippi River as more arid regions are characterized by increasing soil alkalinity.

• Low growing, seldom reaching higher than a few inches when uncut.

• Not demanding — perhaps the best low maintenance warm-season type.

• Not tolerant of salt sprays, and thus do not do well by the seaside.

• Generally disease resistant.

Centipedegrass develops yellow-green foliage from lack of available iron, a condition associated with alkaline soils. Its performance is superior on acid soils.

Where adequate iron is available and nutrient balances are maintained, centipedegrass can be cultured on soils with pH above 7.0. Use of iron chelate helps control leaf yellowing or chlorosis if used at rates recommended on the product.

Ground pearl is the main insect pest for the variety. They cause dwarfing of roots and a thinning of the turf. Control measures are difficult.

Nematocides may improve the appearance where nematode infestations have taken hold.

Most herbicides can be used safely on centipedegrass. But usually the thick turf that develops keeps weeds out so weed killers are not needed.

It can be propagated vegetatively by sprigs or plugs or it may be seeded. Sprig planting provides the best possible start.

Seed availability is limited, so it is expensive — about \$15 per pound is common. There are some 500,000 seeds per pound. Rates of seeding vary from a few ounces to one pound per 1,000 square feet — the more seed, the more rapid the establishment.

Sprigs or plugs may be planted in rows a foot apart with individual starts six to 12 inches apart. Sprigs should be planted one to two inches deep with most green foliage left above the ground. These may be planted in a well-prepared bed or within an existing poor lawn.

Few selections of centipedegrass have been made and evaluated. Strains are distinguished by stem color — either red or green. Cultivars include: Oaklawn, Georgia common, AU Centennial and Tennessee Hardy. — *The Lawn Institute*

### GOOD SUPPLY KEEPS GRASS SEED AVAILABLE

THE AVAILABILITY OF centipedegrass has been fairly good over the last three to four years because there's been a carry over supply of seed each year, according to Ray Dickens, a turf specialist at Auburn University.

The main appeal of centipedegrass is its relatively inexpensive maintenance needs. The most common fault in managing centipedegrass is over fertilization, said Coleman Ward, also of Auburn.

"Because of its lighter color, to look at it a lot of people assume it needs another nitrogen application," he said.

"When actually that is the worst thing that can be done."

The next most prevalent mishap is mowing too often which leads to scalping.

Ward said he recommends a little more water for centipedegrass than some others, but it doesn't need much more attention.

The seed's price is somewhat deceiving. While it costs about \$18 per pound, usually only 1/4- to 1/2-pound is needed per 1,000 square feet.

One drawback, though, is that it establishes and germinates slower than most other grasses and some customers are too

impatient to wait, Dickens said.

While one variety has been developed and is grown in Tennessee, Ward said, generally the variety doesn't do well much farther north than northern Alabama.

Several varieties now in development should be more resistant to cold and have less of an iron chlorotic condition, but they won't be available for several years.

"One problem is that you need colder winters to test the cold tolerance," Dickens said. "But the past few winters haven't been cold enough."



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## TREES &amp; ORNAMENTALS

## RECOGNIZING SYMPTOMS, FAVORABLE CONDITIONS FOR FIRE BLIGHT



Fertilization practices that produce succulent growth render plants more susceptible to fire blight.

**FIRE BLIGHT IS A DISEASE CAUSED** by the bacterium *Erwinia amylovora*. It can attack more than 75 species of trees and shrubs including apple, pear, quince, mountain ash, crabapple, hawthorn, cotoneaster, serviceberry and pyracantha.

The bacterium overwinters on infected plants in darkened, slightly sunken cankers. In the spring, the bacteria are dispersed by insects, rain, wind and animals.

**SYMPTOMS.** Twigs, branches and leaders on trees and shrubs wilt and blacken, especially during flowering. Affected twigs and branches may bend over into the shape

of a shepherd's crook. Blackened flower parts remain attached to the tree.

**LIFE HISTORY.** The bacterium is carried from infected tissue or from liquid oozing from the infected tissue to natural openings or wounds in susceptible plants by flower-visiting insects, rain, wind, birds and various crawling insects.

The nectaries and other flower parts, hydathodes and stomates on leaves, and small wounds on succulent twigs and branches all can be sites of initial infection.

Succulent plant parts are blackened and killed. The bacteria then move farther in to and girdle branches and the trunk. A slightly sunken, darkened canker forms in the invaded wood. Close examination will reveal a dark line at the edge of the canker.

**FAVORABLE CONDITIONS.** Fertilization practices that produce succulent growth render plants more susceptible to fire blight. In addition, moderately high temperatures, 70 degrees to 81 degrees Fahrenheit (21 degrees to 27 degrees Celsius), high relative humidity and rainfall during flowering provide optimum conditions for fire blight development.

**MANAGEMENT.** Grow resistant varieties whenever possible.

Recommended species include *crabapple cultivars*, (from Disease Resistant

Crabapples, results of 1985 survey. L.P. Nichols, professor emeritus of plant pathology extension, Penn State University). Adams, Callaway, David, Dolgo, Harvest Gold, Indian Summer, Jewelberry, Liset, Profusion, Red Baron, Selkirk and Sentinel.

Don't purchase or plant infected material, plant only fire-blight trees and shrubs and remove severely infected plants.

Once the disease has begun, a three-pronged management scheme must be implemented:

1. During the dormant season, closely examine susceptible plants and prune out infected tissues. Look for blackened twigs, branches and flower parts.

Find the sunken, darkened cankers on the wood. Prune when the weather is dry, cutting at least four inches below the canker. Disinfect pruning tools between cuts by placing them in one part household bleach to nine parts water for 10 minutes and then rinse the tools in clean water to prevent corrosion.

Or, disinfect the tools by dipping them in 70 percent alcohol and letting them air dry.

2. For plants for which the following chemicals are registered, follow one of two schedules.

Before budbreak, apply Bordeaux mixture (2-6-100 containing one gallon of miscible superior oil per 100 gallons of spray). Or apply copper sulfate before budbreak.

Zineb (Dithane Z-78™) or copper hydroxide (Kocide 101™) can be applied to some plants at 20 percent bloom, again five to seven days later and a third time five to seven days after that.

Or, if temperatures average more than 65 degrees Fahrenheit during flowering, apply 50 to 100 ppm streptomycin to plants for which it is registered. Do not apply streptomycin to *Crataegus mollis* or *Cotoneaster racemiflora*.

3. During the growing season, prune infected tissues by cutting at least 12 inches below the canker. — *Pennsylvania State University Cooperative Extension.*

## ELIMINATING BARK BEETLES IN FIREWOOD

**BARK BEETLES INFESTING** green pine firewood also infest and kill standing trees in rural and urban settings, a New Mexico State University entomologist said.

Green firewood bought or gathered this fall should be checked for bark beetles, according to Robert Cain, Cooperative Extension Service forest entomologist.

"Once a tree is colonized by these beetles, it cannot be saved," he said. "Remove, burn or bury infested trees as soon as possible to protect nearby trees from emerging beetles."

Holes in the bark, usually less

than 1/8-inch across, and fine sawdust in bark crevices or on the ground underneath firewood, are signs of bark beetles.

The small, dark beetles can sometimes be found underneath bark, mining across the surface of the wood, Cain said. Larger wood-boring beetles may also be found. These attack only dead or dying trees and are not a threat to standing pines.

"If firewood has been stored at least one season, no bark beetles will be present," Cain said.

To prevent infestations, or to kill bark beetles, store firewood in direct sunlight and cover it

with clear plastic. Opaque plastics will not work, because the sun's rays must pass through it, Cain said.

Piles of wood should be no larger than 4 by 4 by 4 feet or 1/2-cord. Bury the edges of the plastic. This creates a greenhouse effect, bringing temperatures inside to 160 degrees.

"After two or three weeks of sun, the beetles should all be dead," said Cain.

Another more difficult method of controlling bark beetles is peeling off firewood. This exposes the inner bark, rendering it useless to beetles, he said.





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# FINANCIAL CORNER

## LET THE IRS PAY FOR YOUR LEGITIMATE CONVENTION EXPENSES

IF YOU'RE THINKING OF ATTENDING a trade show, meeting or convention this fall, why not let Uncle Sam pick up a portion of the tab?

Recent changes in our tax laws have eliminated the tax deduction for expenses related to attending conventions, seminars or similar meetings unless those expenses are connected with a trade or business. But, with a connection to the lawn and landscape maintenance industry, be it as an employee, employer/owner or sole proprietor, the Internal Revenue Service will permit a tax write-off for legitimate convention or meeting expenses.

According to the U.S. tax law, the deduction of trade show or convention expenses depends upon the relationship between the maintenance professional's trade or business and his or her attendance at the convention or meeting.

Today, expenses won't be tax deductible if incurred at events where the maintenance professional doesn't participate. For



example, if an operator is provided with tapes of lectures on topics related to his business to be viewed at his convenience rather than attending the seminars, discussions and workshops in person, the expense isn't deductible.

Employees and conventions create a number of problems — all of which have been addressed at one time or another by legislators.

For instance, there is a blanket rule which states there is no tax deduction for

travel expenses to a convention or trade show where those expenses are reimbursed by an employer. Likewise, the amount received as reimbursement can't be included in the employee's gross income.

Relevant factors include: (1) the amount of time devoted to business at the convention or trade show compared to the time devoted to recreational and social activities; (2) the location of the convention — was it held at a resort hotel; (3) the reason for the employer holding the meeting — for award, bonus or training purposes; and (4) the people invited to the convention — was it held for employees only.

If the trip is primarily one for pleasure and the employer has paid the employee's expenses, the employee must report the payment received on his behalf as addi-

(continued on page 68)

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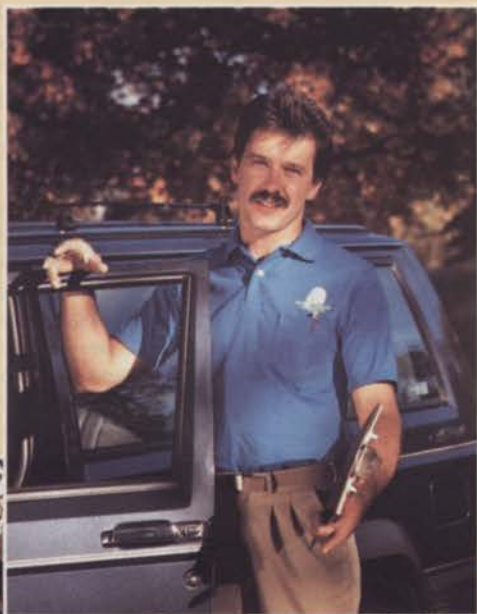
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## Financial Corner

(continued from page 66)

tional compensation.

Expenses incurred in attending meetings, trade shows or conventions at resort areas will not automatically be disallowed. But it must be shown that the expenses were incurred for business purposes.

When a maintenance operator makes any trip within the United States that is primarily for business and he engages in some personal activity such as sightseeing, visiting friends, etc., the travel expenses to and from the destination are tax deductible. If the purpose of the trip is primarily personal, the travel expenses to and from the destination are non-deductible.

Fortunately, regardless of whether the business trip is primarily for business or pleasure, any local expenses incurred at the site of the convention that are directly related to the lawn and landscape maintenance business are tax deductible.

Whether a trip is made primarily for business or personal reasons depends on the individual facts and circumstances.

If, for example, the maintenance operator spends one week while at a trade show directly related to his or her business and subsequently spends an additional five weeks for vacation or other

personal activities, the trip will be considered primarily personal in nature.

If an operator's spouse (or other family member) accompanies him or her to a convention or trade show, the expenses of the spouse or other family member are not tax deductible unless that person's presence is primarily for business reasons.

Deductible convention expenses include not only the costs of attendance, but also transportation, meals and lodging while away from home. Transportation costs include fares charged for travel by air, rail, water, bus, taxi, etc., as well as the cost of renting a car or using and maintaining one's own car. A pilot who used his personal airplane to get to a trade show was entitled to a business expense deduction for the airplane expenses.

The costs of non-extravagant lodging and meals (even meals eaten alone) are also tax deductible convention expenses. In fact, the full cost of a meal that is provided as an integral part of a qualified banquet meeting was tax deductible for 1987 and 1988 tax years. On Jan. 1, 1989, however, the 20 percent reduction rule for all other business meal expenses began to apply.

A good example of a situation in which entertainment expenses are associated

with business is provided by a products distributor who entertains business associates or prospective customers between meetings or in the evening.

Generally, no tax deduction is allowed for expenses incurred for attending a convention, trade show, seminar or meeting held outside North America or Jamaica. An exception is permitted if an operator can establish that the meeting is directly related to the active conduct of his business and that, after taking certain factors into account, it's as reasonable for the meeting to be held outside North America as within.

Even after all this figuring and attaching written information statements to the income tax return, the lawn and landscape maintenance professionals are limited to a maximum deduction for cruise ship conventions of \$2,000 (\$4,000 on a joint return where both spouses attend qualifying cruise ship conventions).

Uncle Sam will, even reluctantly, help underwrite the expense of attending trade shows, conventions or seminars. But in order to enjoy this financial aid, the rules must be followed and records kept.

— Mark Battersby

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



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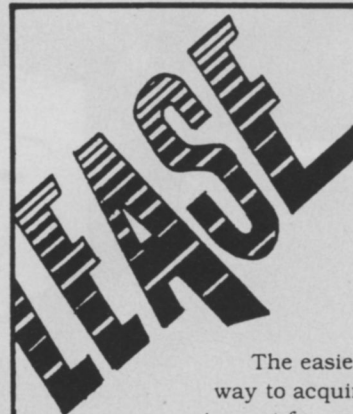
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# PEOPLE



Fotsch



Hahn

**BRIGGS & STRATTON PROMOTED** **Dick Fotsch** to general manager for the small engines division and **Erik Aspelin** to the post of vice president/service.

Fotsch will oversee the manufacturing of engines in Murray, Ky.; Poplar Bluff, Mo.; and the Burleigh South Plant in Milwaukee, Wis.

Fotsch joined the company in 1977 as a co-op student. Since then he has held various positions including supervisor of manufacturing engineering and group manager for southern plants.

Aspelin's appointment was made following the retirement of 33-year veteran **Chuck Fricke**. Previously, Aspelin was vice president of quality assurance since 1985.

**John Durfee** has been named to the recently created position of national accounts manager for **CHIPCO® /Specialty Products Group of Rhone-Poulenc Ag Co.**

He will be responsible for ensuring that maximum service is provided to the group's specialty formulator customers.

Replacing Durfee as product manager for the **Sevin®** brand is **Jack Boyne**, who has worked in Rhone-Poulenc's agricultural division for six years.

Joining the turf division of **Rain Bird Sales Inc.** is **Scott Salter** as residential product manager.

He will be responsible for the development and coordination of new sprayheads, residential rotors and landscape drip products, and for maintaining the quality standards of existing residential products.

He previously worked at **The Toro Co.** as a product manager.

Salter's other irrigation experience includes working as an outside salesman for **Pacific Products Inc.** in southern California.

**Pennington Seed** has announced several personnel changes.

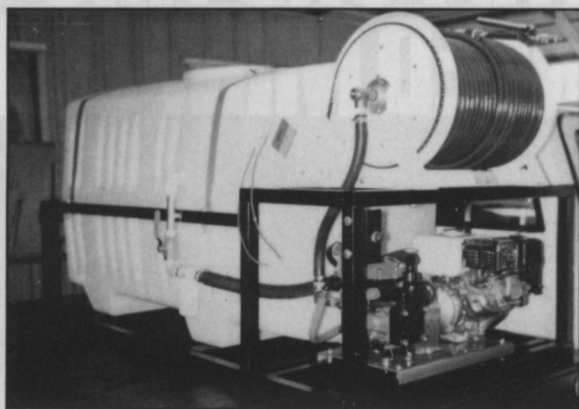
**Mike Massey** is now manager of the company's **Orlando, Fla.,** division; **Tom Ragan** was promoted to manager of the Louisiana division; **James Moore** was named consultant to the Pennington parent organization; and **Don Roberts** was appointed as turfgrass specialist.

Most recently, Massey was manager of the Louisiana division. He began his career with Pennington in sales in Georgia.

Ragan joined Pennington after graduation from college. He has been sales manager and assistant manager at the Louisiana division office.

In his post, Roberts will focus on research and the marketing of turf seed

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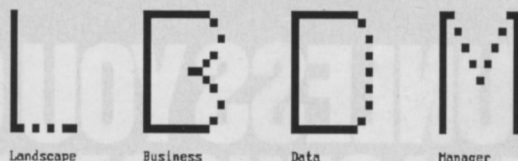
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varieties. He will work with Pennington's research team as well as agricultural colleges and universities on an in-depth program of trials and evaluation of various turfgrass seed. For marketing, he will concentrate on athletic fields, professional lawn care and major construction sites.

**Ronald Anderson** is now director of accounting for Cushman.

A 16-year veteran of Cushman, Anderson most recently was director of budgets. He is a certified management accountant and has completed the certified public accountant examination.

Kubota Tractor Corp. has appointed **Curtis Bishop** national distribution manager and **Becky Knighton** retail/wholesale finance manager.

Bishop will oversee the national operations of distribution-related computer systems, inventory control and product traffic coordination. He has been with Kubota for three years and previously served as distribution systems manager.

Knighton will be responsible for the training and development of financial services staff and management of national accounts and dealer collections. A 13-year veteran, her duties will also involve home office operations of Kubota's captive finance company, Kubota Credit Corp.

The board of directors of Hahn Inc. has

named **Kent Hahn** vice president of marketing and sales and **Jon Grimmer** vice president of manufacturing and engineering.

**Warren Lerfald** has been appointed national sales manager, turf division at Precision Laboratories Inc. He will coordinate sales and marketing activities in the turf and horticultural division throughout the United States.

He previously was national sales manager for Black Leaf Products Co.

To accommodate an expanded product line, Ciba-Geigy recently added 11 new positions to its Turf and Ornamental Products Division:

**Dave Warman** moves to corporate headquarters in Greensboro, N.C., as area sales manager for the southern region while **Jose Milan** joins the marketing staff in Greensboro. Both were formerly sales representatives.

Moving into sales positions from similar posts with the company's crop chemical group are **Nick Angelucci**, **Rick Grant**, **Chip Houmes** and **Steve Rezac**.

Two other sales representatives joining the company from other green industry companies are **Don Spier** from Turf Products Ltd. and **Don Wilson** from Chem-Lawn Services Corp.

**Don Taylor** joins the group as a senior technical support specialist in the Southeast and **Lisa Lemke** becomes a technical support representative for the Northeast.

Taylor has spent 13 of his 21 years at Ciba-Geigy as a senior scientist in field research with the company's crop chemicals group. Lemke most recently was a research entomologist with American Cyanamid.

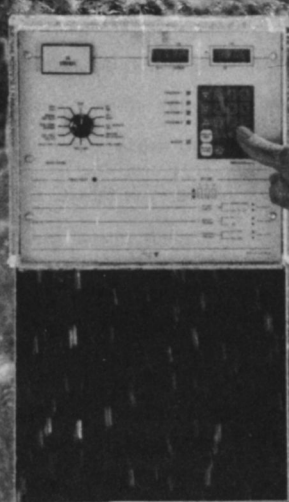
At Kohler Co., **Larry Mueller** has been named director of international sales and **Craig Wilkens** area manager, western Canada for the Power Systems International Group.

Mueller will oversee the marketing, sales and distribution of Kohler engines, generators and switchgear to the company's markets outside the United States. He will also be responsible for the development of sales offices in Singapore, London and Tokyo.

He has been with Kohler for three years and most recently was international sales manager for the power systems group.

Wilkens will direct the activities of Kohler engine and generator distributors as well as original equipment manufacturers in the western provinces of Canada. ■

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The piston rod and shovel blade move in and out only 3/8 of an inch, allowing

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Product tests have shown the 43-pound shovel can accomplish tasks much faster and at less expense than hand shovels or hydraulically operated digging machines. It also permits a more random selection of plants to be harvested.

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## PRODUCT SPOTLIGHT

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suming irrigation design tasks.

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ularly shaped areas.

The computer-aided pipe sizing program uses hydraulic formulas to perform accurate pipe sizing calculations. The designer chooses the pipe type and class, then IDA calculates the flow rate and provides the correct pipe and valve sizes.

**147 on reader service card**

**TRAUMA-SORB FROM Sentinel Products**, a division of Packaging Industries Group Inc., is an elastomeric modified, crosslinked polyethylene foam used as a tool wrap or glove insert to protect the hand against the low frequency vibrations emitted from power tools and other types of vibrating equipment.

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in the development of chronic nerve and tendon disorders such as carpal tunnel syndrome and tendinitis. Initial tests indicate Trauma-Sorb does reduce symptoms associated with carpal tunnel syndrome.

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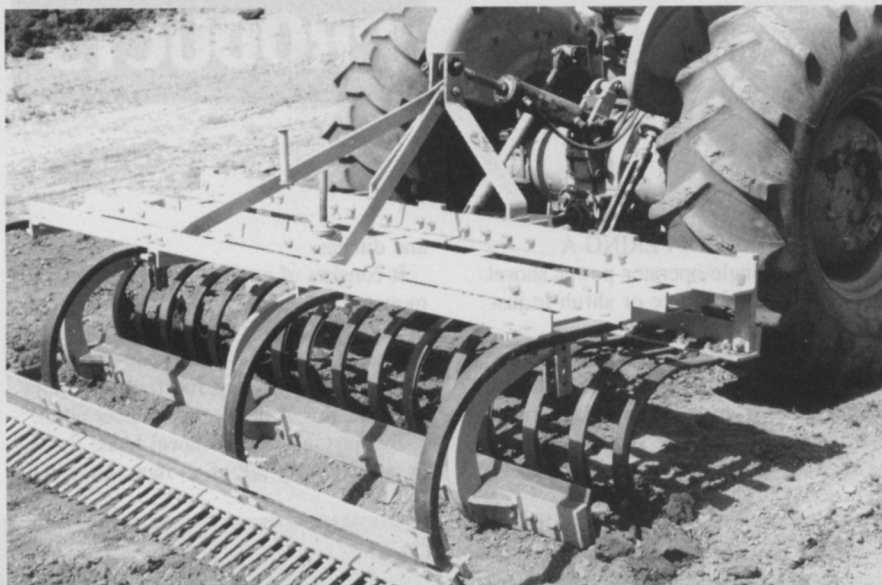
The rake features a heavy-duty frame, double-spring teeth every six inches in front, adjustable grading blade with four 1-inch thick tines on the back to hold the finer finish rake.

This rake can be used in the construction and maintenance of athletic fields, park districts and forest preserve parks.

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(continued on page 74)



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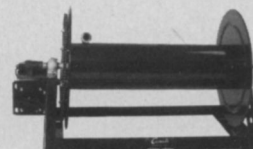
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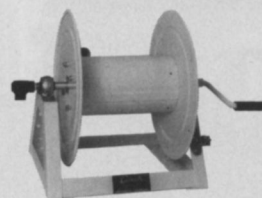
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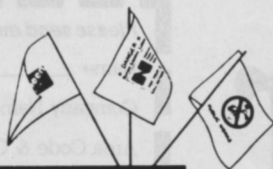


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4"x5" flag

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FAX# 402-887-5171

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MANUFACTURING COMPANY

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800/552-3524 West of Rockies

P.O. Box 276 • Cambria, CA 93428

FAX# 805-927-1601

Circle 58 on reader service card

## Products

(continued from page 72)

on/off switch, thermally protected motor, carrying handle, jar holder, 6 feet of tubing and two flexible oil pickup tubes.

**Circle 152 on reader service card**

AVAILABLE FROM SP SYSTEMS are the SP0 and SP1 series of backpack and knapsack sprayers incorporating important safety features.

The 4-gallon SP1 knapsack sprayer includes a patented diaphragm pump design



SP1 Knapsack Sprayer.

that reduces leakage and is completely tamperproof. The pump is constructed of non-corrosive materials, and is capable of maintaining quality performance for more than two years of constant use.

For enhanced safety, a check valve in the large-diameter cap prevents potential leaks of spraying fluid when the SP1 is tipped.

**Circle 153 on reader service card**

A SAFETY KIT HAS BEEN ADDED to the Spraying Systems Co. TeeJet® line of spray products.

The TeeJet pesticide safety kit contains a face shield, two pairs of chemical resistant gloves, a protective apron and a nozzle cleaning brush. The items are packaged in a durable nylon bag.

Most applicators know protective wear is necessary for pesticide use. By offering the safety kit, Spraying Systems is trying to encourage proper safety precautions by offering all the necessary items in one convenient package.

**Circle 154 on reader service card**

DECKSLIDER OF FLORIDA PRO- duces the P/M Deck Slider providing quick and easy access to van and pickup truck cargo.

Mounted on the bed of a truck, the welded-steel product slides in and out on stainless steel ball bearing rollers and self



locks in three positions. It supports 600 pounds of cargo when fully extended.

The deck slider saves time and effort by simplifying the loading, stowing and unloading of tools, equipment and supplies. A second floor can be installed



P/M deck slider.

above the slider to create additional space for storing cargo.

A van or truck equipped with the slider gives employees instant access to the entire cargo. No more crawling around searching for tools and supplies which can lead to increased productivity and efficiency.

The product is available in sizes to fit all trucks and vans including Chevy Suburbans and other specialty vehicles. Prices range from \$274.95 for a 5 1/2-foot deck to \$289.95 for an 8-foot deck.

**Circle 155 on reader service card**

A 30-INCH BY 60-INCH PREMIUM quality, heavy-duty leaf bag has been introduced by **RedMax**.

The white bags have the red RedMax logos printed on them and are made of dense plastic tough enough to hold twigs, leaves and wet grass. The bags are available in packages of 10.

**Circle 156 on reader service card**

VALUED PLANTINGS CAN RECEIVE an extra measure of protection this fall and winter with applications of Cloud Cover produced by **Easy Gardener**.

The non-toxic, anti-transpirant forms a breathable polymer coating on plant leaves and stems that protects against water loss, temperature extremes, wind-burn and sunscald.

Cloud Cover is easy to apply, lasts two to three months and is economical for any size job. It enhances the performance of pesticides and animal repellents and cleans pesticide residue off foliage, keeping plants even more shiny and healthy. Photosynthesis remains natural and undisturbed.

For interiorscapers, Cloud Cover reduces maintenance by helping plants through periods of water stress. It protects plants from disease and lengthens the time between waterings.

Cloud Cover is an acrylic emulsion. Its non-viscous, water-soluble formula is not sticky and avoids sprayer clogging.

**Circle 157 on reader service card**



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"The people have a right to clean air, pure water, productive soils and to the conservation of the natural, scenic, historic, recreational, esthetic and economic values of the environment. America's natural resources belong to all the people, including generations yet to come. As trustee of these resources, the United States Government shall conserve and maintain them for the benefit of all people.

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**BLACKBURN MANUFACTURING CO.** offers a screen-printed flag designed specifically for maintenance professionals. The flags were developed to meet the requirements for posting after pesticide applications.

A message can be screen printed on the flag to notify the public that pesticides or herbicides have been applied to the area.

Blackburn has standard lawn maintenance flags in stock that are preprinted with a cautionary message. Also, flags can be custom-printed with the applicator's logo and message.

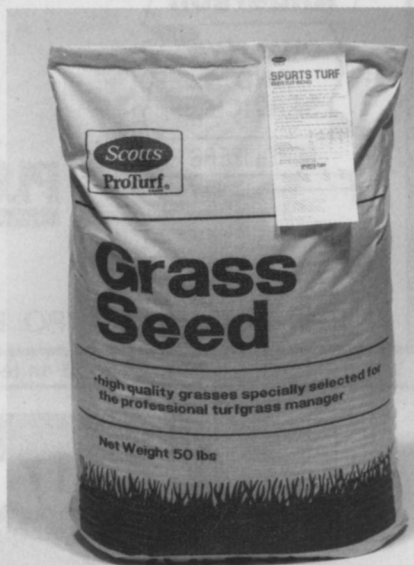
The 4-inch by 5-inch flags are mounted on a PVC plastic staff and come in lengths of 18 inches or 24 inches. They are available in nine colors, while imprinting is available in eight colors.

**Circle 158 on reader service card**

**SCOTTS PROTURF® SPORTS TURF** offers a grass mixture that thrives under difficult growing conditions. It combines quick germinating Loretta® and Accolade® perennial ryegrasses with Abbey® and Victa® Kentucky bluegrasses to provide good coverage in minimum time.

It produces an attractive, yet rugged, fine-textured turf that gives good season long color and excellent mowing qualities.

Sports Turf endures the stresses of hard use, heavy traffic, summer drought conditions and a broad range of main-



*Proturf® from Scotts.*

tenance practices and soil and climatic conditions.

**Circle 159 on reader service card**

**HUNTSVILLE KENTUCKY BLUE-**grass available from **Jacklin Seed Co.** is

a cool-season variety with improved shade tolerance. The variety provided good results during the Midwest's year of heat and drought.

Testing results have shown that Huntsville also has excellent resistance to powdery mildew and improved resistance to stem rust and fusarium blight syndrome.

Discovered by C. Reed Funk of Rutgers University, the variety scored well in tests under high heat and humidity in the transition zone.

With a medium green color, Huntsville starts with a vigorous seedling and ultimately develops deep rhizomes giving the grass staying power under drought conditions. This strength was evident during testing in the Nebraska and Great Plains areas where researchers sought cultivars less susceptible to drought and low maintenance conditions.

**Circle 160 on reader service card**

**BATA SHOE CO. OFFERS FOOT-**wear and protective clothing for lawn and landscape maintenance professionals.

The company's leggings cover an operator's pant legs and are used where chemicals are a concern. The company also makes polyblend protective boots.

**Circle 161 on reader service card**

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## STATEMENT OF OWNERSHIP

Statement required by the Act of October 23, 1962, Section 4369, Title 39, United States Code, showing the ownership of *Lawn and Landscape Maintenance* published monthly at 4012 Bridge Avenue, Cleveland, Ohio 44113-3320 Cuyahoga County.

The name of the publisher is: Maureen Mertz, 42480 Park Ridge Road, Novi, Michigan 48050. The name of the editor is: Cindy Code, 4012 Bridge Avenue, Cleveland, Ohio 44113.

The owners are: G.I.E. Incorporated Publishers, 4012 Bridge Avenue, Cleveland, Ohio 44113; Richard J.W. Foster, 409 Ewa Yea, Vermillion, Ohio 44089; Nancy Foster, 409 Ewa Yea, Vermillion, Ohio 44089; Maureen Mertz, 42480 Park Ridge Road, Novi, Michigan 48050.

The known bondholders, mortgagees and other security holders owning or holding one (1) percent or more of total amount of bonds, mortgages or other securities are: Arthur Brown, 5277 Gallagher, Whitmore Lake, Michigan 48189.

Average number of copies each issue during preceding 12 months, and of single issue nearest to filing date, respectively, are as follows: Total number of copies printed (net press run) 26,083/26,500; paid circulation sales through dealers and carriers, street vendors and counter sales 0; mail subscriptions 11,496/15,016; free distribution by mail, carrier or other means (samples, complimentary or other free copies) 13,657/10,877; total distribution 25,153/25,893; copies not distributed (office use, left over, unaccounted, spoiled after printing) 930/607; return from news agents 0; and total 26,083/26,500.

I certify that the statements made by me above are correct and complete.

Richard J.W. Foster, President



# CALENDAR

## NOV. 16-18

Second Annual Landscape Maintenance Association Meeting and Equipment Demonstration, Orlando, Fla. Contact: LMA, P.O. Box 728, Largo, Fla. 34649; 813/584-2312.

## NOV. 28-30

Turfgrass and Ornamental Chemical Seminar, Purdue University, West Lafayette, Ind. Contact: Barb Meyer, 317/494-7221.

## DEC. 4-7

Ohio Turfgrass Conference and Regional Show, Ohio Center, Columbus, Ohio. Contact: John Street, 2021 Coffey Rd., Columbus, Ohio, 43210; 614/292-2601.

## DEC. 4-5

Second Annual Southern Grounds and Turf Maintenance Exposition, Myrtle Beach Convention Center, S.C. Contact: Special Events Division, State Tech Board, Columbia, S.C.; 803/737-9351.

## DEC. 5-6

The 36th Annual Rocky Mountain Regional Turfgrass Conference and Trade Show, Holiday Inn, I-70 and Chambers Road, Denver, Colo. Contact: Bill Shrum, P.O. Box 903, Parker, Colo. 80134; 303/688-2268.

## DEC. 11-13

20th Annual Georgia Turfgrass Conference and Trade Show, Hyatt Atlanta Airport at Georgia International Convention and Trade Center, College Park, Ga. Contact: East Georgia Cooperative Extension Service, 2400 College Station Rd., Athens, Ga. 30605; 912/681-5189.

## DEC. 13-15

Desert Turfgrass/Landscape Conference and Show, Riviera Hotel, Las Vegas, Nev. Contact: Desert Turfgrass Show, 3376 S. Eastern Ave., Suite 148, Las Vegas, Nev. 89109; 702/735-0000.

## JAN. 2-5

44th Annual Meeting of the Northeastern Weed Science Society, Sheraton Boston Hotel & Towers, Boston, Mass. Contact: Bradley Majek, 609/455-3100.

## JAN. 4-6

Mid-Atlantic Nurserymen's Trade Show, Baltimore Convention Center, Baltimore, Md. Contact: MANTS, P.O.

Box 314, Perry Hall, Md. 21128; 301/256-6474.

## JAN. 8-10

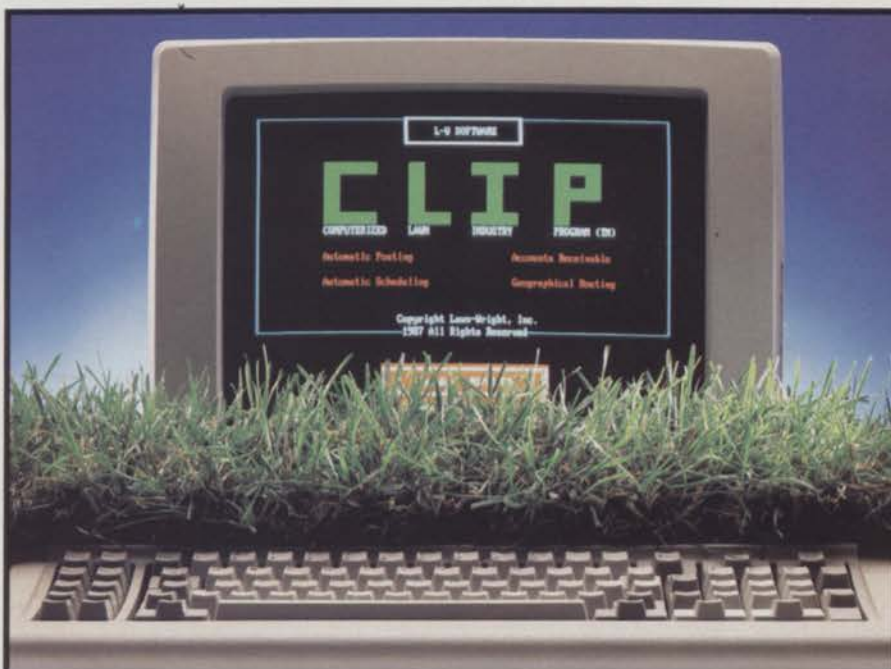
28th Annual Nebraska Turfgrass Conference, Holiday Inn Central, 72nd & Grover, Omaha, Neb. Contact: Don Ellerbee,

Executive Director, Neb. Turfgrass Foundation, 2727 W. 2nd St., P.O. Box 2118, Hastings, Neb. 68902-2118; 402/463-5418.

## JAN. 8-12

Virginia Professional Horticulture Con-

(continued on page 82)



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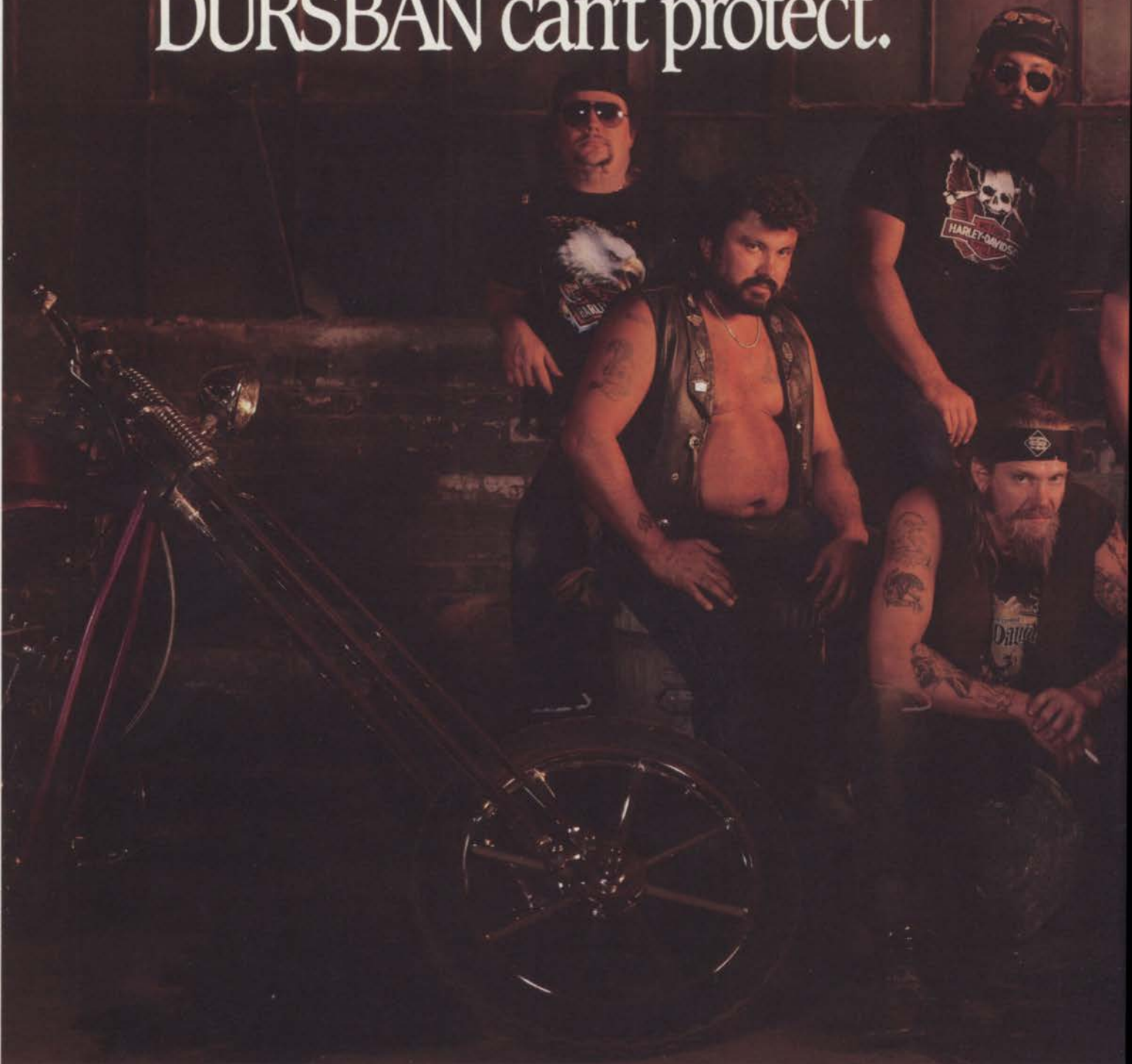
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Circle 60 on reader service card

## Calendar

(continued from page 79)

ference, Virginia Beach, Va. Contact: VPHC, P.O. Box 5758, Virginia Beach, Va. 23455-5758; 804/465-7777.

### JAN. 9

Landscape and Nursery Expo '90, Sacramento Community Convention Center, sponsored by the Sacramento Chapter of the California Landscape Contractors Association. Contact: Landscape & Nursery Expo, P.O. Box 277686, Sacramento, Calif. 95827.

### JAN. 9

Fifth Annual Perennial School for commercial landscapers/grounds maintenance personnel, Tom's Country Place, 3442 Stoney Ridge Rd., Avon, Ohio. Contact: Charles Behnke, Cooperative Extension Service, 42110 Russia Rd., Elyria, Ohio 44035; 216/322-0127.

### JAN. 9-12

New Tree Biology Workshop, hosted by Dr. Alex Shigo, Arizona State University, Tempe, Ariz. Contact: Artistic Arborist, 706 W. Montecito, Phoenix, Ariz. 85013; 602/263-8889 or outside Arizona, 800/THE-TREE.

### JAN. 10-12

Eastern Pennsylvania Turf Conference and Trade Show, Valley Forge Convention Center, 1200 First Ave., King of Prussia, Pa. Contact: Thomas Watschke, 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.

### JAN. 10-12

28th Annual North Carolina Turfgrass Conference and Exhibit, Raleigh, N.C. Contact: A.H. Bruneau, P.O. Box 7620, North Carolina State University, Raleigh N.C. 27695-7620; 919/737-2326.

### JAN. 14-17

Second Annual Landscape Magic Conference sponsored by Walt Disney World in conjunction with the Florida Nurserymen and Growers Association, Lake Buena Vista, Fla. Contact: Walt Disney World Seminar Productions, P.O. Box 10,000, Lake Buena Vista, Fla. 32830-1000; 407/363-6620.

### JAN. 15-18

30th Virginia Turfgrass Conference and Trade Show, Richmond Centre and Marriott Hotel, Richmond, Va. Contact: Randeen Tharp, 804/340-3473.

## Basics of Drainage

(continued from page 36)

or hook up to a drainage system we simply drain with a small suction pump. It's a maintenance item that saves a lot of plant material."

Stevenson said his company used round, perforated pipes without the need for a wrap-around fabric.

"We'll use a fabric in sand traps," he said, "but in lawns we don't need it any more than the farmers do. With six inches of gravel we might get 1/2-inch infiltration of dirt. The newer geotextiles wraps may be good in some situations, but we don't need them in our soils."

On the other hand, Tod Schneider, vice president of sales, Church Landscape Co. Inc., Lombard, Ill., said that he is not familiar with the new geosystems, but believes it's necessary to have the fabric wrapped around the perforated pipes. "We've had great results and no problems with pipe clogging."

Drainage is a problem in Schneider's area because of a high clay content.

"Plant material may not come from the same content as the one in which it's installed," he said. "A tree coming out of sandy loam put into clay tends to hold water."

One drainage solution involves mounding the tree higher from the rest of the landscape, keeping the roots out of water and creating a larger planting ring so it's not noticeable that the tree is planted higher.

Marc Schwartz, landscape designer, Eastern Land Management Inc., Stamford, Conn., said that his area with hilly rocky terrain and a lot of wetland necessitates close attention to drainage, especially in terms of retaining walls, tennis courts and patio walkways.

He uses either the older perforated pipes or the newer geosystems depending on the situation. Schwartz is also concerned with the aesthetic appearance of drainage.

"Within a patio or terrace, you can work in the drain with patterns in the pavement," he said. "In a landscape you can build a berm so that you're looking over the drain rather than at it."

Donald Bean, president, Thomas E. Carroll & Sons Inc., Silver Spring, Md., said, "If a house's foundation is settled, you might refill with soil, or cut a bank down where the water can get away, or perhaps change the grade of soil. You may use the older perforated pipes or the new geosystems."

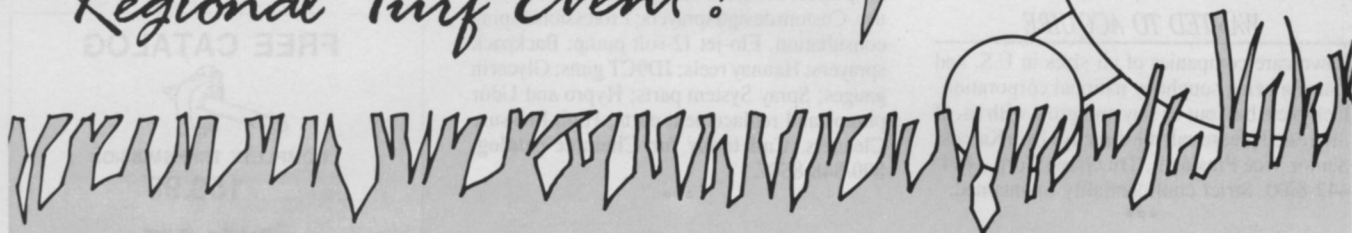
"Drainage problems can run from very simple to very complex and so are the solutions. But the solution is always on the site." — Michael Major

The author is a free-lance writer based in Port Townsend, Wash.



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(continued on page 86)

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Ford Courier	1980	Int. 2-½T	1985
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Int. 2-½T	1985	Int. 2-½T	1985
Ford F250	1976	Chevy El Camino	1982
Isuzu PU 6'	1983	Ford PU ½T	1986
Toyota PU 7'	1985	Chevy 1T	1985
Chevy 1T	1985	Ford 1T F350	1986
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(continued from page 84)

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### Cushman, Ransomes

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"They're ecstatic over the idea of (Cushman) being owned by a parent company who understands their business," he said.

While business as usual is the mood on the production end of the company, Cushman is going through some growing pains on the operations side.

As a division of OMC, Cushman was tied to its parent company for a number of support functions. Now, as a free-standing company, Cushman must handle all business operations in-house.

In addition to the Cushman acquisition, Ransomes bought a complete line of lawn maintenance equipment from Salsco Inc., Cheshire, Conn., in August. The line includes aerators, slicer seeders, spreaders, blowers and truck loaders. Ransomes, this year, also purchased Westwood, the largest garden tractor company in England.

Ransomes plc has three other divisions: Ransomes Commercial manufactures and distributes professional mowing machinery outside of North and South America. Ransomes Consumer manufactures consumer garden machinery and recently purchased Westwood, a major producer of garden tractors in the U.K. Ransomes Property is involved in property development and investments.

Ransomes plc over the last three years has withdrawn from the production of agricultural equipment to concentrate on turf machinery worldwide. — *Cindy Code*

*The author is editor of Lawn and Landscape Maintenance magazine.*



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TYPE  
BENTGRASS

BRAND  
PENNEAGLE  
PENNCROSS

KENTUCKY  
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ASPEN  
RUGBY  
PARADE

FESCUE

SCALDIS HAWK  
RUBY CREEPER  
GALWAY TALL

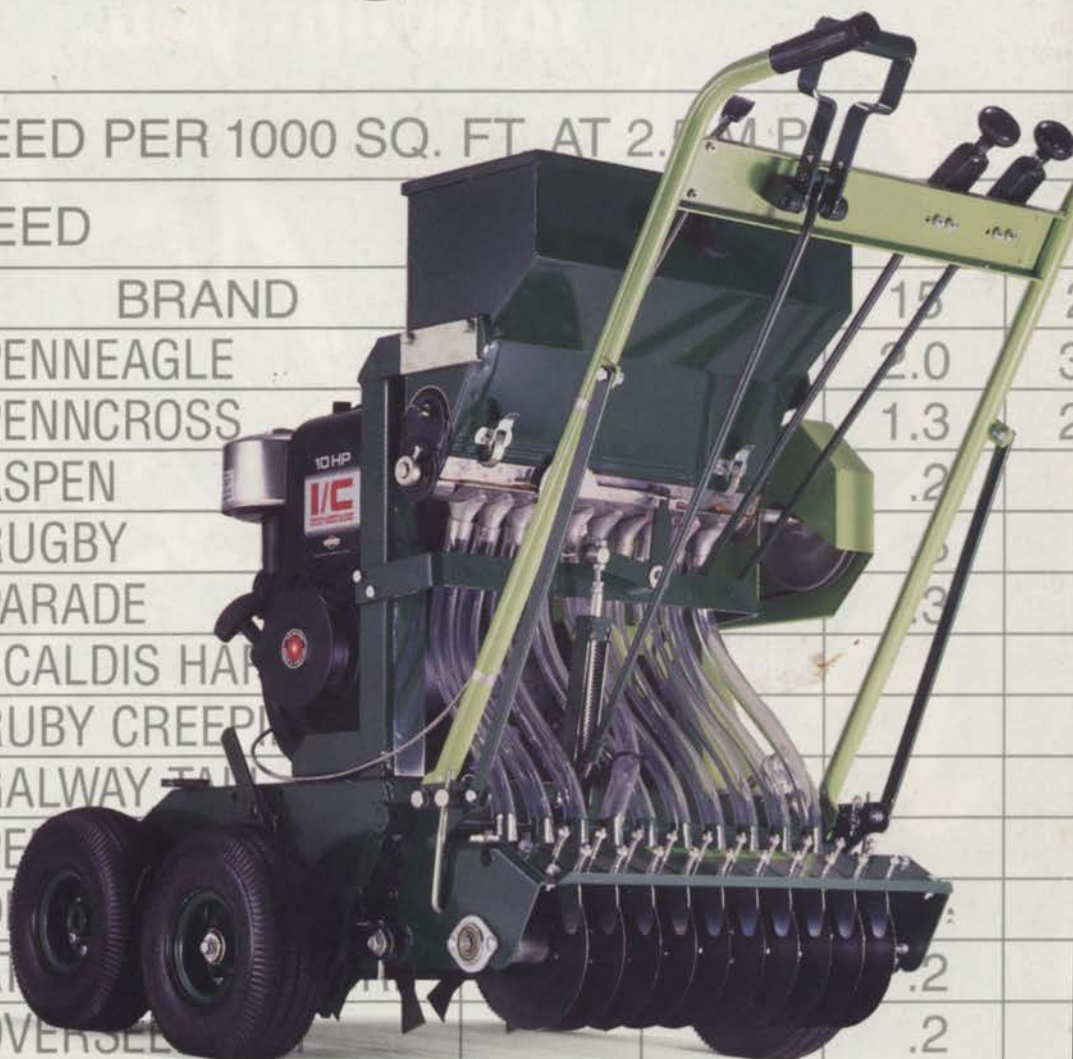
RYEGRASS  
PERENNIAL

PE  
D

MIXTURE

AT  
OVERSEED

1.5  
2.0  
1.3  
.2  
.3  
.2  
.2  
.2



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