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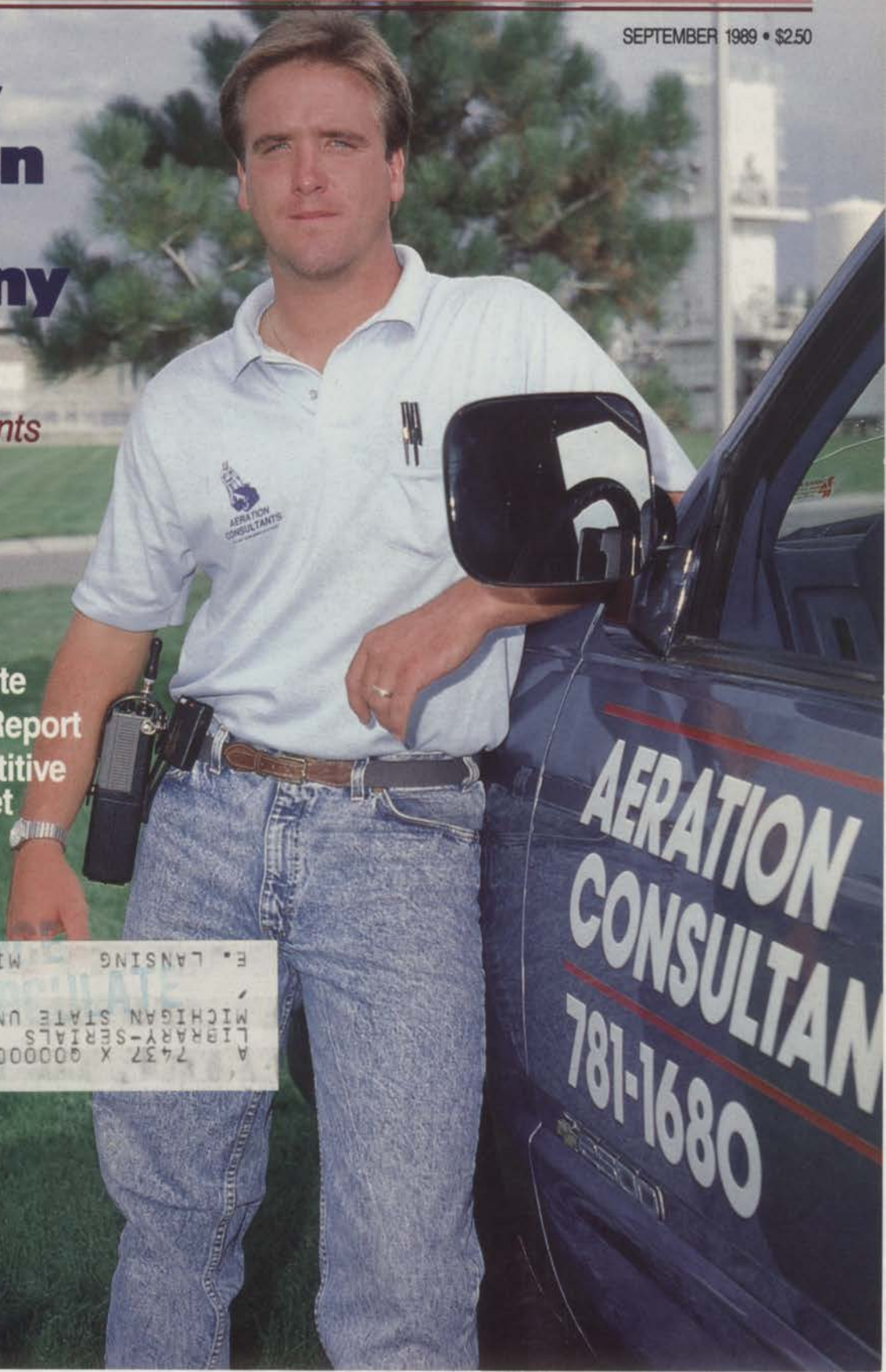
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Turf Disease Update

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EDITOR'S FOCUS

RECENT YEARS HAVE NOT BEEN all that kind to the turfseed market.

In 1986, bluegrass crops, both proprietary and common, turned in disappointing performances. Excessive heat and seedheads which didn't fill in were blamed for low yields.

In 1987, wet weather on the West Coast and drought stress on some non-irrigated areas affected a number of crops resulting in delays in harvesting and cleaning schedules.

If that wasn't enough, hopeful seed producers and growers were next hit with the Drought of 1988. Drought conditions were blamed for devastating Kentucky 31 tall fescue crops in Missouri and subsequent shortages in other crops.

Turf-type tall fescues, in particular, were fighting to meet strong demand caused by several years of insufficient supply aggravated by the call for turf-types as a substitute for Kentucky 31 and other low yielding crops.



And just when the industry was looking for a relatively calm harvest, a harsh Oregon winter is said to be responsible for damaging this year's supply of turf-type tall fescues.

Supplies are reported to be at least 15 percent below 1988 levels, but some experts are reporting quantities to be as much as 30 percent below last year's yields.

While the turf-types have been gaining in popularity every year, supplies have never met the tremendous demand. Compounding the problem, growers are becoming reluctant to plant the improved varieties because of the expense and recent poor to average yields.

While other varieties, proprietary bluegrasses and perennial ryegrasses in particular, continue to produce at least average yields, the industry needs to find a way to increase the turf-type tall fescue yields. With what appears to be limited new acreage left in Oregon's Willamette Valley, seed producers must find a way to provide ample supplies of the turf-types to keep the seed industry moving forward.

For more on this year's turfseed harvest, turn to page 38. — *Cindy Code.* ■

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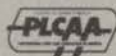
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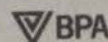
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Finelawn 1	6.1
Apache	5.5
Rebel	5.5
Bonanza	5.3
Mustang	4.9
Jaguar	4.6

Rated 1-9; 9 = Best

Spring Greenup

NATIONAL TURFGRASS
EVALUATION PROGRAM
1984-87

VARIETY	AVG. SCORE
Finelawn 1	5.7
Bonanza	5.6
Apache	5.6
Rebel	5.5
Arid	5.5
Jaguar	5.1

Rated 1-9; 9 = Best

Fall Density

NATIONAL TURFGRASS
EVALUATION PROGRAM
1984-87

VARIETY	AVG. SCORE
Finelawn 1	7.1
Mustang	7.0
Rebel	7.0
Olympic	6.8
Falcon	6.7

Rated 1-9; 9 = Best

Shade Performance

NATIONAL TURFGRASS
EVALUATION PROGRAM
1984-87

VARIETY	AVG. SCORE
Finelawn 1	5.4
Apache	5.3
Jaguar	5.0
Mustang	5.0
Bonanza	4.8
Rebel	4.8
Falcon	4.6

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RANSOMES ACQUIRES CUSHMAN GROUP FOR \$150 MILLION CASH

IN ITS THIRD MAJOR ACQUISITION of the year, Ransomes acquired the Cushman group from Outboard Marine Corp. Aug. 29 for \$150 million cash.

At this point, the sale is considered a "definitive agreement to buy" the company, and will most likely be finalized at the end of this month when federal antitrust requirements are met. The sale includes Cushman industrial vehicles, Ryan turf maintenance products and Brouwer sod harvesting and turf maintenance products.

The Cushman acquisition, along with its two other major purchases of the year, are expected to generate \$300 million in sales next year. Ransomes and its parent company, Ransomes PLC of Ipswich, England, reported \$170 million in sales last year.

Other recent acquisitions by Ransomes include the Salsco turf maintenance product line (see story below) and Westwood, the largest garden tractor company in England. All three acquisitions came

within a three-week period.

The Outboard Marine Corp. had announced its intention to sell the companies after third quarter earnings were about 50 percent below the same quarter in 1988, when the company reported net earnings of \$23.3 million. The company is considered a leading manufacturer of marine products and services.

Lawn-Boy, another subsidiary of Outboard Marine, is also up for sale, but was not acquired by Ransomes.

"We're obviously excited. The Cushman, Ryan, Brouwer names will add to Ransomes," said Helmut Adams, president of Ransomes Inc. "The group offers a lot more credibility in the turf market. It offers us all an opportunity to add various market niches with a lot more clout. Cushman will continue to operate independently. We'll all share in the intelligence and strength generated together."

Cushman President Stuart Rafos said four companies expressed interest in acquiring the company, but only two — Ransomes and The Toro Co. — seriously pursued Cushman.

"That contest went down to the wire, but Ransomes prevailed when apparently Toro made a few last minute mistakes," Rafos said. "It came down to a financial consideration at the final hour. Ransomes prevailed by a small amount."

"We did everything we could to make it happen," Adams said. "Ransomes felt it was a rare opportunity and tried to take advantage of it."

The sale is also expected to accelerate Cushman's growth plan, according to Rafos who will remain president of Cushman. He estimated that projected increases in both international and domestic sales will double Cushman's current \$100 million annual sales in the near future. To meet this sales volume, a substantial increase in Cushman's plant facilities is planned.

"At this stage of the game it's nice to belong to a company that is in the same business. Outboard Marine was supportive, but it's comforting to know we have a parent company who knows his child best," said Gerry Brouwer, former president of Brouwer. "Our overall concentration will remain on turf equipment."

While we're considered strong in the turf product segment, we're less strong in turf maintenance and turf care which is Ransomes forte."

Brouwer retired from the company at the beginning of September after his three-year contract with Outboard Marine Corp. ended. Brouwer started the company in 1972 and sold it to Outboard Marine in 1986. Plant Manager Wally Stuart took over as general manager.

Brouwer's product line includes sod harvesters, fork lifts, a fairway model reel mower and a small sod cutter.

Brouwer wouldn't release the company's sales figures, but said its highest percentage of sales is in the United States, followed by Canada and overseas. The company doubled its plant facilities last year to meet projected increased sales.

Ransomes will maintain manufacturing facilities in Johnson Creek, Wis., and

RANSOMES BUYS RENOVATION LINE FROM SALSCO

RANSOMES INC., Johnson Creek, Wis., recently acquired a complete line of lawn maintenance equipment from Salsco Inc., Cheshire, Conn. The sale price was not disclosed.

The sale sends a variety of products including five aerators, three slicer seeders, three spreaders and seven loadervac truck loaders to Ransomes, a major manufacturer of rotary and reel mowers.

The acquisition doesn't include the Salsco name, manufacturing facilities or the company's other assets. The sale was completed Aug. 7.

Salsco will continue to produce the equipment at its own manufacturing plant until Ransomes is able to integrate the new products into its manufacturing and distribution system, according to Scott West, Ransomes marketing manager.

"It's necessary to keep the products flowing. We'll bring (the products) in gradually and integrate them into our system as quickly as possible," West said. "The products will complement our landscape line and broaden our scope of products to meet the needs of landscapers."

The new products will be known as the "Ransomes Renovation Line."

Salvatore Rizzo, president of Salsco, said he anticipates manufacturing products for Ransomes for at least a year. As a result he's had to increase his staff to cover the influx of business.

Rizzo, who started his business in 1979 and entered the lawn maintenance market in 1983, said he sold his equipment line for the benefit of the products.

"Success was our handicap," he said. "We needed a company

like Ransomes to give our products the growth and attention they need. Ransomes is an excellent company and our products will be a good fit for their distribution system."

Ransomes has more than 35 distributors in the United States, as well as a strong overseas distribution system headed by Ransomes parent company, Ransomes, Simms & Jeffries, based in England. The company is celebrating its 200th birthday this year.

With Salsco's name intact and 32 full-time employees, a new product line for the lawn maintenance industry remains a possibility.

Nearly two years ago, Ransomes acquired the turf-related assets of The Steiner Corp., Orrville, Ohio. A four-wheel drive tractor and various mowing attachments were obtained by Ransomes in the sale.

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Each morning of the Conference and Show we will present a New Product Expo. Learn what will be state-of-the-art in the 1990s and how your business can profit from new technology and new chemistry.

• **PARTICIPATE!** This 10 year celebration of lawn care comes around only once, so don't miss it! Don't wait to hear about it from your friends, be there to experience for yourself what all the excitement is about. Experience Las Vegas, spectacular showplace of America where the Stars come out to play every night.

Watch your mail in early summer for registration information, or call PLCAA for information 1-800-458-3466, and mark your calendar for a trip to Las Vegas!



Orrville, Ohio, while Cushman will keep manufacturing facilities in Lincoln, Neb., and Edgewater, Fla. Brouwer will continue to manufacture its product line in Keswick, Ontario, Canada.

Although the Cushman and Salsco product lines bring some competing products to Ransomes, Adams doesn't expect a conflict to occur.

"Some of the Salsco line does compete with Ryan, but we don't plan on making any changes," he said.

In 1988, Ransomes acquired The Steiner Corp., Orrville, Ohio, and Granja and BTS Green, two consumer mowing manufacturers in France and Italy respectively.

PLCAA, ALCA, PGMS MERGE NATIONAL TRADE SHOWS

Three green industry professional associations have agreed to merge their two national trade shows into one beginning November 1990.

The Professional Lawn Care Associa-

tion of America, the Associated Landscape Contractors of America and the Professional Grounds Management Society have agreed to a two-year deal which will see their two separate trade shows merged into one called the Green Industry Exposition. The board of directors from each group voted on the concept before it was finalized.

PLCAA is holding its 10th conference and trade show this year in Las Vegas. ALCA and PGMS, which formed the Green Team Conference and Trade Show four years ago, will hold this year's show in St. Louis.

The three associations have discussed the possibility of a merger for more than three years, but only in the past year have specific negotiations been going on.

The 1990 show will be held in Nashville, Tenn., and the 1991 show will be held in Tampa, Fla.

The Green Industry Exposition will be administered by a nine-member board consisting of three representatives from each of the associations. PLCAA was named show management and will handle all details of the trade show, but will answer to the board.

Each of the three associations will continue to hold separate educational sessions during the show — only the trade show is being merged.

"We're coming together in the best interests of the professional associations and the industry, but we don't want to lose the autonomy of each group," said Jim Brooks, PLCAA executive director. "In the future there may be some cross-over (in educational sessions) because obviously there's some cross-over in our memberships."

Together, the group hopes to attract 200 to 250 exhibitors in 1990, according to Allan Shulder, PGMS executive director. It's also expected that the size of some exhibitor booths will increase.

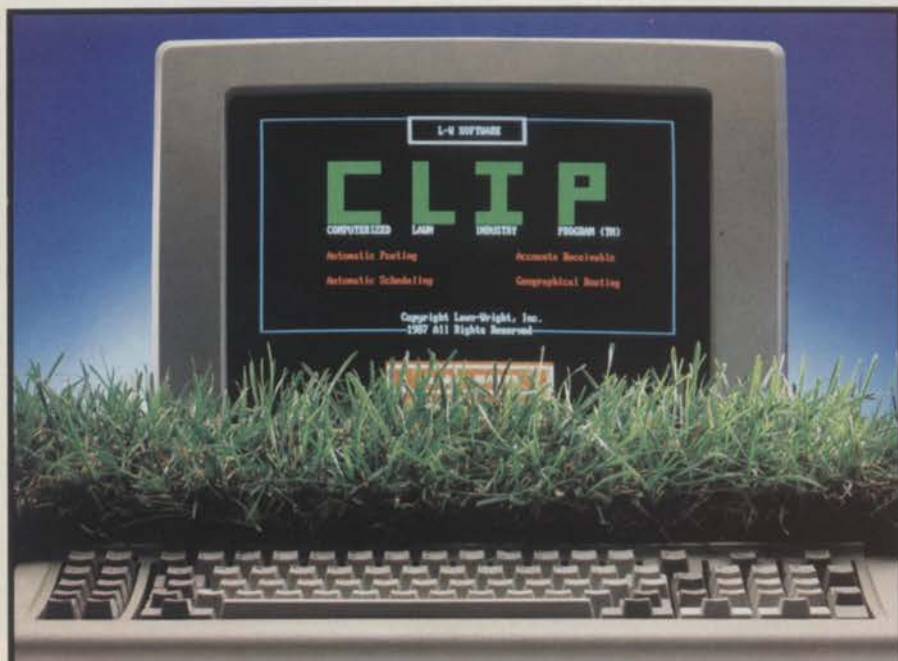
Although the show won't immediately appear twice as large, it will be more representative bringing all aspects of the industry together, said Doug Moody, PLCAA deputy executive director.

TWO STUDENTS RECEIVE MUSSEY FOUNDATION GRANTS

The Mussey International Turfgrass Foundation awarded scholarship grants to Andrew Ralowicz of the Department of Plant Sciences, University of Arizona, and Gwen Stahnke of the Department of Horticulture/Forestry, University of Nebraska. Each received a \$6,000 grant.

For his doctoral dissertation, Ralowicz, an agronomy/plant genetics major, is evaluating *Hilaria belangeri* as a mini-

(continued on page 10)



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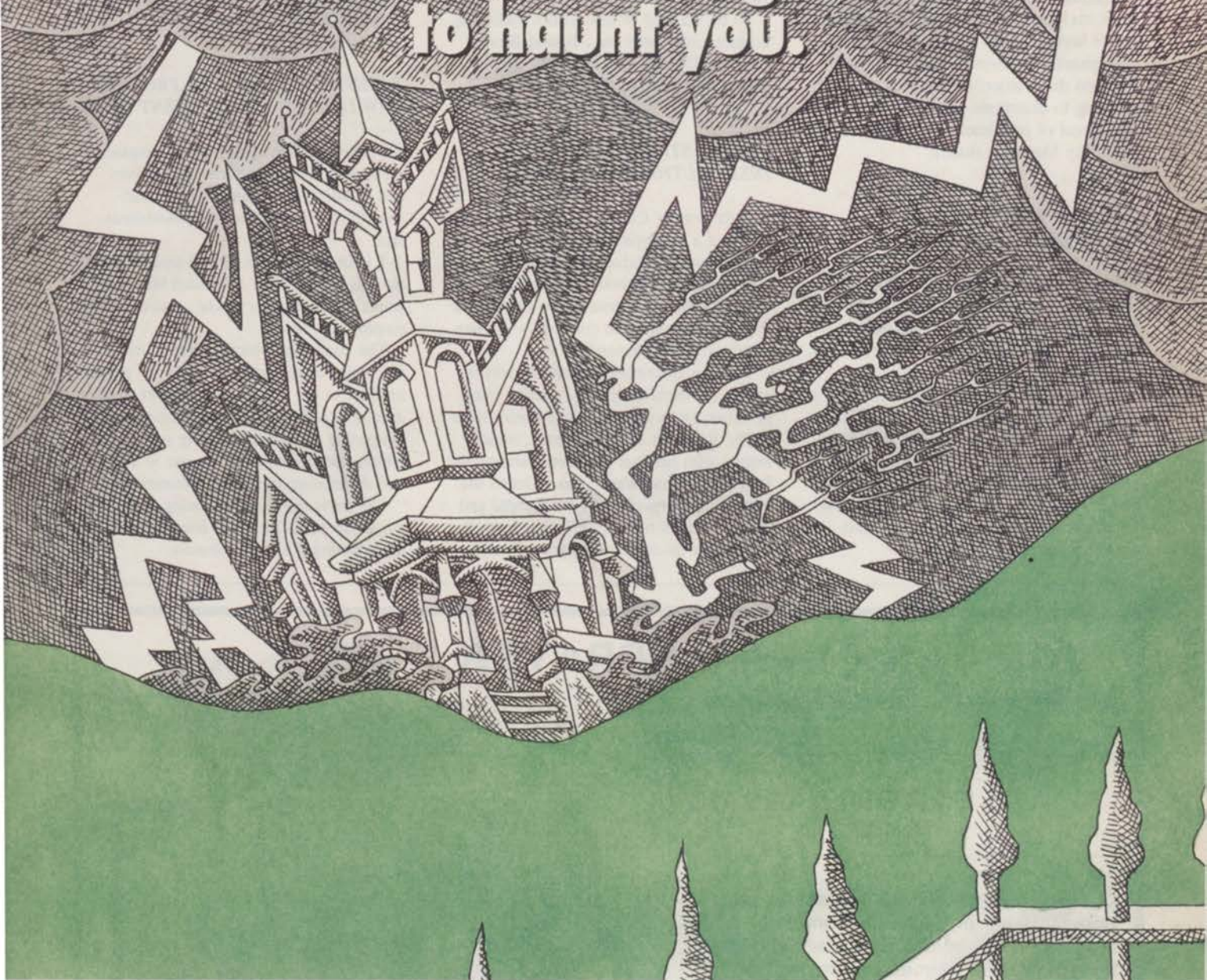
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mum input desert turfgrass. He has been a graduate research associate at Arizona since July 1986.

Stahnke, a turfgrass science major, has been studying the effects of five preemergence herbicides on Kentucky bluegrass root growth and overall quality for her doctoral dissertation. In addition, she is working to determine the dissipation and movement of pendimethalin in soil and Kentucky bluegrass thatch.

LOFTS DEBUTS NEW VARIETIES AT N.J. FIELD DAY

Recent introductions to the seed industry were discussed and viewed at a Field Day hosted by Loft's Seed Inc. The annual event is held at Loft's New Jersey research center.

Turf specialists discussed current topics of interest including turfgrass seed production and availability, trends in turfgrass breeding and new variety development, turfgrass endophytes and their role in integrated pest management, wildflower establishment and maintenance and customer service and support.

During a tour of Loft's research plots, visitors were able to compare side-by-side stands of turfgrasses, ornamental grasses, wildflowers and low-maintenance grasses. New bentgrass plots, including Loft's new bentgrass variety, Southshore, were also viewed.

To be notified of next year's Field Day, contact Loft's Seed Inc., Bound Brook, N.J. 08805-0146, 201/356-8700, 800/526-3890 or in N.J. 800/624-1474.

KUBOTA STREAMLINES DISTRIBUTION OPERATIONS

Kubota Tractor Corp. has started the first phase of a three-part program to improve its nationwide product distribution.

According to Kubota Tractor President S. Egusa, the new system was developed to keep pace with the company's increasing distribution demands.

The new distribution channels will increase company efficiency, reduce transportation costs and minimize transit time.

The first part of the program, which begins with product shipment through the Port of Tacoma, Wash., has reduced the number of ports-of-entry for Kubota products from six to four, and restructured warehouse inventory allotment. In addition,

a new warehouse has been opened at the Port of Tacoma to serve Kubota's Northwest U.S. dealers and to serve as a national warehouse.

The second and third phases are designed to bring increased flexibility and improved order cycle time for Kubota's network of 1,000 dealers nationwide.

T.I. INTERNATIONAL TO PRODUCE NEW LINE OF REPLACEMENT PARTS

An extensive line of mower-reel replacement parts including reels, bed knives and grinding machines are now available from T.I. International, Andalusia, Ala.

T.I. International's 30,000-square-foot manufacturing plant is located 90 miles south of Montgomery, Ala., and currently employs 25 people.

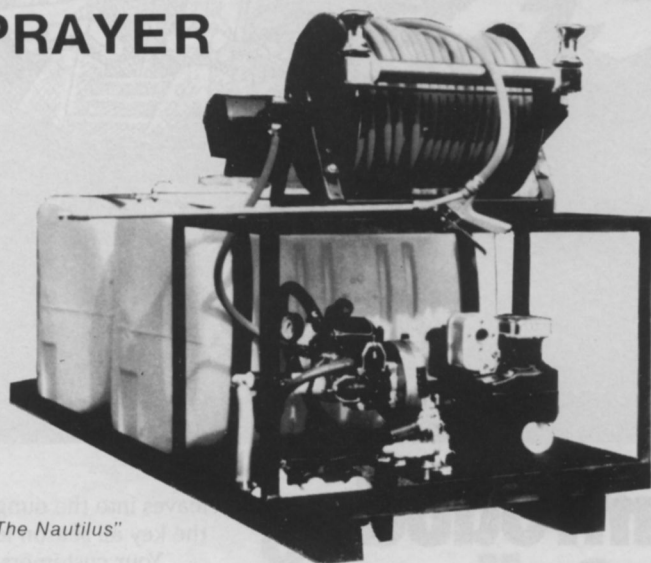
The company, which manufactures a full range of replacement reels for greens mowers to the largest gang mower, has developed a forging, heat-treating, steel tempering and manufacturing system which strengthens steel for use in harsh and demanding mowing environments.

The parts are currently being sold on a wholesale basis to major international manufacturers and distributors. ■

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ASSOCIATION NEWS

"LANDSCAPE CONTRACTING IN the Year 2000" will be the focus of the 1990 **Associated Landscape Contractors of America** Annual Convention, Feb. 4-7, 1990 at the Krystal Vallarta Hotel, Puerto Vallarta, Mexico.

Tom Lied, president and CEO of Lied's Nursery Company Inc., Sussex, Wis., will serve as moderator of the panel discussion. Other invited guests for the panel include: Ritchie Skelton also of Lied's; Jerry Lankenau, Lankenau-Damgaard & Associates Inc., Dallas, Texas; Gary Thornton, Thornton Landscape Inc., Maineville, Ohio; Don Synnestvedt, the Brickman Group Ltd., Long Grove, Ill.; and Ron Kujawa, Kujawa Enterprises Inc., Cudahy, Wis.

Hotel reservations must be received by Oct. 2. All rooms will be confirmed on a space available basis only after this date. ALCA is offering special convention registration rates for registrations received before Dec. 1.

The convention will also feature round table discussions and the 20th Annual Environmental Improvement Awards Program and Banquet.

For the first time, the **California Landscape Contractors Association** will offer its Certified Landscape Technician tests for construction and maintenance on the same weekend, Oct. 7-8, at American River College in Sacramento.

Another new aspect of the testing is that landscape architects, developers, property managers and civil employees related to the landscape industry will be invited to familiarize themselves with the certification program through a guided tour of both tests in progress. The tours are slated for 11 a.m. and 1 p.m. on Saturday, Oct. 7.

In the two-day construction test, applicants demonstrate their skills in hands-on

installation projects covering 10 major areas: plan reading, irrigation installation, brick-on-sand construction, plant installation, concrete installation, grading and drainage, carpentry, seed and sod installation, equipment operation and first aid/safety.

The eight-hour maintenance test evaluates landscape maintenance skills in five areas: general comprehension and first aid, lawn maintenance, chemical application, plant maintenance and irrigation.

The Desert Turfgrass/Landscape Conference Committee, sponsored by the **Nevada Cooperative Extension**, seeks nominations for its Southwest regional award.

The award recognizes an individual or group of individuals who have made significant contributions to the turfgrass or landscape industries in the desert Southwestern U.S.

The award will be presented at the Desert Turfgrass/Landscape Conference and Show, Riviera Hotel, Las Vegas, Nev., Dec. 13-15. This is the first year that a regional award will be presented. The conference is the only educational conference and trade show focusing on the needs of the industry in a desert environment.

Award nominations should be in narrative form and demonstrate the significance of the work, and show its impact on the turfgrass or landscape industries in the desert Southwest. Individuals nominated need not live in the Southwest, but their work must have benefited the region.

Go to jail. Do not pass go. Do not collect \$200. Sound familiar? Of course, it's Monopoly.

In celebration of its 15th anniversary, the **Irrigation Association of N.J.** will have a

real Monopoly game printed to commemorate this year's event. However, instead of Boardwalk, Park Place or the R & R Railroad, it will list distributor's names.

Every block will be owned by a different distributor. The game comes complete with play money and playing pieces. It's the first irrigation game on the market.

The middle of the board will be reserved for patron's names. If you would like to have your name or your company's name printed on each board as a patron, contact the Irrigation Association. Cost per patron is \$20.

The **Association of Professional Landscape Designers**, a national organization, boosted its membership to 130 designers from 17 states in the first four months since its incorporation. The association recently held its business meeting in conjunction with the three-day Penn Allied Nursery and Trade Show, King of Prussia, Pa.

President Donna Swanson, Ambler, Pa., co-founder of APLD, outlined plans for a member directory to be available in 1990 and tentative plans for an 800 phone number to help customers locate designers as well as serve association members and prospective members.

The next meeting of the APLD will be held in conjunction with a two-day environmental/horticultural conference in the Washington, D.C., area Feb. 23-24, 1990. An open board meeting is planned for Oct. 13 in Framingham, Mass.

Lee Mitchell was recently elected president and William Scarff was named director-at-large of the **American Association of Nurserymen**.

Mitchell, president of Mitchell's Landscaping & Nursery Company Inc., formerly represented AAN's Region VI including Washington, Oregon, Idaho, California, Nevada, Utah, Arizona, Alaska and Hawaii. Since 1956 he has been active in Mitchell's, which consists of three garden centers and a wholesale nursery.

Scarff, the association's immediate past president, is president of Scarff's Nursery Inc., New Carlisle, Ohio. He formerly represented AAN's Region III including Illinois, Indiana, Michigan, Ohio, Wisconsin and Ontario.

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FOCUS ON: IRRIGATION

N.J. IRRIGATION CONTRACTORS FIGHT TO INSTALL LOW VOLTAGE WIRING

A BILL WORKING ITS WAY THROUGH the New Jersey legislature, if passed, would allow landscape irrigation contractors to do their own low voltage electrical work.

The state currently has a "10-volt law" which requires a licensed electrician, rather than an irrigation contractor, to perform and install any wiring above that voltage. This creates nuisances and hardships for irrigation contractors, according to the New Jersey Irrigation Association.

The National Electrical Code doesn't stipulate who should install the wiring, but sets standards for how it should be done. State or local governments may specify who should do the actual installation.

Most irrigation contractors across the country, however, install their own low voltage wiring, according to Larry Keesen, a Denver, Colo., irrigation consultant.

The current law has been in effect for "quite a few years" without being strictly enforced in many areas, said Bob Dobson, president of the New Jersey Irrigation Association which also wrote the bill.

The procedure that is supposed to be followed when installing low voltage wiring for landscape irrigation systems involves the irrigation contractor finding an electrician to file a permit and do the work.

In actuality, however, many irrigation contractors pay the electrician to take out the permit and then do the electrical work themselves. Irrigation contractors have problems finding electricians to do the work; and if found, they have problems coordinating the work with their schedules, Dobson said.

If the bill becomes law it would still require the electrical work to be inspected by local electrical officials to assure it meets the State Uniform Construction Code Act.

The current situation causes problems because the installation of the low voltage control wiring is completed in stages, Dobson explained. The total amount of time spent installing the wiring is about two hours, although the ongoing installation process generally takes several days. With most electricians charging between \$50 and \$60 an hour it becomes a major expense that is eventually passed onto the customer.

George McCarthy, a certified irrigation designer with Spring Irrigation Co. Inc., Dayton, N.J., said he thinks it is ap-



A typical valve from an irrigation system showing the low voltage wiring and splices. Photo: Paige Electric.

propriate for irrigators to do their own low voltage electrical work. Many are already doing the work because electricians are unfamiliar with landscape irrigation systems.

"Very often the electricians you find are not familiar with the way irrigation systems are installed," he said. "That becomes a headache because there is a cost factor in getting them (electricians) there and then half of the time they're not that interested in doing the work, or they don't know how to do it."

McCarthy said he doesn't understand why it matters who does the work if it eventually undergoes the same inspection.

"If a guy knows what he is doing, whether he is an irrigator or an electrician, everything should turn out all right," he said.

Barbara Elmers of Homestead Lawn Sprinkler Co., Pompton Lakes, N.J., said the situation is especially hard on those irrigators who don't know electricians and who, therefore, cannot get a discounted rate.

"Some people have those friends who will do it at a lower rate," she said, "but it definitely becomes a major expense to pay an electrician every time there is low voltage work to be done."

Another irrigation company which doesn't use electricians for the low voltage hookup is Dew Drop Lawn Sprinkler Service, Forked River, N.J. Caroline McFall, the firm's director of sales, echoed Dobson in saying that electri-

cians don't want to get involved in such work.

"We've never used them, we've done it ourselves," she said. "When you're working on pump starts and relays and you call an electrician, they're asking you how to do it." It doesn't make sense to pay the electrician's fee only to be asked how to do the work, she added.

The irrigation field does need a higher level of uniformity, McFall said. She would support a set procedure or rules for irrigation contractors including a basic test covering low voltage wiring.

"It comes down to the fact that if you're doing the wiring, it should be done properly and meet all the standards and codes," she said. "That is each installer's responsibility."

While most electricians, according to Dobson, support the bill, the New Jersey Board of Examiners of Electrical Contractors opposes the bill on the grounds that it would create a safety hazard.

Anna Muschal, assistant to the director of policy and planning for the Board of Examiners, said the board opposes the bill mainly for safety reasons.

When installing a controller, there is a portion of electricity much stronger than 30 volts, she said. Working with high voltage wiring without the proper training is dangerous enough, she said. But when you add the possibility of the wires coming into contact with water from the irrigation system, it's a potentially fatal hazard.

Dobson said only some installations, those involving detailed wiring and hookup, deal with voltages higher than 30. The bill is not seeking permission for irrigators to involve themselves in those higher voltages.

The Assembly passed the bill and is now waiting on approval by the Senate before becoming law. Dobson said several members who voted for the bill viewed the electricians board's objection as protectionism. The Senate will consider the bill when it reconvenes in the fall. — David Westrick

The author is Assistant Editor of *Lawn & Landscape Maintenance* magazine.

FOCUS ON: CONVENTIONS

EXPO ATTRACTS RECORD ATTENDANCE DESPITE INCLEMENT WEATHER

MORNING SHOWERS AND THREATening conditions prevented first-day testing of products at the outdoor exhibit area, but didn't stop visitors from attending the Sixth Annual International Lawn, Garden & Power Equipment Expo held recently in Louisville, Ky.

About 22,360 attendees visited the Expo sponsored by the Outdoor Power Equipment Institute, making it the largest attendance since its inception.

Fairground crews valiantly tried to keep the 450,000-square-foot outdoor demonstration area suitable for the riding and testing of power equipment, but 150 cubic yards of mulch spread over the field and kitty litter spread in assorted booths weren't enough. The demo area closed at noon to give the field a chance to recover from the rains. It reopened the following morning and stayed open through the remainder of the show.

In past years, rain has delayed setup and slowed traffic, but it has never closed the demonstration area.

In the meantime, the show's first-day attendees, including 1,262 overseas visitors, took advantage of more than 550 exhibitors and their products spread over 270,000 net square feet of exhibit space.

A breakdown of this year's attendance shows 38 percent representing retailers



Expo's outdoor demonstration area was hit hard by rains, limiting attendee hours on the field.

and servicing dealers, 20 percent distributors, 17 manufacturers' representatives, 12 percent trade visitors, 6 percent landscape/commercial mowing contractors, 5 percent merchandisers/buyers and 2 percent press.

About 32 percent of the show's registration were first-time attendees while 16 percent indicated they had attended the show all six years.

The Expo, originally designed for a retail audience, attracted more than 500 commercial attendees this year, a sign of the growing interest in the commercial power equipment industry by both ex-

hibitors and visitors.

In 1988, only 145 attendees were identified as commercial contractors, but comparisons cannot be made with this year because the Expo didn't have a specific landscape contractor category last year.

Show Chairman Warner Frazier said interest in the commercial end of the industry began about four years ago and has been increasing ever since.

Seminars on topics ranging from climatic changes and its effect on the lawn maintenance industry, merchandising

for maximum sales and profits and increasing sales to the commercial market were well attended throughout the show.

The Expo was also a chance for members of OPEI to plan for the future. By the spring of 1990, Association Research Inc. is expected to provide a sales forecast of the lawn and garden industry.

The research firm was hired by the OPEI last year to compile a profile of the outdoor power equipment industry. The study profiles OPEI member shipments, industry expenditures and wholesale and retail distribution channels among other things.

OPEI's new forecasting system will cover the industry as a whole rather than concentrating on individual shipments as has been done in the past.

A model for the industry forecast has yet to be developed, but will include such factors as inflation, housing starts and the industry need for the product, according to Michael Sherman from Association Research.

Next year's show will be Sunday through Tuesday, July 29-31. For information about exhibiting or visiting contact: Expo 90, P.O. Box 70465, Louisville, Ky. 40270; 800/558-8767. In Kentucky or outside the continental U.S. call 502/582-1672. — Cindy Code

The author is Editor of Lawn & Landscape Maintenance magazine.

REDMAX RECEIVES INNOVATIVE PRODUCT AWARD

THE RECIPROCATOR TRIMMER brushcutter from RedMax, a division of Komatsu Zenoah, Norcross, Ga., was selected as the overall innovative product winner from nearly 50 entries at the International Lawn, Garden & Power Equipment Expo, Louisville, Ky.

Nine manufacturers captured 10 Innovative Product Awards which were judged on-site at the Expo. The awards recognize imaginative and innovative designs in lawn and garden products and were presented at a news conference held by the Outdoor Power Equipment Institute, the show's sponsor.

John Kelly, senior vice president of RedMax and Hiroo

Taguchi, president, were on hand for the award presentation.

Other award winners were Billy Goat Industries, Lee's Summit, Mo., for its truck loader vacuum TLI600; Colorite Plastics Co., Ridgefield, N.J., for its kink-free hose; Dorcy International Inc., Columbus, Ohio, for its Bladebuster safety blade lock; Exmark Mfg. Co., Beatrice, Neb., for its Explorer 1800; Ferris Industries, Vernon, N.Y., for its 36-inch Hydrowalk; Lawn-Boy, Plymouth, Wis., for its M-Series lawn mower; Temco Products Inc., South Gate, Calif., for its gazebo; and The Toro Wheel Horse Riding Products Group, South Bend, Ind., for its HMR 1600.

The entries represented a cross-section of products from both the commercial and consumer power equipment industries as well as equipment accessories and packaged products.

Entries were judged on appearance, ease of operation, safety, value for investment, effectiveness and overall innovativeness. Technical writers, industry operators and a consumer products expert judged the products. The main criteria was that the piece of equipment being nominated was in production July 1988 through December 1989.

The award contest will become an annual event.

FOCUS ON: EQUIPMENT

MANEUVERABILITY, SIMPLIFIED CONTROL KEYS TO ZTR MOWERS

BECAUSE OF THEIR INHERENT maneuverability, zero turning radius mowers have rapidly grown in popularity with lawn and landscape maintenance contractors.

ZTR mowers offer the end-user a variety of benefits, but when asked what they like most about these units the majority of users indicate their time-saving advantages. And every minute and hour saved equates to higher profits.

The time-saving benefits available with ZTR mowers are the result of several design features. First, complete control of steering, speed, turns, braking and forward/reverse directional control is placed at the operator's fingertips using a dual-lever control system.

There are no gears to shift and no turning assist brakes required to obtain true ZTR maneuverability. This simplified operational control concept delivers smooth, uninterrupted motion when mowing in tight areas or areas congested with obstacles, allowing the operator to change the direction of travel without using a gearbox.

When combined with an outfront deck, this maneuverability is increased because the operator can reach in, under and around shrubs, trees, fence rails and other obstacles with unobstructed visibility. The quality of cut is also enhanced because with an outfront deck the grass is cut before it's passed over by the drive wheels.

Dual path hydrostatics also allow a ZTR mower to provide infinitely variable forward and reverse speed control, as opposed to fixed speed ratios available through gearboxes. This permits an operator to achieve ground speeds that match mowing conditions without shifting gears or using the throttle.

But, even with all their benefits, it still takes more than streamlined operation and the ability to spin in circles while maneuvering around obstacles for a ZTR mower to meet the rugged day in and day out demands of professional turf maintenance. To operate at a profit, professionals must use equipment that is reliable, easy to service and efficient to maintain.

The exceptional agility of ZTR mowers must be integrated with high performance features and durability to maximize productivity. A feature essential to every true ZTR mower is a dual-hydrostatic drive system. But the design of the drive sys-



Time-saving benefits are available with ZTR mowers, like this GRA 10-89 mower.

tem and how it is engineered into the mower can have a great impact on the efficiency of the total mowing package.

As is the case in most highly competitive industries, once current equipment reaches a point where it no longer meets the increasing demands of the market, new technology must be developed.

Most dual-hydrostatic drive systems to this point had been borrowed from other industries, such as agriculture, and adapted for use in the turf industry. The Grasshopper Co., however, felt there was a real need for a drive system designed specifically for turf maintenance.

As one of the first in the industry to integrate dual-hydrostatic drive, zero turning radius and outfront deck design, Grasshopper wanted a durable drive system that delivered increased responsiveness to operator input, reduced maintenance and longer service life.

Development of this new drive concept was a joint effort between Grasshopper and Eaton Corp. that was nearly three years in the making. The culmination of their combined efforts and years of testing and evaluation resulted in the "Gemini" direct drive hydrostatic system, which was incorporated in their new 700 Series mowers introduced in 1988.

The Gemini direct drive hydrostatic system incorporates a high-flow recirculation system, full filtration and dual high-volume charge pumps to recirculate and filter the total volume of oil in the system twice per minute for controlled operating temperature and cleaner operation. Dual

spin-on-type replaceable filters were incorporated to simplify servicing.

The hydrostatic transmission, gear reduction and tapered axle assembly are enclosed in one housing. Segmented modular design allows quick access to either the axle or final drive without completely dismantling the entire unit. The system uses a closed, high-pressure loop that's self-priming, plus a common three-gallon reservoir that's easily accessed. And, because all external hydraulic supply lines are low pressure, there are no worries about hoses bursting or leaking because of high pressure.

Designing a drive system to precise specifications may not be the quickest or easiest way to get what's needed, but it enabled Grasshopper to meet its drive-system objectives for its new 700 Series — a product line which has influenced customer profitability.

"We can bid lower on jobs, get jobs and keep jobs using these units," said Bob Bitner, owner of B.C. Mowing and Lawn Care, Gettysburg, Ohio. "Without Grasshopper, I don't think we would have survived last year's drought."

One job Bitner was able to obtain over a competitive bidder helped him through a lean year. The other commercial cutter, who used larger, but non-ZTR machines bid 27 hours to mow this particular factory site. Bitner bid 12 hours and got the job, but has been able to consistently mow the site in 10 hours.

For Dan Peterson, Service Corp. International, Kansas City, Mo., 1989 marks the first full season of operation for four new Grasshopper 718D units with the new Gemini system. Included in SCI's operation is the maintenance of 130 cemeteries nationwide. Peterson is responsible for three cemeteries in the Kansas City area.

"My operators like these machines because they are so easy to operate and they feel a lot less fatigued at the end of the day," Peterson said. "We'll put approximately 300 hours on each of four new units this year," he said, "with about 230 acres at the three locations, keeping the grounds looking sharp can be a real challenge." — *The Grasshopper Co.* ■



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Aeration Acceptance Spurs Growth of Aeration Consultants

WHEN THE FIRST PRACTICAL AERATOR FOR HOME lawns was developed in 1946, Greg Schreiner was a long way from the plugs, holes and tines now associated with most aerators.

But today, at the age of 27, Schreiner finds himself at the top of the Denver, Colo., aeration industry with competitors nipping at his feet.

In the four years that Greg Schreiner has owned his company, Aeration Consultants, he has grown from a one-man operation to a well-respected businessman operating eight one-man crews, with one truck and one aerator a piece, aerating about 10 lawns each per day.

At the same time, aeration has become a hot business in metropolitan Denver. With most lawns under irrigation, aeration is a service performed spring, summer and fall. A service once thought to be only for the delicately tailored golf courses, the call for aeration is now nearly unmeasurable.

"Anytime's a good time to aerate in Colorado," Schreiner said. "We've got these clay soils out here that are hard to penetrate. So every time you water, it actually runs off the lawn."

Company studies indicate that regular aeration can save at least 10 percent and as much as 25 percent on customer water bills. All aeration jobs are scheduled two days in advance so the owner can irrigate the property before it's aerated.

In four years, Aeration Consultants has gone from 40 to 6,000 residential customers. In addition, the company maintains about 1,000 commercial properties.

It was the residential customers who helped Schreiner get his start. As he walked door-to-door through the suburban Denver neighborhoods, Schreiner developed good relationships with his customers, a tie which still benefits him today.

Aeration Consultants got its initial start in the commercial aeration business through subcontracting. Jobs which were initially completed by larger, full-service companies were difficult to obtain. Eventually, Schreiner convinced such companies as Service Master and Ever-Green Lawns to let his company perform the aeration. In return, Aeration Consultants showed them a 35 percent to 40 percent profit.

"We sold them a percentage profit. It was

In four years, Greg Schreiner has taken Aeration Consultants from a small one-man business to a company in demand.



AERATION CONSULTANTS

Headquarters: Englewood, Colo.

Founded: 1985

Owners: Greg and Gary Schreiner.

Primary Services: Aeration, weed control, fertilization, miscellaneous landscape maintenance and snow removal.

Employees: 32 during peak months.

1988 Sales: \$252,000

Expected 1989 Sales: \$500,000.



good enough that they'd let us do the work for them," Schreiner said. "We'd go right to the apartment or condominium complex, even put their logos on our trucks if that's what it took."

The company guarantees all sprinkler systems and is often seen walking the business manager across the newly aerated property before leaving the job.

About half of the company's commercial work is subcontracted, while the rest is performed on a direct basis. At the same time, Schreiner subcontracts weed control and fertilization services for his residential customers.

During the prime spring and fall aeration periods, Schreiner has eight crews working a minimum \$350 production day. They complete 10 \$35 lawns or three \$120 lawns a day — whatever it takes. The \$35 and \$120 represent the company's high and low charges.

"We also have incentive plans for these guys. These guys all make between \$5 and \$6 an hour. What we've devised is after they do their routes, or even before, if they pick up a new client, they receive \$10 per lawn they do above their requirement," he said.

Schreiner said most workers do one to two extra lawns per day. "It adds up. It's been the best percentage program that we've worked out."

The eight routes fall to two during the summer, but Schreiner makes a commitment to maintain customers' property even when they get busy with landscaping work during the summer months. Part of their commitment enables Aeration Consultants to arrive at a property within two days, ready to aerate if necessary.

"We charge the same price as our competitors, but we service the property on a more timely basis," he said. "That's what has caused us to grow so much. It's definitely the service they're paying for. We're right there for them."

Schreiner has seen his sales jump from \$5,000 in 1985 to \$40,000 in 1986, \$140,000 in 1987 and \$252,000 in 1988. This year promises to be a good year for the company as well, with sales possibly reaching \$500,000.

Greg Schreiner (right) and Rick Johnston, assistant commercial manager (left), discuss the day's schedule. In the background, Jesse Barela, commercial manager, aerates the property.

The company operates with about seven full-time people, including managers and about 25 part-time employees.

Marketing has become an important part of Aeration Consultants. The company maintains three full-time telemarketers and recently hired independent representatives to work from their homes. The independent reps turn in as many as 20 to 30 estimates per week and receive a 15 percent commission on each sale.

The company boasts a 43 percent confirmation rate.

Estimates include measuring the property, giving a square footage price, identifying the grass type, thatch depth, turf density, disease analysis, the recommended mowing height and an insect analysis. Two full-time schedulers then try to confirm them.

Aeration is in such high demand in the West and Southwest that Schreiner plans to offer Aeration Consultants franchises.

Initial plans call for offering at least five franchises next winter, mainly in the West and south of Denver. A person can buy into a franchise for about \$5,000 to \$8,000 plus an additional annual fee between \$900 and \$1,000, Schreiner said. Profits made after the initial investment remain with the franchise.

In return, Aeration Consultants will offer education and support throughout the year and sell them equipment and uniforms at cost.

Spring is the company's busiest season, but it actively promotes aerations through the summer and fall. "In the spring and fall we promote the active root growth," Schreiner said. "In the summer, we don't push it hard, we just tell the customer if he wants to save some money in his water bills, give us a call. Most of our customers will receive two aerations a year."

When the company's not aerating, it keeps busy with maintenance work like pruning and ditch work among other things, as well as snow removal during the winter.

In the following interview, Greg Schreiner shares some insight into the competitive aeration market.

Q: What prompted you to make aeration the focus of your business?

A: I'm not sure. When I was at

ChemLawn, I saw that it was going to be hot for some reason. If you were to come out here and talk to people about it, everybody thought I was crazy. For some reason I just had a hunch that it was going to be good; it was something that I could do.

We went out and bought a big commercial aerator, a trailer and a truck. I did a lot of free aerations that first year; I also did many demonstrations on the kind of work we could do. It was just me at the time.

The biggest concern of mine was to keep the quality growing every year. As I moved out of operating an aerator myself and put others in my place, I had to make sure the quality I would have expected was still there. That's been the biggest challenge over the years — to make sure the quality stays.

I think I had to prove something to everybody who told me there was no way I could do it. To make a long story short, aeration was something I thought was going to be hot back then — and it is.

Q: How long were you at ChemLawn before you started Aeration Consultants?

A: About six months to a year. The people that I worked for are still the top dogs in Denver. And they really respect what we're doing and the good work that we do. That's what keeps the industry going.

We're getting a lot of fly-by-nighters out there right now. They're going through neighborhoods door-knocking at \$20 a

It takes a lot of money to pay the bills, and when I see someone go through the neighborhoods at \$20 a lawn, I'll actually call them up and say I'm a small business owner like you and I think you're leaving money on the table. Go up to \$30, make \$10 more, but don't hurt us with our customers saying you can get it done for \$20.

Q: How do these companies react to such a phone call?

A: Many of them don't understand. One guy went through a neighborhood of ours offering to aerate lawns for \$20 a piece. I called him up and said, "you know we're at \$35, you're leaving \$15 on the table. If you don't want to go head-to-head with us, then go down \$5, I don't care, but get your prices up and make some money."

I asked him if he was paying his payroll taxes. "Payroll taxes? What are those?" It's crazy. These people are doing \$20 lawn aerations and they're not paying payroll taxes. We've got \$2 million liability insurance and that costs money. We get beat up by our customers telling us this guy will do it for \$20. Who is this guy?

There's a lot of unqualified people getting into this business trying to make a quick buck, and it's hurting us. There has to be some standards set as far as pricing, etc.

What happens if you go in and mow at \$20 a lawn? You're going to get a lot of work. That means you have to hire people and that means you have to pay payroll taxes. Inevitably, they're going to be pricing where we're at any

what's underneath the ground surface — even if you are only going down three inches.

Q: What about your equipment? Why do you use all Ryan equipment?

A: I don't think there's ever going to be an aerator that will last more than a year or two, but I think Ryan comes close.

We worked through a distributor out in Nebraska coordinating a lot of things to meet our needs. We've been approached by the biggest con artists in the world about how much better their aerator is and why we should use it, but we're satisfied with Ryan.

We use the heck out of them, 10 to 12 hours a day, six days a week. A company (manufacturer) has to understand that's how they're going to be used.

It must be maneuverable, easy to handle, light and compacted vs. the big, bulky models.

I also look for a model which pulls the best plug. A closed tine which actually goes down, grabs the core and lays it on the ground is the best thing to have out there.

Q: Have you ever considered leasing your equipment?

A: We looked into it, but decided it wouldn't work for our company. I know of other companies on leasing programs. What I do is put down either \$1,500 on a forward drive or \$500 on a smaller Toyota residential truck, and if I can do that and in four years it's my truck, why not do that vs. putting nothing down.

We've looked at it carefully. With leasing, you can just turn it back in, but in the books a lease doesn't show an asset. And I like to show assets on the book. You can write off your lease payment and maybe you can't write off the down payment on a truck, but I'd rather have the assets in the book. It makes us look stronger. We've got credit lines, we've got banks that are involved in us. We have to show them returns. We have to show them that we're strong. I'd rather have an asset with a liability next to it for the same truck.

Q: What about downtime? What do you do if an aerator is down for more than one night?

(continued on page 20)

.....
"For some reason I just had a hunch that aeration was going to be good...I just had to make sure I kept the quality growing from year to year."

lawn. We've found flyers on doors that say \$20 a lawn no matter what the size of the lawn.

We'll actually call them up (competitors) and explain what they're doing to us. I get upset about that. We understand that we're all in business to make money, but they pay the bills, the labor, the taxes and that's all.

way. They need to learn how to price it right.

Q: Is liability insurance hard to get?

A: No, not for us. It's expensive, but you've got to have it to get the big work. There are some difficult risk factors when you consider

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Aeration

(continued from page 18)

A: We clean and oil the machines every night and do all the maintenance as far as tightening bolts and fixing chains. All machines have to be ready the night before for the next day. We don't have anybody coming in and fixing aerators that morning. We spend the money to get them done right the night before so the next morning they are ready to go.

We try to give one machine and one truck to the same guy every day and make them responsible for them. We've got a couple of guys that are really good with the aerators and if they need help, they just give another guy a call. We all carry radios out in the field. If you've got problems, somebody can tell you over the radio how to fix it. Each truck has a tool box and every tool that they would need to fix their aerator. Before they go out in the field they get trained on how to work on their aerators.

As far as our trucks, they're all brand new. Our oldest truck would be a 1985. We wash our trucks every three days and we wax them every month. As far as maintenance, every six months months we go in and do a complete tune-up, flush the radiators, change the tires, change break belts, whatever is needed. They have a maintenance report on each truck and each piece of equipment.

Q: Do you foresee the need for a full-time maintenance worker?

A: That's the big decision we're going to have to make this winter. I don't believe we have to. We've got a dependable mechanic, who comes in and goes through every truck, tells us what needs to be done — anything from new fan belts and flushing the radiator to changing tires and breaks. He gives us a list of what each truck needs and then we set up a schedule for the work. All of our trucks are on extended warranties. They're all basically brand new trucks, so there's not much to break.

Q: How do you effectively price your company's services to ensure a profit?

A: You have to take the total pic-

ture into account. We were at \$30 an aeration and we justified a price increase this year.

Let's take a \$30 lawn for example. You spend \$5 an hour on telemarketing people and they might get you two estimates an hour. That's \$2.50 to generate the estimate, not including telephone, lights and a little bit of overhead. Let's just say it costs about \$4.25 to generate an estimate.

Then you have a \$7 an hour guy going out doing estimates, plus other expenses such as fuel, a truck payment, mileage or whatever it might be. Add about

continue and move. And then you have to spend a lot of money in marketing next year to contact them all.

Q: How large do you see your company getting? How many customers?

A: Well that's a decision we're going to make this winter. You've got to have good people with you, and we do, in order to grow. Let's say they want to make more money. We'll all sit down, because if everybody wants to make more money, we're going to have to

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"I don't think the market will ever reach its saturation point. Everybody wants an aeration in the spring and they always will. I don't think it can be saturated."

\$9 an hour to run a guy out there. He should be able to do two estimates an hour, so there's another \$4.50. Now we're up to \$8.50 or \$9 just to get the estimate to the door.

From there it goes back to the shop and you've got a \$7 or \$8 an hour person trying to confirm it. We figure by the time we market a potential customer and finally got him as a customer, we've got about \$12 wrapped up in him.

After that you have to go out and do the aeration. There you're paying a guy about \$6 an hour — about \$8 with payroll expenses — and another \$1 for fuel. It gets to the point where we have about \$23 wrapped up in that person.

Now look at the other 50 percent of the estimates we're not confirming. That eats into the cost of the job that you're doing. It adds up to about \$32. We weren't making anything last year. This year we make \$2 to \$3 on the first-time customer. But when you do a good job, they're going to call you back again next year; they're going to remember you and want you back again.

That's what's exciting and controversial at the same time. Do I sit there at the end of this year with 6,000 customers and say "Let's stop marketing and make some good money." We can't do that. About 500 to 1,000 of those customers will probably discon-

make a decision together — do we want to go to \$500,000 in sales next year or do we want to go to \$1 million?

If it takes us five years to get to \$500,000, it'll take us five more years to reach \$1 million. And it's going to be the same long road in debt.

How big do we really want to get? I don't know. I think we've surrounded ourselves with dedicated people and I feel they're helping me make sure I don't make the mistakes that I might have.

Q: Who's going to be involved in your decision to grow?

A: I always talk things out with company employees. I'll actually say how much more do you guys want to make. They'll tell me how much they want to make and we'll do a flow chart to see what sales we have to achieve in order to bring in that kind of money.

We know how hard we had to work this year. Because all of my managers are on a bonus program of 1/2 percent of our gross sales. While in their division if they do \$80,000 or \$100,000, they'll make about \$500. So it all depends on how hard they want to work.

Q: How do you think the market's changed? How did the home-

owner become educated on aeration and the need for it?

A: It's a combination of things including technicians in the field telling homeowners they need to aerate and then explaining what aeration is and how it can benefit the soil and turf.

And through others, like myself, door-knocking and distributing fliers. We get people calling here about five times a day just asking us what aeration is.

Q: As a small business, do you feel a lot of competition from big business?

A: It seems like everybody's buying or being bought out right now. It's not one of our immediate goals, but we would like to go after that mountain one of these days.

I don't feel threatened by the competition. In fact, we get a lot of competitors' customers coming to us, sometimes on referral from our competition. Commercially, we go head-to-head with our competitors quite a bit. Sometimes they win, sometimes we win.

Q: Is it hard to get first-time customers now that competition has increased?

A: No, it really isn't. We had 1,700 new customers this spring. That's a lot of new customers. We do the marketing and give people a professional estimate.

There's work out there. Competitors can also work together for the benefit of the customer. We know just about every project in this town. We know who has it. We know everything about our market. We're very on top of what's going on in this town.

Q: How long is it before aeration reaches its saturation point?

A: I don't think it ever will. We haven't even touched the north side of Denver. Everybody wants an aeration in the spring and they always will. It's the best way to get your lawn perfect.

I don't think it can be saturated. It might move around a little bit. But I think that's why we'll always have to keep up with the telemarketing.

Q: How does regular aeration help conserve water?

(continued on page 56)

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Selling, Servicing the Competitive Homeowner Market

INSIDERS CALL IT THE lawn and landscape maintenance industry, or the green industry. Sort of like space travel, in recent years Americans have taken it for granted.

But 20 years ago this multibillion dollar industry didn't exist. It was then that the lawn and landscape maintenance industry's phenomenal growth was spear-

headed by the creation of ChemLawn Corp., a giant, publicly held professional lawn care company based in Columbus, Ohio. The concept was simple: produce the envy of the neighborhood — green, weedless grass cheaper than you could do it yourself.

But the past, present and future of this service industry is far from simple. It's growing complexity mirrors American life itself.

Complexities that will shape lawn and landscape maintenance in the 1990s, according to interviews with eight industry leaders

are: heightened competition and market saturation in some areas, particularly the urban East and Midwest; consumer demand for more service and full service; Americans' rediscovery of their natural environment and health concerns; law making and regulation, particularly by state and local governments in areas ranging from the environment to employment and insurance; a lack of adequate labor resources; the impact of an eventual economic recession on a discretionary service; and increasing organization, coalition-building and professionalism in an industry emerging from adolescence.

However, these industry pioneers and experts point out the future of the industry in an automation-age is intertwined with the very fabric of a changing American society.

INDUSTRY EMERGENCE. The most visible element of the green industry's emergence in the homeowner market — chemical lawn care — was born in the late 1960s and early 1970s. More than any single entity, ChemLawn was the father of the lawn and landscape maintenance industry. During the growth of this now giant company came many offspring and competing companies.

"Socio-economic changes have been the trigger to the very essence of the service industry. We're dealing with the family unit," said Russell Frith, president of Lawn Doctor Inc. With 280 franchises in 27 states, the Matawan, N.J.-based company, founded in 1967, is the industry's largest franchisor.

"For a very long period of time we had a family unit where there were very clearly defined roles and responsibilities. (Now) there's not that kind of certainty," Frith said. "We have what appears to be a dual income need to support the dream of purchasing and maintaining that house."

Just how dramatic was the growth of the lawn and landscape maintenance industry? Jerry Faulring, president of Hydro Lawn, Gaithersburg, Md., provides a vivid example.

In 1972 under the name ProTurf, he and then partner Bill Quay, acquired \$20,000 worth of chemical lawn care accounts in the Washington, D.C., suburbs. At year's end the company had 150 customers. ProTurf applied dry fertilizers, performed mechanical seeding and aeration services and applied pesticides.

In 1975, they entered the liquid lawn care field and developed Hydro Lawn to compete with ChemLawn. Before organizational changes, Faulring said, the company peaked in 1984 with 30,000 customers.

But, with dramatic growth has come profound changes.

After first selling itself technically to the homeowner market, emerging companies — from small, local ones to regional and national giants — could hardly keep up with orders.

"In the early days, marketing was more technical; people were interested in what we were applying. That's gone full circle. Now people are buying a series of visits and we are virtually taking care of everything — fertility, diseases, insects and weeds. The trend in marketing (became) sell service, green grass and attractive property with the technical issues taking a back seat," Faulring explained.

"Competition is aggressive. There are lots more people trying to sell the same services. It's more difficult to differentiate companies," Faulring said.

Though Faulring sees no "revolutionary change like what occurred in the 1970s," he emphasized "the homeowner wants more from us — mowing, pruning, leaf removal, planting flowers and landscaping. About 15 to 20 years ago only the wealthy could afford those landscape services. That's changed quickly.

"The growth of mowing/maintenance services is as phenomenal as chemical lawn care and I see that continuing," he said.

In an industry everyone agrees is price sensitive, Faulring said, he is finding "money isn't the issue. They want upper level programs and more services." An annual Hydro Lawn program for an



Landscape contractors from Personal Landscaping Inc. arrange bricks for a walkway. Photo: Mickey Jones.



Barefoot Grass personnel discuss turf conditions with their customers.

average lawn may range from \$200 to \$650.

While marketing is "80 percent" of the effort, Faulring's idea of marketing goes way beyond advertising and is an inclusive and integrated approach, including "the color of trucks, uniforms, how you talk to people, invoicing and the sales package."

TREE & SHRUB MARKET. Professionalism and environmental concern have always been present at Bartlett Tree Co., Stanford, Conn.

The company was founded in 1907 by the late horticulturist F.A. Bartlett, and is now run by his son and grandson.

Professional maintenance of trees and shrubs came into the reach of typical homeowners in the 1950s due to the introduction of reliable automated equipment. The work of a crew of 20 could be done by two people.

However, the continued rise of labor costs has led Bartlett to focus its marketing efforts on the established homeowner—second or vacation homes and condo-

minium markets. Bartlett has cared for the trees and shrubs of such famous people as Franklin Roosevelt, movie stars and Thomas Edison.

"The biggest limiting factor is good manpower," said Walter E. Dages, public relations director.

Another important marketing factor in both tree and shrub care as well as landscape maintenance is the relationship between commercial and residential services. Dages said the company often provides services to an institution or business and to the homes of the members of a country club or business executives.

Bartlett Tree emphasizes preventive maintenance, leaving emergency tree service to smaller companies. Educating children and adults of the value of trees and shrubs is an integral part of the company's operations.

In addition, Bartlett "is the only company with a full-fledged research laboratory," Dages pointed out. The laboratory is located on a 300-acre site in Charlotte, N.C.

RADICAL CHANGES. In some parts of the country, such as New York state, the issue of pesticide usage is bringing radical changes to the green industry's homeowner market.

Marty Erbaugh, president and founder of Lawnmark Inc., Hudson, Ohio, said he believes regulatory change is the single most significant development facing the industry today. Sixty percent of the company's business is in New York state where, he said, regulation is "radicalized" through such requirements as prenotification of chemical applications.

Regulators in New York, Minnesota and elsewhere are also requiring contracts for lawn maintenance services. Such requirements, industry leaders said, will increase the cost to homeowners without added value.

The assertion of regulatory change as the industry's greatest challenge should be viewed in the context of an industry undergoing such major changes as consolidation and diversification.

Erbaugh noted there are only a

couple of \$10 million (sales) size companies not owned by somebody else. He also observed that "not one company has successfully diversified. They took their eyes off what the homeowner really wants in lawn care."

"As companies like us continue to grow the homeowner asks, 'Are our products safe? Are we professionals? Do we know what we're doing?'"

Without agronomic basis, he explained, "all market research indicates the consumer perceives dry products to be safer," although, Erbaugh said, he and others still believe there's a place for liquid application.

Until recently, Erbaugh said, "demand was driven by people using the service for the first time. Killing weeds was simple and there wasn't too much professionalism. They were amazed we could do it cheaper and better than they could."

Times are changing. A customized, diagnostic program with more limited and targeted use of pesticides is now in the research and development stage at Lawnmark.

Erbaugh said he believes the consolidation and concern over pesticide use is "positive" for business.

"How do you market and deliver a more customized program? That's the challenge of the industry. Most of us are still doing broadcast operations," he said.

Erbaugh described the customized program and the industry's future in these terms: "Diagnose the lawn, observe and make appropriate treatment. The applicator of the 1990s has to be more educated, more trained, spend more time and prices are going to have to reflect that."

Though in certain areas of the country the pesticide issue isn't now a significant factor, Erbaugh predicted "it's going to go every place. It's the difference between having an applicator being a technician to a diagnostician."

Ironically, concern about the environment, use of pesticides and government may bring relief to the industry's headache of recruiting and retaining good employees, and continued labor shortages, particularly in the major urban centers with widespread lawn maintenance services.

"It's going to result in wages for them to do all and stick



Edging is an added homeowner service. Photo: Mickey Jones.

around. As what we are doing at Lawnmark gets recognition at universities we'll attract more people," Erbaugh said.

Concern for the environment isn't a new concept in the green industry's service to the homeowner.

Though full-service landscape management for homeowners represents only a small portion of the business of Kujawa Enterprises in the Milwaukee suburb of Cudahy, "the market has grown tremendously," said Ron Kujawa, president. And, he predicts continued growth due to the emergence of yuppies and DINKS (double income no kids).

Yuppie families need the full-service landscape management (ranging from \$6,000 to \$12,000 a year) typically because both parents are professionals and therefore need and can afford it. In the case of the DINKS, he added, they don't have time for their landscapes because they may be active playing golf or tennis.

Another more established market for full-service landscape maintenance, Kujawa said is the "old money" estates. In this case, wealthy estate owners have increasingly found many advantages to hiring a professional service rather than employing a gardener. A professional company has the ability and resources and offers a less complicated alternative to the traditional caretaker for those who can afford it.

In offering everything from the design and maintenance of landscapes for upscale properties, whether country estates or city homes, "most of the private residential work has been derived from a commercial or industrial relationship. It's very common and getting more common," he

said.

The biggest problem, Kujawa said, in this growing but small segment of the company's mostly commercial business, is competition from small operators "that do good work, but merely for wages not for profit. It makes competition difficult."

Another fast-growing company in the full-service tree, shrub and landscape maintenance industry is Ajax Tree Service and Landscaping Co. The present company results from a merger four years ago of Ajax Tree Service and landscape build and design contractor Joe Super.

Demand by owners of upscale homes in affluent suburbs along Lake Erie west of Cleveland, Ohio, led to the creation of the company, Super explained.

The company provides full tree and shrub service — garden and landscape design, planting, trimming and spraying. From offering landscape design and build packages, customer demand led to expansion of services in the maintenance of lawns and gardens, including mowing, mulching, fertilizing and pruning.

"Most of our clients are ecologically aware. We try not to put down a lot of chemicals," he said. "Many homes are near the lake and eventually the ground water runs into the lake (Lake Erie)."

ASSOCIATION HELP. While individual companies become more specialized and professional, the entire industry is organizing, becoming more sophisticated and more professional.

Membership at the Professional Lawn Care Association of America, for example, has grown from 400 to 500 three or four years ago to 1,100 today. To fuel PLCAA's

heightened efforts in legislative, coalition-building and educational matters, however, base level dues have doubled from \$200 to \$400 a year — even more for the largest companies, said Robert Parmley, PLCAA president and Chicago regional general manager for Barefoot Grass Lawn Service.

While PLCAA builds coalitions with other green industry associations such as the Associated Landscape Contractors of America and the National Arborist Association, it is appealing to its own members to get involved locally and support local, state and national associations.

Earlier, he admitted, PLCAA "was criticized for not being active enough in fighting battles. Beginning this year we made it a major focus. We had to significantly increase the dues to increase the resources."

An important concept in the issue of pesticide use, he added, is that two-thirds of pesticides used in the urban environment are applied by homeowners. Yet, government seems interested in regulating only lawn care applicators.

"We have to say to the lawn care operator: 'It's real (regulation) and going to come to his doorstep one day,'" Parmley said.

Though regulatory difficulties and other challenges facing the homeowner service market and the industry will continue, Parmley notes these factors are "elevating the industry and creating a professional image."

The issues of professionalism, training and service are increasingly important, Parmley and other industry leaders emphasize, because the days of the first purchase being a generic decision are over.

"It's not the first person there that gets the business. The image you present, your literature and the way the technician approaches the homeowner is the key to getting business."

CONSULTANT INFLUX. As the future of the lawn and landscape maintenance industry continues to change, more and more contractors are turning to consultants like George Koziarz, president of Georg Koziarz & Associates Management Consultants, Bannockburn, Ill.

And the message of the former

landscape contractor with a master's degree in business management is quite direct.

"You're going to see a whole bunch of things cause the price (of home lawn and landscape maintenance) to go up.

"The new and smaller companies aren't going to keep pace with the cost of responsibilities. They (artificially) hold the price down for the entire industry."

His central message to those serving the homeowner market is this: "There are segments of the industry where the competitor can enter and exit almost at will and they can cause a good contractor or service provider to drop their prices and therefore the benefit of their hard work. It's going to be tougher in the future for the good contractor and service provider."

As a financial planner, Koziarz advises clients "borrow money in bad times and pay it back in good times.

"A lot of companies have borrowed to expand in good times and face paying it back in bad times and that can spell disaster.



Customer care is important in the competitive homeowner market.

Koziarz doesn't know when a significant economic downturn will come, but he knows it certainly will arrive.

When a recession comes, given the discretionary nature of industry's service, some companies will be forced to drop prices to raise cash, he said. "The less leveraged and more financially conservative companies still have to respond to those prices."

The major external pressures

the lawn and landscape maintenance industry must face, he asserted, are: government regulation, the lack of adequate labor resources; competition from uninformed competitors and the potential of an adverse economy."

However, Koziarz isn't pessimistic about the industry's future. To the contrary, he said, the industry is "coming out of its adolescence. I see a bunch of small, independent people getting

their act together."

The fascination and excitement surrounding the lawn and landscape maintenance industry, experts said, can best be seen by the fact that nobody even knows its total size — either in number of companies or sales. Tens of thousands of small companies serve homeowners. But the identity and activity of many of these companies is unknown. (It should be noted, however, that some industry leaders emphasize that many homeowners prefer to do business with smaller companies.)

With an increasing homeowner and government awareness and great competition facing the lawn and landscape maintenance industry, experts emphasize the importance of marketing, professionalism, sound financial planning and quality of service. The days of anonymity and order taking in the maintenance of home lawns and landscapes are over. — Michael Marcellino ■

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

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Live, Synthetic Plants Are Lighting up the Interior

SOMETIMES AN industry has difficulty coming up with the right term with which to define itself.

For instance, what's the best way to describe a profession which specializes in the horticultural design of interior spaces?

Indoor landscaping arrives on the ears with a dull thud, as if it might somehow be related to indoor plumbing. Interior landscaping, a much more current phrase, certainly sounds better, yet still lacks precision; for no land is being scaped indoors, but rather floors, walls and ceilings.

A newer word, interiorscaping, is at once awkward and glamorous, but the industry itself is projecting these same contradictory images. One reason for this confusion is that interiorscaping is a relatively new industry, undergoing rapid change, with many of its potentials and problems still bound together.

While the oldest interior landscape companies are about 35 years old, there are only a few which have been around this long, estimated Gary Mangum, chairman of the interior plant division of the Associated Landscape Contractors of America, Falls Church, Va., and vice president of Creative Plantings, Burtonsville, Md.

Only 10 to 15 fall in the one- to 25-year range, while the average is six to eight years.

Mangum pointed out that plants have been put into buildings for years, but often only as decorative afterthoughts or as a way to hide construction blemishes. It's been in the past 10 years that interiorscaping has truly shaped into a profession, and that due, in



ADP building, Roseland, N.J. Photo: Foliage Plant Systems.

large part, to the acceptance of the interior landscape contractor as a "team member" by architects and designers.

During this time there has been a trend toward all things natural, especially environments, such as atriums and open offices, along with the growing awareness of the

Tropical Ornamental, Delray Beach, Fla., explained why. "We're still a relatively small industry, with only a limited number of good people and their best efforts were often being wasted in competition."

Magnum lists the current ALCA membership at about 500

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In the last 10 years, interiorscaping has truly shaped into a profession brought on by its acceptance from industry designers and architects.

psychological benefits of plants, how they can reduce absenteeism and increase productivity.

During the 1970s and early 1980s there were two trade associations dedicated to interiorscaping — ALCA and the Interior Plantscape Association. In 1986, however, IPA merged with ALCA.

Joseph Cialone, former president of IPA, and partner of

interiorscapers and 200 who do a combination of interior and exterior work. While these figures accurately reflect the number of interiorscapers in the association, they are misleading in terms of how many are at work in the field.

For instance, Richard Wilcox, president, Wilcox Environmental Interiors, Rancho Santa Fe, Calif., estimated there are 1,200

companies doing interior landscape contracting in Southern California alone. The problem, according to Wilcox, is that most of them are small operations working out of a garage.

"The reason there are so many in California, is that they don't have to inventory plants. One day they sell the job, the next day they go to the nursery to buy the plant, then they rent a truck to deliver and install it and on day four, they start watering it," he said.

"No capital investment is needed at all. At least

in Denver and Seattle, the operator has to think ahead enough to purchase by the truck or half truckload and have a place to store it."

The result, Wilcox said, is an undermining of professionalism. "Too many people are operating and too many of them don't realize they are operating at a loss. Because of that they don't have the dollars to invest in cost reinvestments up front. And in a lot of cases people charge much too little, eroding everybody's profit margins."

Wilcox said he believes a shakeup is at hand. One key factor which will bring it about is the advent of subirrigation systems which both substantially increase the life of the plant and decrease the costs of replacing the plant.

They also offer a decrease in the amount of labor, since the systems will allow service personnel to come in once every two weeks instead of once a week. Because these systems require an upfront investment — about \$20 for an eight- to 10-foot plant — the

(continued on page 35)

smaller operations will not likely be able to afford them.

"I firmly believe that those companies in our industry that do not switch over to subirrigation systems will not be competitive or survive in the 1990s," Wilcox said.

Michael Baron, president, Interior Landscape International Corp., Boston, Mass., also said he believes "the industry is going through a fairly heavy shake-up. Unless they own their own property, the smaller operations will be phased out, while others will be squeezed upward through mergers and acquisitions."

ILIC represents another move toward professionalism. "This organization was formed about 18 months ago by eight of the largest interiorscapers who realized that, as large as they were, there were still some things they couldn't accomplish on their own," Baron said.

ILIC members generally belong to ALCA as well, but, unlike that trade organization, ILIC is a licensing body and has been formed for purchasing and marketing power.

"We can offer centralized billing and quality control to hotels and other national chains," Baron said. "It creates a level of comfort for a large national corporation to deal with a single source organization such as ours. Just the other day one of our members called to say he got a \$200,000 job, that being a part of ILIC gave him a leg up on a competitor of comparable size. And another called just a few months back to say that he had secured a \$160,000 job for the same reason."

What kind of volume do interiorscapers do? Estimates from those interviewed indicate that one company does an annual volume of about \$40 million, a number fall in the \$5 to \$15 million range, but the general average is \$500,000 for a professional contractor, plus a wide range of small operations — some of whom do low volume, but have low overhead.

Just how big an industry is interiorscaping in terms

of overall dollar volume? Interestingly enough, no one seems to have a firm handle on this, due, no doubt, to the large number of smaller operations. "I asked that same question to the eight board members of ILIC, and received eight different answers," Baron said. "My guess is from \$500 million to \$1 billion."

Despite the rapid growth in the industry over the past few years, a slowdown appears to have taken

hoping will give a big boost to the industry are the studies now coming from NASA showing what plants can do to purify the air. This research, which has been going on for some 18 to 20 years, is just now coming to light.

"This is important because of what has been learned about sick building syndromes," Mangum explained. "Buildings which are very energy efficient, but simply recycle the same stale air and tox-

Interiorscaping can take place in most any building, but office buildings, banks, hotels and malls have become the most popular settings.

hold. "The last 18 months have been kind of flattening, and nobody understands exactly why," Cialone said. "States like Texas and Colorado that are dependent upon oil are not putting up new buildings, and a building slowdown is happening in all major cities."

John Mini, president, Indoor Landscapes, New York, N.Y., said, "We cover New York, New Jersey and Connecticut, and from my perspective there has been some belt-tightening going back to the stock market crash. But I think that what most people are experiencing is an increasingly competitive market as more people enter the field each year. Overall I believe the market is growing."

What many interiorscapers are

ins from particle boards, wall coverings and other materials. NASA has found that one floor plant per hundred square feet goes a long way in removing these toxins."

ALCA got wind of the research about two years ago and has been working with NASA to translate NASA's raw data into accessible information that everyone can understand and to determine which plants are commercially available.

To this end, ALCA has formed the Foliage for Clean Air Council. About 155 interiorscapers have chipped in \$200 to get this information/marketing clearing house going.

"This is the hottest thing going in the interior landscape community," Mangum said. "Today

we've received 15 to 25 calls, and yesterday I met with the people from NASA who will be buying 250 plants for their own sick building."

Cialone, however, is not that optimistic that the industry will take advantage of these findings. He cited a recent consumer panel in which six of seven people had never heard of the NASA studies.

"This is an indictment of the industry. We have to understand that Americans are bombarded with messages, and unless we use our brains and spend our money to create a demand, like any other industry, nothing significant will happen," he said. "Who could ask for a better issue than plants for the environment and health?"

George Patterson, president, City Gardens Inc., Newton, Mass., said that plants as a health issue is a double-edged sword. "We have to figure out ways to keep the plants inside healthy without pesticides, for it won't do much good to put plants in to remove toxins and then spray in more toxins," he said.

Another issue facing the industry is the increased use of synthetic rather than live plant material. For instance, Weyerhaeuser Specialty Plants, Tacoma, Wash., has recently announced a national distribution for its Inscape Interiorized trees and plants. The synthetic plants are "a patented process which allows the materials to last in interiors offering little or no water or lighting. The products can last indoors for a number of years without such traditional maintenance as pruning, plant replacement and pest control," said Stephen Barger, general manager.

Interiorscapers, however, see synthetics as more of a compliment than a threat to live plants.

"Synthetics are very effective in areas of poor light or difficult access. The first generation started with plastic, which was very ugly, but the newer silk plants are more attractive. But I haven't seen it happen that people have wanted to go to full scale silk," said Deborah Sparks, market manager, Foliage Plant Systems Inc., Pine Brook, N.J.

Cialone added, "Synthetics can supplement live



GTE building, Stamford, Conn. Photo: Foliage Plant Systems.

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The Parkway North building, Chicago. Photo: Tropical Ornamentals.

plants, such as in overhanging areas where a technician would have difficulty watering it. Right now silks are riding high in the retail level, but in my opinion they constitute no real threat. Nothing looks more ugly than old silk plants covered with dust."

Where can interiorscaping take place? In virtually any building, though the most common are office buildings, banks, hotels, restaurants and malls.

Sparks said her company maintains from as few as five to 10 plants in small offices to 6,000 in another location. And Patterson said he handles accounts from as little as \$50 to as much as \$20,000 a month.

Interior designs can be simple or extravagant.

Associated Plantscapers, Irvine, Calif., recently won two top design awards from the Professional Interior Plantscape Association of Southern California.

President Laurie Resnick described one design as taking place "in a very sleek, high style office in contemporary black leather and chrome overlooking Los Angeles. We put in only a few plants, but very large interesting looking specimens in glossy and colorful oversized pots."

The second location was an office building with five stories of high density cubicle space. "We only used two or three types of plant per floor," Resnick said, "and placed them on the counter caps at each cubicle to give a nice clean look."

Mini of Indoor Landscapes has won more than 40 national awards. One of the two projects of which he is particularly proud is the IBM bamboo garden in New York City — the largest indoor planting of bamboo in the world, with 275 bamboo culms 40 to 50 feet high.

"This has had a tremendous impact in the way plants are used all over. We continually get calls about it from all over the world," he said. His second favorite is more traditional.

"The developer decided to put an unusual amount of square footage of plants in his building," Mini said. "There are ferns, azaleas, large ficus trees through a series of three waterways with rustic bridges and paths. He was able to add significant value to the building for only a modest cost."

City Gardens' Patterson said his recently completed \$500,000 plus project in Boston's Franklin Park Zoo, "involved about an acre and a half of indoor space with some African plants never used in an interior before. This African Forest Pavilion includes exhibits of gorillas, rhinos, water buffalos and free-flying bats and birds. It was the project of a lifetime."

Not quite. Over the next 10 years, Patterson said, he anticipates conservation to be a major industry issue. "We're trying to use our company to create a link among corporate clients to conserve the rain forests. We want to create an awareness that plants are native to the rain forest which are now being destroyed, but we should all be involved in their preservation."

Within a few short years interiorscaping has come a long way. From an afterthought of a few potted palms to cover up a construction defect, to an integral design element to beautify an interior, to a potentially significant environmental and health aid, to a vehicle to conserve the rain forests. — Michael Major

The author is a free-lance writer based in Port Townsend, Wash.



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Turf-Type Tall Fescue Crops Damaged by Harsh Weather

A HARSH OREGON winter that saw wind-chill factors plummet to as low as -60 degrees Fahrenheit greatly damaged the industry's supply of turf-type tall fescues. Despite poor showings in recent years, however, demand for the turf-types shows no sign of being thwarted.

Most producers report their tall fescue supply to be at least 15 percent below last year's level, but some say it has fallen as much as 30 percent below 1988 levels.

Only one producer, Jonathan Green Inc., Farmingdale, N.J., reports good supplies of the tall fescues. As a result, most companies will be implementing allocation methods for the distribution of their tall fescue supply.

No one seems sure what other seeds might be called upon to fill the gap created by the turf-type tall fescue shortage. Some said

the most anxious end-users will return to using Kentucky bluegrasses or perennial ryegrasses, but all agreed that many lawn and landscape contractors will simply delay reseeding until next year when, hopefully, the supply of tall fescues will be back to normal.

Overall, common Kentucky bluegrasses are in plentiful supplies this year, probably resulting in lower prices. Most companies report adequate to good supplies of proprietary bluegrasses and perennial ryegrasses, however, some shortages are expected among the more elite, low yielding bluegrass varieties. The perennial ryegrasses are expected to have the most carry over.

Increasing turf-type acreage for next year is a major concern for all producers, but differences exist in their opinions on whether there is enough acreage left in Oregon's Willamette Valley for

quality growing.

Those who say the valley and state are saturated are looking to other areas, including New Zealand, for growing. Others disagree and say there is still quality land in Oregon for growing.

Several producers are reporting grower reluctance to plant given the poor yields this year, as another obstacle to overcome in their attempts to produce more turf-types to meet growing industry demand. Other crops, mainly agricultural crops, seem to be more profitable for them.

In this article, individual seed companies report on their varieties, yields and expected supplies for the coming year.

VAUGHAN'S SEED CO. As is the story with most seed producers this year, the turf-type tall fescue yields came in much lower than anticipated.

Compounding the problem is a reluctance from growers to even plant turf-type tall fescues, said Tom Breier, manager for grass seed at the Downer's Grove, Ill.-based firm.

"We're making a lot of attempts to keep up with the growing demand, but we're fighting grower resistance," he said. "Yields are bad. When that happens, growers want to pull up the crops and put something more profitable in. You certainly can't blame them, but it creates a definite problem for us."

Perennial ryegrasses and proprietary bluegrasses performed slightly better this year, but not because of higher yields.

(continued on page 40)

A familiar sight at crop harvesting. Photo: Normarc Inc.



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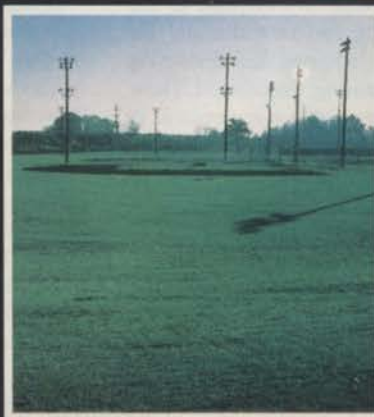
VARIETY	2 YEAR AVERAGE SCORE
1. Stallion	7.0
2. Citation II	6.9
3. Prelude	6.8
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Turfseed

(continued from page 38)

Vaughan's obtained more acreage for these crops. Some carry over and a lower demand in certain regions also contributed to the good supplies.

"The East Coast had so much rain in the spring that landscapers were unable to work, and that meant they weren't buying seed," Breier said.

J & LADIKES INC. All-Star perennial ryegrass yields fell this year, but the Adelphi Kentucky bluegrass rebounded from a poor crop last year.

The major problem for the All-Star crop was dry weather last fall. By the time spring came, most of the damage was already done. The Jamaica, N.Y.-based company tried to compensate by obtaining acres in New Zealand and the West, but those areas remain extremely competitive, said Bob Russell, company president.

Prices will undoubtedly rise but, Russell said, it hasn't been determined by how much.

Two proprietaries now in the breeding and foundation stages will eventually respond to the growing end-user demand for lawns requiring less fertilizing and watering, Russell said. These varieties will not be available to the commercial market for several years.

ZAJAC PERFORMANCE SEED. "Very disappointing" is how John Zajac characterized the yields from his company's 12 fescues this year. The company is headquartered in N. Haledon, N.J.

Prices will remain about the same as last year, however, there won't be enough seed to go around. Zajac said orders will not be filled completely, and predicted higher prices as the already limited supply dwindles around spring.

Ryegrass availability will run on "the poor side of average, but not that far off," Zajac said. Bluegrass yields were good while the



The turfseed harvest in Hubbard, Ore. (top). Photo: Turf-Seed Inc. A field before harvest. Photo: Normarc Inc.

company's proprietaries brought in a somewhat lower harvest.

Because of two consecutively poor growing seasons, Zajac said, he sees buyers concerned with quality seed and crop assurance. They want good seed and want to receive the amounts they order.

Next year, Zajac plans to concentrate on increasing acreage, but conceded that the poor turf-type tall fescue crop performance these past two years will make convincing farmers to plant an even more difficult task.

TURF-SEED INC. Yields are down about 15 percent for the company's turf-type tall fescues, said Tom Stanley, marketing manager.

Fine fescues, creeping red, chewing and hard fescues all saw about a 20 percent decrease in yield.

Increasing acreage in Oregon is practically next to impossible. The state is "wall-to-wall" crops,

Stanley said, creating a need to find new production areas. He said he did not know where the company would look to plant new crops.

E.F. BURLINGHAM & SONS. Because of the shortage of turf-type tall fescues, this Forest Grove, Ore.-based seed producer is unsure of just how much it would take to saturate the market.

"We really can't tell how large the market is, or could be, because we don't have the product," said Greg McCarthy, product manager.

The only thing that will improve next year's crop is for Mother Nature to change her ways. "The growers did everything right," McCarthy said. The poor weather caused burning stress and delayed fertilizer application.

LESCO INC. Art Wick, vice president of research and development, said there is no apparent common denominator to why the turf-type tall fescues did so poorly. He said the crop damage was not limited to one area of Oregon's Willamette Valley.

To the contrary, both the North and South valleys saw some growers harvest poor crops while others reaped quite good crops. The same is true for the different varieties of tall fescues, according to Wick. He said all varieties produced about the same amount of yields.

"There probably is a common denominator, but we're just not smart enough to see it just yet," Wick said.

Producers and growers have three theories as to why the harvest turned out so badly, he said.

Some growers may have backed off their field burning last fall after heavy smoke from a burning field caused a car accident on Interstate 5 in Oregon. Alternatives to the routine practice of field burning are being researched, but most practices including propane burning, are more costly.


Field burning is considered a necessity by both producers and growers, but the Oregon state legislature had considered a bill that could have drastically reduced the number of fields burned each year.

Two other theories explaining poor crop performance, involve uncooperative weather conditions. A 10-day stretch in Oregon this winter saw windchill factors reach -60 degrees Fahrenheit. Tall fescues are the least tolerant to cold conditions especially during the reproductive cycle.

Finally, the spring saw extremely dry conditions which retarded many crops. Height on many crops, Wick said, was stunted by 25 percent to 40 percent.

NORMARC INC. The performance of Pinnacle, a fine-leaved

(continued on page 42)



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Turfseed

(continued from page 40)

perennial ryegrass introduced last year is the big news for this company based in Tangent, Ore.

It has ranked first in all the national trials it's been entered in and has shown high seed yields, said Don Herb, sales manager.

All other Normarc varieties are in good supply, except the tall fescues. The shortage of fescues this year isn't expected to dampen the demand, Herb said. Instead, he expects a few East Coast end-users to substitute bluegrasses for the fescues this year. Overall most users will not make too many changes.

Herb disagreed with those who say the Oregon fields are saturated. To the contrary, he said, there is definitely available acreage and plans to secure some of that acreage next year.

In addition, three new fescue varieties will be available next year. Normarc 25, Normarc 77 and Normarc 99 all finished in the top 25 of the national tall fescue trials, with Normarc 25 finishing among the top four.

PENNINGTON SEED. The story from this Lebanon, Ore.-based company is about the same as the rest. Turf-type tall fescue yields are down 20 percent to 25 percent. While the supply is down from last year, there aren't any planned substitutions, said Mike Baker, vice president. The tall fescues are too unique to use something else in their place, he added.

Baker said he wants to increase acreage next year, but new competition from vegetable crops and others in the Oregon area will make that task difficult.

NORTHROP KING. About the best news from this Minneapolis, Minn.-based company are spot-reports of proprietary bluegrass yields being down 20 percent to 30 percent. Overall bluegrass yields are running about average, said John Glattly, director of turf.

The company's yields from perennial ryegrasses, Delray, Pennfine and Caddie, are down about 20 percent, and tall fescues are down by as much as 30 percent.

Glattly predicted new crops will face tremendous pressures because there will be virtually no carry over supply in 1990.

Alternative growing sites in

both the Northwest and offshore areas are under consideration for next year. "We're trying to stay optimistic," Glattly said.

FINE LAWN RESEARCH. This Columbus, Ohio-based firm will see a shortage of its Fine Lawn 1 tall fescue and Chateau Kentucky bluegrass, while the Stallion perennial ryegrass is reported to be in good supply.

"We definitely will not be able to satisfy demand," said Bill Junk, president. The company's Stallion perennial ryegrass is in good supply.

Junk said he will seek additional acreage next year, some of which will be in New Zealand. Fine Lawn 5GL, a new tall fescue, will be grown there. Another introduction for next year will be Flyer creeping red fescue which finished first in trials this year while in development.

JONATHAN GREEN INC. Richmond and Mesa, the company's turf-type tall fescues, yielded a good amount of seed this season because of increased acreage, said Barry Green Jr., vice president for sales at the Farmingdale, N.J. firm. Richmond took first place in brown patch disease resistance at national trials.

Harvesting was backed up about 10 days by rains during the third week of July, but while the wind rows got wet they did not have to be turned, Green said. They eventually dried on their own.

Richmond yielded about 1 million pounds, and Mesa should come in with between 400,000 pounds and 500,000 pounds.

Unlike most of the producers, the company will not be allocating its tall fescue supply.

"We will never not ship our customers what they want," Green said. "They may not get the specific variety they asked for, but we will always have quality seed for them." Mesa's supply may be exhausted, he added.

While most harvest news concerns turf-type tall fescues, Green said, he's interested in this year's bluegrass performance.

"This is really the first year that bluegrasses will be available in quantities that we really want," he said. "The market is very competitive and we'll see how much bluegrass people will want to buy."

Green said common Kentucky

bluegrass prices are now about \$1.25, but expects them to fall through the spring until they level off to between 60 cents and 70 cents.

The company plans to introduce its Washington Kentucky bluegrass and Montouk tall fescue next year.

LOFTS/GREAT WESTERN. Most varieties have adequate supplies, but overall yields fell from last year. Increased acreage, however, helped the Albany, Ore.-based company, said Gary Parker, general manager.

"We don't have the final figures yet," Parker said. "But hopefully the increased acreage will balance out the fact that yields were lower."

The company will implement an allocation program for its turf-types that will supply buyers with the quantities they requested last year. After everyone is at par with the levels they received last year, the remaining supply will be sold.

Of its five turf-types, only Clemfline was reported to have a surplus supply. Rebel, Rebel II

and Tribute have adequate supplies and Rebel Jr., the company's newest variety, was planted on limited acreage this year. Parker said Rebel Jr. is noticeably darker than other tall fescues and plans call for it to be available next year.

Regardless of variety, Parker said, all bluegrass and perennial ryegrass yields slipped. Princeton and Suffolk bluegrasses have limited supplies while Baron, Nassan, Georgetown and Ram I all have adequate supplies.

company's six perennials — Diplomat, Yorktown II, Palmer, Prelude, Cowboy and Repell — all reaped adequate supplies.

Acreage should be increased next year, but without any large-scale moves out of Oregon, Parker said.

"This region has the best seed growers in the world," he said.

TURF MERCHANTS. "Nothing did all that great," reported Steve Tubbs, general manager for the Tangent Loop, Ore.-based company.

With about a 30 percent reduction in yields, tall fescues are in

short supply. Perennial ryegrass yields fell about 20 percent.

Increased acreage for Bonzai dwarf tall fescue is being planned for next year.

"Since 1980 when turf-type tall fescues were introduced, we've never produced enough for the demand," Tubbs said. "That's where we're putting most of our emphasis."

JACKLIN SEED CO. The growing situation in eastern Washington and northern Idaho, where this Post Falls, Idaho, company does its growing, didn't differ much from Oregon.

Turf-type tall fescues are in limited supplies and will be allocated, but proprietary bluegrasses have adequate supplies except for expected shortages on some of the elite, low yielding varieties, said Harry Butler, vice president of marketing.

The good news is an ample supply of common Kentucky bluegrass which the company thinks will lead to lower prices and heavier shipment. The good supply was attributed to a 20 per-

cent increase in acreage and a slightly better than average yield.

Although Jacklin is allocating its turf-type tall fescues this year, an increased amount of acreage should guarantee an ample amount of seed in 1990. Butler declined to say where the additional acreage is.

In addition, four new tall fescue varieties will be grown for testing purposes next year, all of which are supposed to be highly resistant to brown patch disease.

As for substitutes to the turf-types, Butler said, he wished he had an answer.

"If someone needs seed immediately and cannot get tall fescues, I would guess they would return to using the Kentucky bluegrasses or some perennial ryegrasses," he said. "But if they don't need to seed right away, they'll probably put it off until next year when tall fescues will be in good supply again." — David Westrick ■

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

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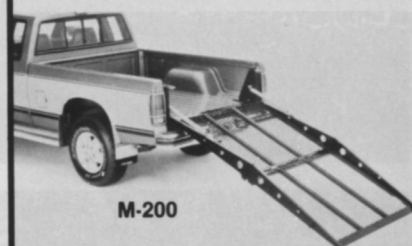


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Rain, Stresses Result in Varied Turfgrass Problems

Melting out symptoms on Kentucky bluegrass caused by *Bipolaris/Drechslera* leafspot (bottom). *Pythium* blight damage on tall cut grass (below).

DISEASE PROBLEMS in any given year are the result of disease pressure, grass susceptibility and environmental conditions. Awareness of the weather conditions that favor plant pathogens allows turf managers to anticipate, diagnose and combat disease problems (Table 1).

1989 DISEASE PROBLEMS. Adequate to heavy rainfall and cool temperatures in the eastern central states during April and May resulted in considerable problems due to *Bipolaris/Drechslera* leafspot and the red thread (*Laetisaria fuciformis*).

Rainfall was sparse up to May in the central Pennsylvania area. Dollar spot was particularly prevalent on bluegrass and bentgrass in May through August.

Most fungal pathogens are favored by very wet conditions; the major exception is the causal agent of dollar spot which is favored by dew but not by high rainfall (Table 1). Dollar spot thrives under warm days and moderate temperature nights which promote dew. Generally, dollar spot severity is low until late summer—the continued disease pressure through the mid-summer months is somewhat unusual.

Necrotic ring spot and summer patch symptoms showed up on

Kentucky bluegrass in June in the Ohio/Kentucky region. Although growth of the fungus, *Leptopharia korrae*, that causes necrotic ring spot is favored by cool to moderate temperatures, the onset of warm to hot weather will hasten the decline of weakened plants.

Brown patch and *Pythium* blight problems surfaced in late June and again at the end of July in Ohio and central Pennsylvania. Brown patch and *Pythium* blight were especially prevalent in young plantings and in sites with poor soil drainage. A hot spell in the last week of July and the beginning of August greatly enhanced the activity of both diseases.

In general, *Pythium* blight activity has been less, and brown patch has been very active compared to previous seasons for Kentucky, Ohio and Pennsylvania.

In contrast, lack of water continued to be a problem for some areas of the upper Midwest, i.e., Wisconsin, during much of 1989. The bright side is that disease problems are less under arid conditions.

IS IT STRESS OR DISEASE? At the Plant and Pest Diagnostic Clinic at The Ohio State University, Columbus, Ohio, approximately 50 percent of the turf samples received for disease diagnosis are diagnosed to be stresses due to poor growing conditions (abiotic stresses).

The primary causes are: thatch in excess of $\frac{3}{4}$ inch, highly compressed thatch, poor soil conditions, improper sunlight for the grass type and improper watering practices (too much or too little).

Following the drought of 1988, the number of turf samples from



OPTIMUM CONDITIONS FOR DISEASE DEVELOPMENT

Disease	Temperature			
	Day	Night	Moisture	Fertility
Drechslera/ Bipolaris Leaf Spot	cool	cool	wet	high
Red Thread	cool	cool	wet	low
Yellow Patch	cool to moderate	cool	wet	high
Necrotic Ring Spot	cool	cool	wet	high
Dollar Spot	warm	moderate	dew	low
Summer Patch	warm to hot	warm	wet	?
Brown Patch	hot	warm to hot	wet	high
Pythium Blight	hot	warm to hot	wet	high

cold = below 45F, cool = 45 to 55F, moderate = 55 to 65F, warm = 60 to 75F, hot = over 75F.

Ohio diagnosed as suffering from abiotic stress was uncommonly high. Many lawns did not green up in the spring of 1989 as expected because of stresses received during 1988. In contrast, we see many disease problems that are directly correlated to the overuse of automatic watering systems.

Necrotic ring spot is one example of a disease often found on Kentucky bluegrass lawns where the sod is watered daily by an automatic sprinkling system, regardless of the rainfall.

Turf managers are often puzzled by the irregular distribution of stress symptoms on a grass stand. To many people, a patch symptom indicates that the turf has a fungus or insect problem. Their reasoning may be something like this: "If rainfall, sunlight and air temperature stresses are uniformly distributed over a site, why then do these stresses result in patches of dying grass?"

The reason is that underlying soil conditions, thatch and grass types with different stress and disease resistance properties are usually not uniformly distributed throughout a turf stand, especially in an old lawn. As a result, turf decline due to stress often occurs in patches.

IS IT DISEASE OR INSECT DAMAGE? The well-informed turf manager is aware that insect damage can resemble damage due to fungi (Table 2). The resemblance is closer if the symptoms are somewhat old. For example, severe sod webworm and cutworm damage somewhat resembles melting out caused by *Drechslera* and *Bipolaris* species (formerly called *Helminthosporium*). Chinch bug activity is especially difficult to diagnose because the symptoms caused

Table 1.

by sucking and toxins of this insect has no distinctive appearance. The chinch bug is highly mobile and is easily overlooked.

IDENTIFICATION DIFFICULTY. Some diseases, particularly the patch diseases, have only been recently discovered, are difficult to identify in the field and are not well understood. Many turf managers are still not aware that the diseases summer patch, yellow patch and necrotic ring spot exist.

The name that is most familiar to most turf managers is Fusarium blight — a disease that was identified in 1966. Yellow patch was identified on Kentucky bluegrass fairly recently, around 1978. Summer patch and necrotic ring spot were first identified in the United States in 1984. It will take some time for turf managers to learn which of these pathogens are the primary problems in their areas. Part of the delay is because the techniques for identifying these pathogens are still being refined.

PROFESSIONAL DIAGNOSIS. An important ally of the professional turf manager is a plant and pest diagnostic clinic. Most states have a clinic affiliated with the state extension service.

Before a problem hits, find out the location of a clinic with personnel who are able to diagnose



turf problems. Turf problems are particularly difficult to diagnose because not all clinics are staffed with people experienced in turf problem diagnosis.

The accuracy of any diagnosis

"Frogeye" type symptoms on Kentucky bluegrass can be caused by necrotic ring spot, yellow patch or summer patch.

The well-informed turf manager is aware that insect damage can resemble damage due to fungi, especially if symptoms are old.

depends upon the information provided with the sample, the plant material selected and the condition in which it arrives at the clinic.

Collection of the sample. The specimens should be collected while the symptoms are still fresh and before fungicide treatments are made. The sample should not be soaked with water just before

it is collected.

Samples should contain healthy and unhealthy turf since it's almost impossible to diagnose a grass sample that is nearly or entirely dead. Grass samples should be at least three inches by three inches by two inches deep, and should contain an intact layer of soil to help maintain the sample during transportation. A golf cup cutter or a flower bulb planter works very well.

Delivery of the samples. Rapid delivery of the sample and the plant specimen form to the clinic is essential. Personal delivery of the sample is preferred.

The crucial information to be given to the clinic includes: the symptoms; when they were first noticed; and what, when and how much fungicides, insecticides, herbicides and fertilizers were applied. The information is crucial to proper diagnosis.

If the samples are to be mailed, wrap them securely in several layers of newspaper or aluminum foil. Do not use plastic bags as the samples will quickly deteriorate during shipping. Pack the

DISEASES THAT MAY BE CONFUSED WITH INSECT DAMAGE

Disease	Overall Turf Stand Symptom	Insects that may cause somewhat similar symptoms
Drechslera/Bipolaris leafspot	scattered patches of brown leaves throughout stand	chinch bug, billbug
melting out	shedding of leaves	sod webworms, cutworms
Pythium blight, Brown patch	turf dies in irregular patches	white grub, billbug

Table 2.

samples tightly in the mailing carton with the use of wadded paper. Use overnight mail services if feasible. Mail early in the week to avoid packages remaining in the post office over the weekend.

POSSIBLE PATHOGEN NAME CHANGES. For those of you who like to impress your customers and friends with your ability to spout off the scientific names

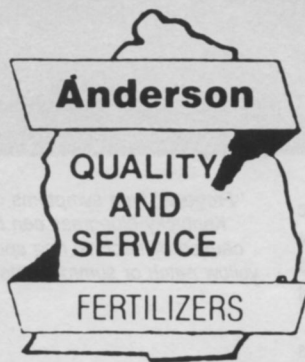
of turf pathogens, a new set of names have been proposed for the brown patch and yellow patch fungi.

These have all been labeled *Rhizoctonia* — however it has recently been proposed that *Rhizoctonia cerealis* now be called *Ceratorhiza cerealis* and *Rhizoctonia solani* be called *Moniliopsis solani* (Table 3).

Again, this change is only proposed, time will tell if the scien-

tific community accepts the new names. You heard it here first.—
William W. Shane

The author is a turfgrass pathologist in the Department of Plant Pathology at The Ohio State University, Columbus, Ohio. He received his master's degree in plant pathology from North Carolina State University and a Ph.D in plant pathology from the University of Minnesota.



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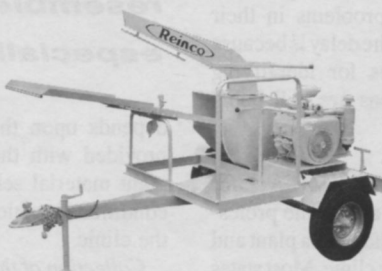
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See You In St. Louis!

Mysterious Midwest Fungus Blooms *Pithomyces Chartarum*

THERE ARE SEVERAL fungi that live in turf and produce tremendous numbers of colored spores. Some of these fungi are damaging and others are beneficial. Collectively, these fungi grow on leaves of the grass plants while their spores are spread through the air.

To dislodge the spores from the grass usually takes more force than just a summer breeze. Driving rain, irrigation, dust in the air, animals, feet and mechanical equipment are all effective means of spreading the spores. The lawn mower is especially suited for removing the spores from leaves and sending them on to a healthy grass leaf.

Most of these fungi have adapted themselves to growing in the hot summer leaves of grass plants. They survive as mycelium, inside the grass plant, or spores during the winter.

The spores of these fungi are very resistant to heat and drought and can outlast any grass plant. The spores can float in the air for days or even months, and when they land on a grass plant they will still grow.

These fungi are also capable of reproducing in a matter of days and producing tremendous numbers of spores. This is important because once the spores are airborne there is no guarantee they will land on a grass plant, but because they produce so many spores, they have never been



The rust fungi are one of the best known colored spore producers in summer turf as shown in these three photos.

known to miss in finding at least one plant to start the process again.

For example, there are about 50,000 spores in a rust pustule the size of a pinhead. While the spores are usually colored and aesthetic to a plant pathologist, there is a biological purpose for their color. Because the spores are produced on grass leaves, they are exposed to the harmful wavelengths of sunlight. The pigments found in the outer walls absorb the harmful energy, thus protecting the spores.

The range of colors produced

by these fungi is quite broad and some fungi, that produce more than one type of spore, also produce more than one wall pigment. There are no truly black spores, but some appear black because their walls are very thick and their pigments are dark brown or red.

Like many other fungi that grow in turf, these fungi are affected by the environment. They may develop in turf for only a portion of the growing season and they may not develop every year.

The rust fungi are one of the best known colored spore producers in summer turf. These

fungi are so named because many produce a red-brown or rust-colored pigment in their spore walls. Turf, equipment and most other objects that brush up against a "rusty" grass plant will carry away the orange rust spores (Figure 1).

While not visible to the naked eye, the rust spore is actually a ball with spines. The rusts are pathogens of the grass plants and can cause serious disease. Rusty turf usually develops in the summer months during periods of stress.

There are more than 40 different rust fungi that attack turf. Their spore color will vary with the species, the type of grass and the environment, but generally will appear red-brown to dark brown. The smut fungi also grow on grass leaves and produce tremendous numbers of colored spores (Figure 2).

These fungi are highly spec-

(continued on page 50)



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Bluegrass Diseases

(continued from page 48)

ialized and most of their growth is done inside the turf leaves or flowers. Before spores are produced, the fungi will cause the leaves to turn yellow-green then yellow and finally gray-brown. As the leaves turn gray-brown, the spores rupture through the leaf surface and wait to be projected into the wind.

Generally, masses of dark smut spores appear in the spring and fall of the year and should not be confused with rust spores. There are at least seven different smut-causing-fungi and their spore colors are generally dark reddish brown, olive-brown and dark brown.

In any turf, there is a tremendous production of plant debris in the form of leaves and crowns because a grass plantlet only lives six to 18 months. In addition, the older leaves on a plantlet may die sooner due to shading, disease or other stress.

Fungi are thought to be the most effective group of microorgan-

isms that decompose debris and thatch. Saprophytic fungi do not need a living plant to survive, but can grow on dead plant material. These beneficial fungi do not attack living plants; often they will grow on the dead leaves in turf

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Recently, a fungal bloom occurred in the Midwest that led to the identification of a new fungus, *Pithomyces chartarum*.

and never be noticed. If conditions in turf allow a lot of leaf debris to be produced, and the turf has been watered and fertilized, these fungi will grow very fast. When moisture becomes limiting, the fungi will remain quiescent,

but alive. When the moisture returns they will produce astronomical numbers of spores that will literally burst through the dead leaves. This rapid production of spores is called a fungal bloom.

Recently, a fungal bloom occurred in the Midwest that led to the identification of a new fungus in bluegrass. In July and August of 1985, 1986, 1987 and 1988, we received a number of telephone calls and specimens of Kentucky bluegrass from residents in Illinois, Indiana and Wisconsin. After mowing, the equipment (Figure 3) and the operators themselves were covered with a sooty black fungus.

Questions were raised over the cause of this condition, leading to concerns that the grass was being attacked by stripe and/or flag smut. Leaf smut diseases, however, are prevalent during the cool months of spring and autumn when the grass is growing rapidly and not during hot summer weather.

The Kentucky bluegrass plants examined in July and August

showed no symptoms of the leaf smut disease on their leaf blades. Staining the grass tissue followed by a microscopic examination also showed no symptoms. The root growth and leaf color of the grass plants were not visibly affected by the presence of the fungus.

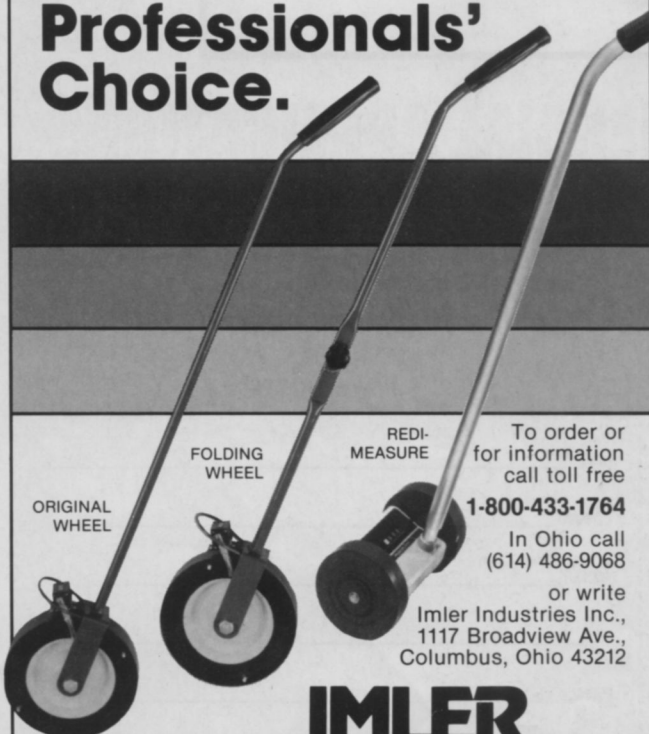
After examining blends of Kentucky bluegrass of 50 sod farms, what apparently was the same black fungus was found on seven farms. All seven Kentucky bluegrass sods were less than 18 months old, had considerable amounts of dead leaf tissue and the clippings were routinely returned to the sod.

Samples were collected from the affected sod farms and the same fungus was consistently isolated from all locations, grown on culture medium in the laboratory and later positively identified as *Pithomyces chartarum*. This is the first report of this fungus growing in bluegrass sod in the United States.

The fungus was found only on senescent or dead leaves and clippings. We consider it to be a sapro-

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phyte and not a parasite, thus not damaging to grass.

The brown to dark brown spores (conidia) of the *Pithomyces* fungus, recovered from the dead or dying grass blades and clippings in astronomical numbers, are broadly ellipsoidal with both transverse and longitudinal septa (Figures 2 and 3).

Research in our laboratory has shown that the growth and development of *Pithomyces* and the production of its spores is favored by high temperatures (85 degrees to 95 degrees Fahrenheit, 29 degrees to 35 degrees Celsius), high humidity (85 percent to 95 percent) and abundant water as irrigation or rainfall.

Apparently all Kentucky bluegrasses can be affected as the fungus was found in a variety of blends on the sod farms growing on the following cultivars: Adelphi, A-34 (Bensun), Baron, Bargena F, Glade, Julia, Merit, Nassau, Newport, Parade, Park, Rugby, Ram I and Victa.

An examination of the scientific literature turned up reports of *Pithomyces chartarum* dead

plant material in Alaska, Maryland, Oregon and Texas, but no reports of it growing on Kentucky bluegrass. The fungus has only been reported on orchardgrass in Oregon and pasture grasses in Texas and southern Africa. *Pithomyces chartarum* has, however, been isolated from perennial ryegrass in Europe, Australia and New Zealand. In the latter country, it has also been found on prairie grass and several other less common grasses. The same is true of southern Africa.

The sexual stage or teleomorph of *Pithomyces chartarum* has recently been shown to be an Ascomycete — a species of *Leptosphaerulina*. The fungus produces ascospores which are similar to the conidia of *Pithomyces*, but are smooth and nearly transparent (hyaline) to light brown. To date, the sexual stage has been found only in South Africa, but may well be undetected in the United States where *Pithomyces chartarum* has been found.

The *Leptosphaerulina* stage may explain the ability of the fun-

gus to survive the cold winter months and then to produce a flush of *Pithomyces* conidia when the weather changes from warm to hot and becomes wet.

Since *Pithomyces chartarum* is known to produce sporidesmin (a

.....

Conditions that support rapid growth of turfgrasses, lush canopies and high relative humidity will promote growth of this fungus.

mycotoxin), and possibly other toxic compounds, bluegrass clippings covered with a sooty black fungus should not be fed to poultry

or livestock, especially young or breeding animals. Otherwise, turfgrass managers have nothing to worry about.

Conditions that support rapid growth of turfgrasses, lush canopies and high relative humidity will promote growth of this fungus. Reducing the amount of nitrogen fertilizer applied plus maintaining a proper mowing height and schedule will reduce fungal growth.

Don't be surprised if you see *Pithomyces* growing on dead or dying Kentucky bluegrass and possibly other turfgrass leaves during hot and muggy weather following irrigation or rainfall. Now you'll know what it is you have. — Henry Wilkinson and Malcolm Shurtleff

Wilkinson is an assistant professor of plant pathology and agronomy specializing in turfgrass pathology and soilborne pathogens and Shurtleff is a professor of plant pathology and turfgrass extension specialist. Both authors are with the University of Illinois, Urbana-Champaign.

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McGhee



Malkin

DEVEN MCGHEE, PROJECT ENGINEER for Encore Manufacturing Co., is now in charge of developing new products for the company's PRO-Line of commercial turf equipment.

McGhee brings product expertise with him from previous positions at a John Deere dealership and Exmark Manufacturing. McGhee is also certified by the Society of Manufacturing Engineers for geometric dimensioning and tolerancing.

Nissan Kizai Nice Inc. named **Victor Fontaine** vice president and general manager.

He is responsible for reorganizing and administering Nissan Kizai Nice's North American effort and expanding its dealer network in the United States and Canada.

Prior to joining Nissan, Fontaine founded and headed two marketing companies of national construction and industrial products, primarily serving the rental industry.

The Groundskeeper promoted **Kent Miller** to vice president of marketing and corporate customer development. Replacing Miller as vice president of sales and estimating is **Robin Franklin**.

Miller is responsible for advertising, promotion strategy and corporate customer development throughout the Southwest.

Franklin was formerly vice president of data management. He will now supervise the daily operations of the 10-person sales and estimating department, which is responsible for sales of landscape construction, maintenance and improvements in southern Arizona.

Rich Malkin has been appointed specifications manager for the Turf Division of Rain Bird Sales Inc.

Malkin is responsible for keeping specifiers, contractors, irrigation consultants, developers and city and state officials in the Southeastern U.S. abreast of current irrigation products and applications. His region includes Arkansas, Louisiana, Tennessee, Mississippi, Alabama, Georgia, South Carolina, North Carolina, Virginia, Maryland, Delaware, the District

of Columbia and the Florida panhandle.

Prior to joining Rain Bird, Malkin served as division manager of landscape maintenance and irrigation service for Greenscape Inc., Memphis, Tenn.

Hines Nurseries named **Lisa Gooding** customer service representative for its Houston, Texas, facility.

Gooding's responsibilities include supporting the outside sales team in servicing existing Hines customers, and providing tours of the facility to potential customers. She will also handle sales calls, order entry and processing, quality control and distribution.

John Nichols was named director of sales and marketing of Weyerhaeuser Co.'s Specialty Plants business.

Nichols will be responsible for developing and supervising national sales and marketing programs for Specialty Plants' two lines of Inscape™ Interiorized™ plant materials for the commercial and gift markets. His duties include selecting and managing Specialty Plant's national network of product dealers and sales representatives.

Ransomes Inc. recently appointed **Tim Martin** service parts supervisor. In this newly created position, Martin will coordinate and supervise Ransomes' service parts orders.

Martin has been with Ransomes' technical service department for the past five years.

Jacobsen Division of Textron appointed **Daniel Coffin** regional sales manager for turf products in the company's Midwestern sales territory. He is responsible for working with Jacobsen distributors from Colorado to Canada's western provinces.

Coffin brings more than 20 years of golf-related experience to his new position, including 15 years as a golf course superintendent and manager of country club facilities.

Dave Ban was promoted to regional sales manager and general manager for Husqvarna Distribution Co.

In his dual position as regional sales manager, Ban will oversee sales functions of distributors located in Minnesota, Missouri and Michigan. His new duties include providing sales and marketing support for distributors and coordinating regional advertising efforts.

As general manager for Husqvarna Distribution, he will be in charge of buying, selling and shipping products in the Michigan and Indiana regions. He will also coordinate regional sales meetings. ■

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This excellent Kentucky bluegrass was discovered by Dr. C. Reed Funk of Rutgers University. It was found persisting in Huntsville, Alabama and has clearly demonstrated why it survived so well. It also scored high ratings in tests under high heat and humidity in the transition zone.

Medium green in color, Huntsville blends beautifully with Arid and the newer turf-type tall fescues because of its similar color and leaf texture.

Huntsville starts with a vigorous seedling and ultimately develops deep rhizomes giving the grass staying power under drought conditions. This strength was strongly evident during testing in the Nebraska and Great Plains areas where researchers sought cultivars less susceptible to drought and low maintenance conditions.

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PRODUCTS

BUNTON CO. HAS ADDED SEVERAL new features to its heavy-duty 36-, 48-, 52- and 61-inch commercial mowers.

New Bunton models offer 20 percent higher ground speed with larger output shaft pulleys. Dual section V-belts enhance belt life and reduce maintenance by eliminating belt slippage under wet conditions.

In addition to its standard commercial engines from four manufacturers, Bunton now offers the new 12.5-h.p. Onan engine. The OHV engine has full pressure oil lubrication, fixed jet carburetor, dual balancers and an advanced wedge-type head to maximize power output.

Other new features include quick-adjust turf casters for fast, efficient height adjustments in the field and optional attachments for thatching and mulching while mowing.

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EASY GARDENER HAS INTRODUCED new Weedblock 6+ commercial landscape fabric. Accelerated weathering tests show this heavier fabric will last six years when fully exposed to sunlight. Weedblock 6+ addresses the landscape contractor's demand for a more durable, longer-lasting fabric.

Weedblock 6+ is available in 250 foot rolls and widths up to 12 feet.

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THE MODEL 172 HEDGE TRIMMER from **John Deere** is powered by a 21.2 cc, two-cycle engine with a diaphragm carburetor for operation at any angle. It has a fuel capacity of 10.1 ounces, a cutter blade length of 19.7 inches and a weight of 9.5 pounds.

The 172 hedge trimmer can be taken to remote work sites and jobs far away from electrical outlets. The double-sided cut-



Bunton improves commercial mower line.

ting bar allows the operator to trim in both directions.

Other model features include: electronic ignition, centrifugal clutch and a chain saw-style grip.

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Fe 6 is amine compatible. Its excellent solubility as well as stability of Fe 6 results in fast correction of iron chlorosis, a condition that often occurs even when adequate N-P-K fertilizers have been applied.

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A NEW BROCHURE **HIGH-LIGHTING Ransomes** new Jaguar 4000 series tractor is now available. Easy-to-read, usable information is provided on all four mowers in the line, along with detailed specification data.

The Jaguar 4000 is available with mowing decks of either 61- or 74-inches. The 74-inch deck has a deep-draft design ensuring that all clippings are discharged out of the chute, minimizing unsightly clumps.

Single-pedal hydrostatic control, standard on the Jaguar 4000, controls all of the machine's forward and reverse movements. The patent pending automatic differential lock is available on two models and reduces wheel slippage and turf damage.

Four different engines power the Jaguar 4000: 17- or 23-h.p. liquid-cooled Mitsubishi diesel engines, 24-h.p. air-cooled Onan gasoline engine or a 27-h.p. liquid-cooled Mitsubishi gasoline engine.

Circle 130 on reader service card

THE PRO-LINE BLOWER IS NOW available from **Encore Manufacturing**.

Features of this heavy-duty new blower include an 11-h.p. engine I/C, a six-bladed impeller for noise abatement, heavy-duty front caster, heavy-duty pneumatic rear wheels with regreasable roller bearings and an adjustable chute for front or side discharge. An anti-vibration handle also eases operator fatigue.

Circle 131 on reader service card

LABB SYSTEMS/SOFTWARE released version 2.2 of its Trims Grounds Management Software designed specifically for grounds maintenance and golf course superintendents.

The new Trims includes programs for seed/chemical cost estimates, sprayer calibrations, labor hour reporting, personnel records, project cost analysis, budget reporting, spare parts/fuel inventory, work orders, purchase orders, maintenance scheduling and irrigation management.

PRODUCT SPOTLIGHT

THE NEW TURBO SHREDDER™ mower deck is now available from **Excel Industries**. The shredder deck chops grass clippings into fine particles that return to the soil surface easier and faster than standard mower designs.

The shredding action of the mower deck improves decom-

position of the clippings and returns valuable nutrients to the soil.

The eight-blade design of the Turbo Shredder eliminates clogging and increases the air flow for better dispersal of clippings. When shredded grass clippings are collected in the eight-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 will be standard on all Hustler 251K models. The 251K is an 18-h.p. dual hydrostatic mower that provides maneuverability and zero radius turning.
125 on reader service card

Program screens are selected from a menu, guiding the operator step-by-step through each process. Pop-up "help" screens and an easy-to-read, 450-page manual are also included.

Circle 132 on reader service card

THE PRO MASTER 30H IS AVAILABLE from **Gravely International**. The new unit, Gravely's first diesel, boasts a 30-h.p. Yanmar diesel engine, Sunstrand hydrostatic transmission and a Gravely 72-inch front-mount mower deck.

The Pro Master 30H turns easily, is maneuverable and cuts up to nine mph. Super-fast blade tip speeds ensure a high quality cut. Durability features such as a direct-drive PTO, with no belts to slip or break, and solid all-steel construction are also included.

The Pro Master 30H comes with power steering, cruise control, individual wheel brakes and deluxe suspension seat.

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The systems all use diaphragm pumps ranging from 3.4 gallons per hour at 142



LESCO automatic injector system.

psi to 41 gallons per hour at 142 psi. Three of the systems have flow meters and electronic microprocessors to accurately vary the pump rate and provide constant water-to-nutrient or water-to-

surfactant ratios.

LESCO Model 340 provides a constant flow of material and is for use with flow rates of 1,000 gallons per minute or less. LESCO Model 345 is also used with flow rates of 1,000 gallons per minute or less. It is equipped with the same pump as the Model 340, but also includes a microprocessor and an analog flow meter which displays the water flow rate, total irrigation water used and permits calculation of the amount of product used.

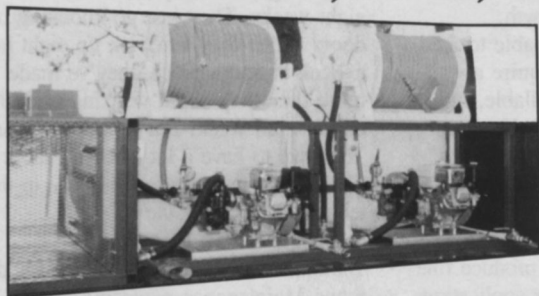
LESCO Model 645 uses a larger volume pump, but the same microprocessor and flow meter as the Model 345 and is for use with flow rates in excess of 1,000 gallons per minute. LESCO Model 4100 uses a 41 gallon per hour, motor-driven, diaphragm pump and has a microprocessor and flow meter to keep the feeding rate proportional to the irrigation rate.

The addition of optional slave pumps, controlled by the main system, permits the injection of multiple materials at a rate of up to 164 gallons per hour. This model is ideal for use with an irrigation system on large turfgrass areas such as athletic fields.

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riding mower includes a number of improvements developed through extensive research, engineering and field testing by Exmark's engineers.

The Turf Ranger's 60-inch floating cutting deck provides a smooth, even cut under demanding mowing conditions. This high performance rider feat-



Exmark's Turf Ranger.

ures a unified console for fingertip access to controls and is powered by an 18-h.p. Kohler Magnum, twin-cylinder engine with hydrostatic speed control.

Designed for superb maneuverability, the Turf Ranger's outfront deck and zero turning radius reduce costly trim time and increase productivity by letting a contractor mow under low-hanging trees, around shrubs and close to buildings in a single pass with unobstructed visibility.

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A NEW N — THE FIFTH GENERATION of the controlled release liquid nitrogens — is available from CoRoN Corp.

CoRoN is a concentrated, clear liquid which is easy to handle and apply. Applied as a foliar application, it does not streak and produces green-up in two to five days with no flush of growth.

CoRoN is immediately available to feed plants. Unlike ureas which require a waiting period before the N is available, university trials indicate that CoRoN enters the plant in its original form and begins to break down immediately into ammonia and nitrate ions.

As little as 1.5 gallons per 1,000 square feet, with nozzle heads which produce fine droplets, perform well in foliar applications.

The product stores well when mixed, and will maintain stability as long as the products with which it is mixed.

Circle 136 on reader service card

A 160-PAGE BOOKLET FROM TURF-grass Technology Center measuring 6 by 3 1/4 inches contains technical information at your fingertips. Key employees can carry this field guide for quick, easy-to-read information.

Written by Jeff Lefton, turfgrass agronomist, consultant and trainer, the book contains sections on pest identification, product usage guidelines, laboratory sampling techniques, calibration guides, fertilization, liming and soil testing interpretation.

Circle 137 on reader service card

Aeration

(continued from page 20)

A: By pulling plugs from the soil, the water will remain in the hole and filter down from there. As a result, it doesn't run off as much.

If you have a 95 degree weather day out here, everybody's watering their lawn every day. With aeration, you can water every other day. Or if it's 85 degrees and everybody's watering every other day, you can water every third or fourth day.

It adds up to about a 10 percent to 25 percent savings. Some water is still going to run off, but not as much if the property wasn't aerated. And just because you aerate in the spring doesn't mean it will last all year. The holes get filled up with root systems and return to their normal state within a couple of months. That's why we're encouraging our customers to aerate at least twice a year.

Q: What advice would you give someone just entering the aeration business? What should they do first?

A: It's a tough one. I've had a lot of people ask me to help them get started. I always tell them to plan on four or five years of hard work or don't do it.

If they decide to, they should know their market. Know where everybody else's prices are. Go out and get good equipment. Go out and buy a brand new truck.

In this business, it's easy for a company to make good money for about four to eight weeks. They just go knocking on doors and if they can pick up eight lawns a week at \$20 a piece, they've made more than they could working for someone else all week. But that doesn't last. You have to have a lot of cash, about \$50,000 to start up and you have to use telemarketing. — Cindy Code

The author is Editor of Lawn & Landscape Maintenance magazine.

COMING NEXT MONTH

Next month we'll bring you pre-convention coverage of the following conference and trade shows: Professional Lawn Care Association of America, Las Vegas, Nev.; Green Team, St. Louis, Mo.; and Irrigation Association, Anaheim, Calif. We'll also take a look at tree and shrub fertilization, winter weed control in warm season turf and focus on the industry's use of power rakes.

CALENDAR

SEPT. 18-19

Alabama Turfgrass Conference, Auburn, Ala. Contact: Alabama Turfgrass Association, P.O. Box 70, Auburn, Ala. 36831-0070.

SEPT. 20-22

The Third Annual Nursery, Landscape Equipment Expo, Atlantic City Convention Center, N.J. Contact: S. Howard Davis, New Jersey Nursery & Landscape Association, Building A, Suite 3, 65 S. Main St., Pennington, N.J. 08534; 609/737-0890.

SEPT. 22-24

Bonsai & Orchid Expo, Hyatt Orlando Hotel, Kissimmee, Fla. Contact: Bonsai & Orchid Expo, 26 Pine Street, Dover, Del., 19901; 302/736-6781.

SEPT. 26

Northeast Sports Turf Institute, Holy Cross College, Worcester, Mass. Contact: Sports Turf Managers Association, 400 N. Mountain Ave., Suite 301, Upland, Calif. 91786; 714/981-9199 or the Professional Grounds Management Society, 12 Galloway Ave., Suite 1E, Cockeysville, Md. 21030; 301/667-1833.

SEPT. 30 to OCT. 3

Green Industry golf challenge for the benefit of The Paul Tilford National Arborist Foundation, Sheraton Atlantic Shores Hotel & Towers, Myrtle Beach, S.C. Contact: NAA Golf, P.O. Box 1094, Amherst, N.H. 03031.

OCT. 4-6

International Pesticide Applicators Association Annual Convention and Trade Show, Salishan Lodge, Glenden Beach, Ore. Contact: John Landon, P.O. Box 247, Clackamas, Ore. 97015; 503/222-3161.

OCT. 8-11

Florida Turfgrass Association Annual Conference and Show, Curtis Hixon Convention Center, Tampa, Fla. Contact: FTGA, 302 S. Graham Ave., Orlando, Fla. 32803; 407/898-6721.

OCT. 10-13

The Associated Landscape Contractors of America Interior Plantscape Division Conference and Trade Show, Boston Park Plaza, Boston, Mass. Contact: ALCA, 405 N. Washington St., Falls Church, Va. 22046; 703/241-4004.

OCT. 13-14

New Mexico Association of Nursery Industries Annual Trade Show, Albuquerque Convention Center, Albuquerque, N.M. Contact: Linda McLain, NMANI, P.O. Box 667, Estancia, N.M. 87016; 505/384-2726.

OCT. 21

Estimating and Management Principles, sponsored by the Associated Landscape Contractors of America, Milwaukee Area Technical College, Milwaukee, Wis. Contact: ALCA, 405 N. Washington St., Falls Church, Va., 22046; 703/241-4004. ■

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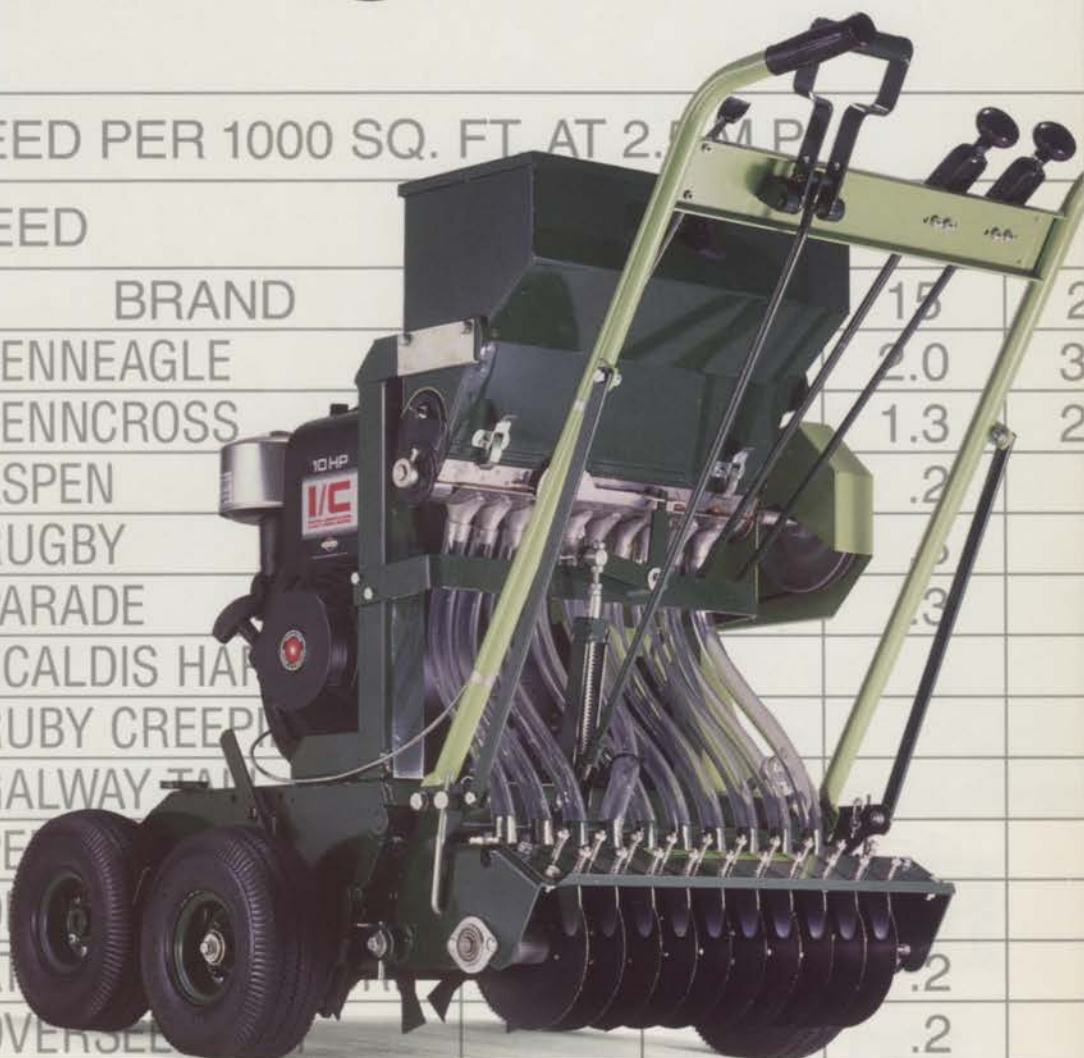
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