

Cover for shaded areas

What is an attractive, green vegetative cover for a shady, wooded area? Wildflowers and turfgrass aren't taking.

—ILLINOIS

Reports indicate that under heavy shade, where less than 25 percent of the daily available sunlight is reaching an area, it is difficult to establish and maintain turfgrass.

Several turfgrass cultivars adapt well to shade, but you have to determine the amount and duration of shade. In the North, several Kentucky bluegrass cultivars, such as Bristol, Glade, Nugget, Touchdown and Birka have show good establishment under less than 70 percent shade. These cultivars would do better with more light. In areas with between 70-80 percent shade, tall fescues and fine fescues have shown good establishment. Consider using some improved turf-type tall fescues such as Rebel II, Falcon, Mustang, Arid, Jaguar, Cimarron, or Bonanza. Some of the fine fescues with good shade and root competition, drought tolerance and winter hardiness include: sheeps fescue (Bighorn), hard fescue (Biljart and Reliant), chewings fescue (Jamestown and Banner), and creeping fescue (Fortress, Ruby; Ensvlva). If the shade is above 85 percent, it would be difficult to grow turfgrass.

Check with your local cooperative extension service and/or nurseries for plants suitable to grow in your area.

You might also consider some of the following ground covers in addition to turfgrass, for shady conditions:

Note: varieties are listed as examples. Exclusion of any variety is unintentional.—ed.

SHADE TOLERANT GROUND COVERS

<i>Ajuga species</i>	...Bugleweed
<i>Aegopodium podagraria variegatum</i>	...Goutweed
<i>Convallaria majalis</i>	...Lily-of-the-Valley
<i>Euonymus species</i>	...Wintercreeper
<i>Gaultheria procumbens</i>	...Wintergreen
<i>Hedera helix</i>	...English Ivy
<i>Hosta species</i>	...Plantain Lily
<i>Liriope spicata</i>	...Lily turf
<i>Lonicera species</i>	...Honeysuckle
<i>Mahonia repens</i>	...Dwarf Holly Grape
<i>Pachistima canbyi</i>	...Canby Pachistima
<i>Teucrium chamaedrys</i>	...Germander
<i>Vinca minor</i>	...Myrtle
<i>Xanthorrhiza simplicissima</i>	...Yellowroot

Powdery mildew problem

Every year on our oak trees we see whitish-powdery growth on the lower surface of the leaves. We also see a number of small, black specks present. Is this caused by mites?

—MICHIGAN

The black structures you have seen are probably not mites, but fruiting bodies of the powdery mildew fungus, which contain fungal spores. There are several different powdery mildew fungi which attack oak,

including *Sphaerotheca lanestris*, the most troublesome mildew producer. Others include *Erisiphe trina*, *Microsphaeria alni*, and *Phyllactinia corylea*.

If the problem is powdery mildew, generally there is no need for fungicidal treatment on large shade trees. For aesthetic reasons, fungicides such as Bayleton or Cleary's 3336 can be used when the first sign of fungal mycelium is noticed. These fungi produce superficial, whitish-mycelial growth. As they mature, they produce small fruiting bodies, which may look like mites. These will not easily dislodge when leaves are shaken.

To check for mites, shake the leaves over some white paper or cloth. Mites will fall and begin to crawl on the white surface. Mites have eight legs while insects have six legs. Mites leave a stain when crushed. If the problem is related to mites, these are warm-season mites that become active when the temperature warms up. They overwinter away from hosts on nearby debris on the ground. Oil applications on trees to manage eggs will not work if applied as dormant application.

If the problem is mites, a miticide, such as horticultural oil, Kelthane, or Morstan in mid-June and two to three weeks later is recommended.

Read and follow all label specifications for best results. **LM**



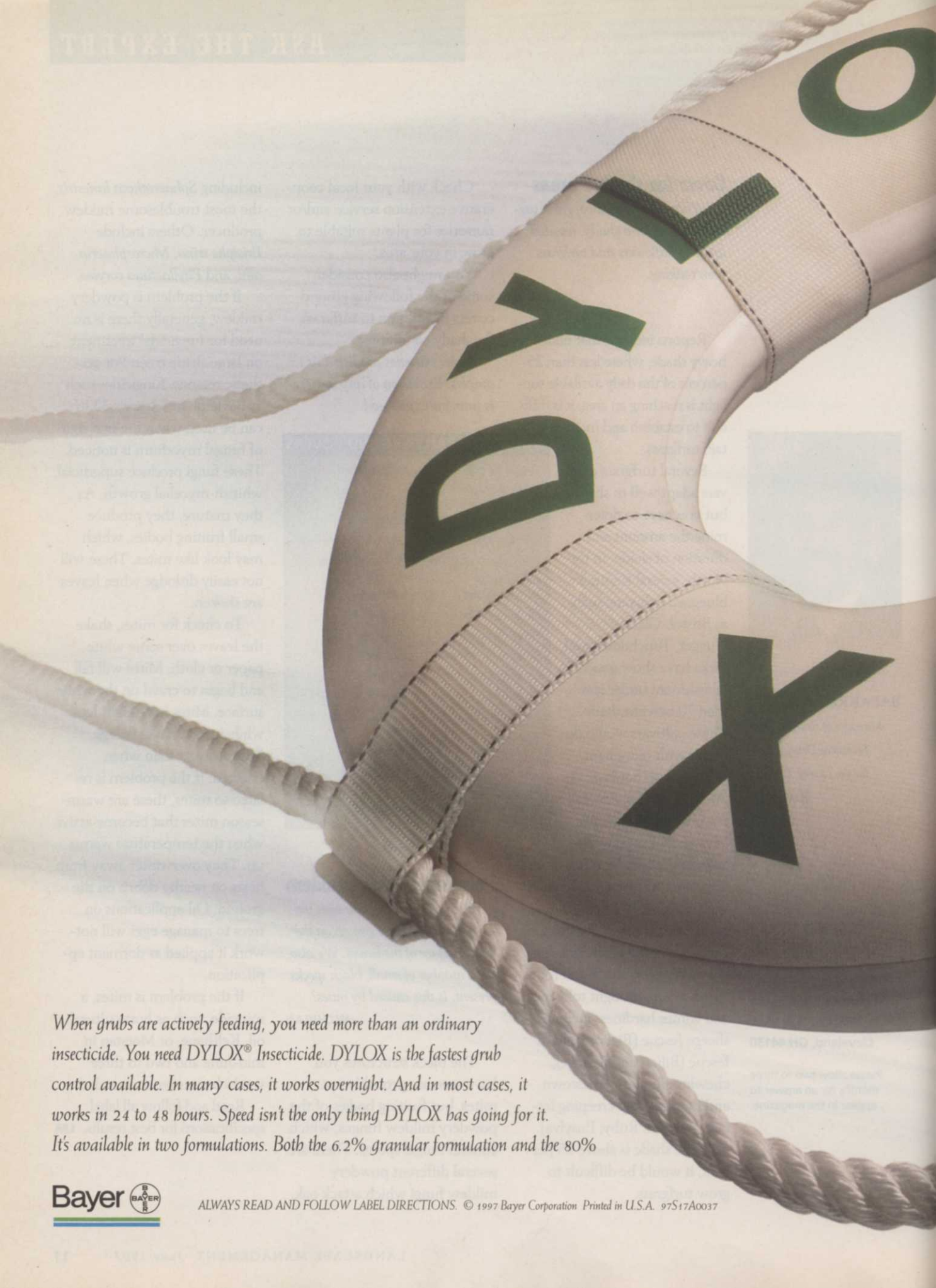
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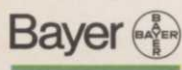
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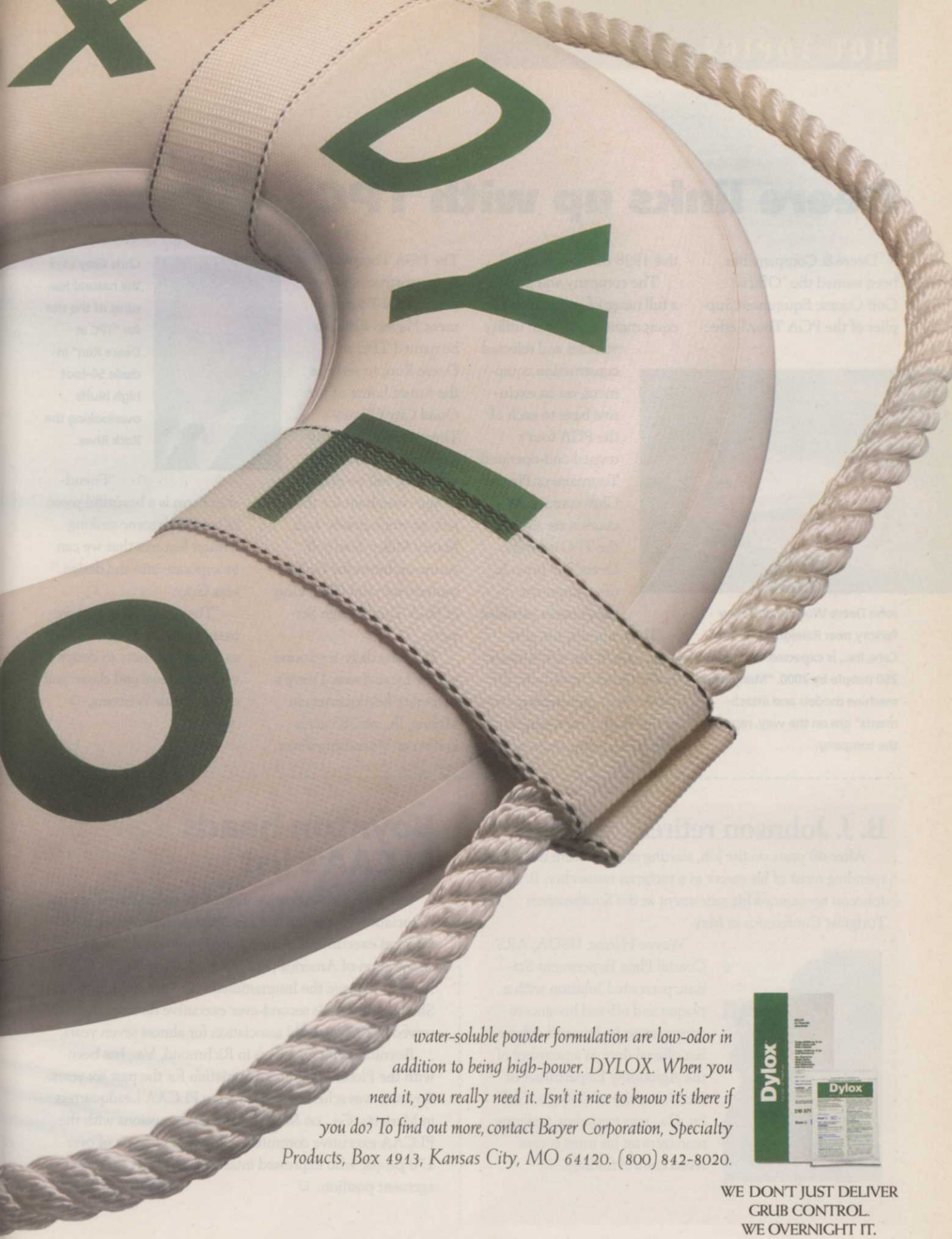
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Deere links up with TPC

Deere & Company has been named the "Official Golf Course Equipment Supplier of the PGA Tour," effective

1998 through 2006.

The company will provide a full range of golf and turf equipment, along with utility vehicles and selected construction equipment, on an exclusive basis to each of the PGA tour's owned-and-operated Tournament Players Club courses. As courses are added to the TPC network, Deere will provide the equipment.

New course planned

The company has also been named the title sponsor of the Quad City Classic for 1998-2006, representing one of the PGA Tour's longest title sponsorship agreements.

The PGA Tour will design, construct and operate a new Tournament Players Club, to be named TPC at Deere Run, to serve as the future home of the Quad City Classic. Three-time Quad City Classic Champion D.A. Weibring will be player design consultant for the project, to work closely with Maury Miller, lead golf course architect for Golf Resources, Inc. and Chris Gray of PGA Tour Design Services.

The new daily-fee course will be located near Deere's corporate headquarters in Moline, Ill., on 385 acres known as "Friendship Farm."



Chris Gray says the natural features of the site for "TPC at Deere Run" include 50-foot high bluffs overlooking the Rock River.

"Friendship Farm is a beautiful piece of land with some striking natural features that we can incorporate into the design," says Gray.

"The topography, mature trees, ravines and views offer us the opportunity to design a very traditional and classic golf course," adds Weibring. □



John Deere Worldwide's new factory near Raleigh, N.C., Turf Care, Inc., is expected to employ 250 people by 2000. "Many new machine models and attachments" are on the way, reports the company.

B. J. Johnson retires

After 40 years on the job, starting in agriculture but spending most of his career as a turfgrass researcher, B. J. Johnson announced his retirement at the Southeastern Turfgrass Conference in May.



Wayne Hanna, USDA, ARS, Coastal Plain Experiment Station, presented Johnson with a plaque and offered his sincere appreciation to Johnson, whose last official duty as a member of the Agronomy Department of the University of Georgia, Griffin, Ga., was to update turfgrass managers on his most recent weed control findings. □

Boynton heads PLCAA's list

Rex Boynton, executive director of the Picture Framing Association, is the leading candidate to replace Anne McClure as executive director of the Professional Lawn Care Association of America (PLCAA). McClure left PLCAA in April to manage the International Gas Turbine Association. She was PLCAA's second-ever executive director and served the 17-year-old association for almost seven years.

Boynton, who now lives in Richmond, Va., has been with the Picture Framing Association for the past six years. Boynton was scheduled to travel to PLCAA headquarters in Marietta, Ga., on May 30 for final discussions with the PLCAA executive committee. Boynton was one of over 170 people who expressed interest in PLCAA's top management position. □

LM wins six writing, design awards

SAN DIEGO— LANDSCAPE MANAGEMENT received six writing and graphic design awards from the Turf and Ornamental Communicators Association, at the association's annual meeting in May.

Awards for articles appearing in 1996 were presented in the following categories:

► 1st Place to Managing Editor Ron Hall and Editor-in-chief Terry McIver in the category of "Business Management Article," for "Mexican Labor Moves In" (October 1996), about the growing number of Hispanic workers in the professional green industry.

► 1st Place to Terry McIver in the category of "Editorial/Opinion Piece," for "Good Crew, Busy Members Help Manage Small Budgets" (February 1996), which explained how a golf course superintendent makes ends meet with minimal funds.

► Merit Award to Ron Hall in the category of "Product Information Article," for 'New Insecticides Excel at Grub Dig' (Nov. 1996).

The story covered product research findings at an annual OSU turf industry field day.

"Good use of experts, graphics and layout," said judges from the San Diego Union Tribune and San Diego State University.

► Merit Award to Ron Hall in the category of "Turf Feature Article," for "The Day Sarge Saved Milwau-

kee's Field from Seagulls" (April 1996), which explained how the Milwaukee Brewers used a Springer Spaniel to chase seagulls from the outfield. This was an interesting, informative article, which provided a solution to a common problem.

► 1st Place to graphic designer Lisa Bodnar in the category of "Overall Magazine Design." The graphic design judge, Mona Howell of COVI Communications/Design, San Diego, said Bodnar was able to give the editorial pages a look that is well-differentiated from advertising, and that makes good use of state-of-the-art design technology.

► Bodnar also earned a Merit Award in the Multiple-page Design" category of "for the "LM 100" feature (September, 1996). The judge was most impressed with Bodnar's skill at balancing a tremendous number of photos and copy.

The "LM 100" article contained 54 art elements and thumbnail profiles of 100 green industry professionals.

"The TOCA Awards are an exclamation point to the great year LM is having in 1997," said McIver. "The editorial and design partnership is working very well. The entire staff is dedicated to producing the best green industry magazine there is."

The Turf and Ornamental

Communicators Association is comprised of green industry editors, freelance writers, public relations account executives and supplier representatives. Current membership is at 130. The leading magazines and suppliers are members. The 1998 annual meet-

ing will be held in Cleveland May 2-4.

For information on how to become a member of TOCA, call the association at (619) 758-6340. □

U.S. EPA registers Mach 2; product available for '98

Mach 2 turf insecticide, a product developed by RohMid, a joint venture between Rohm and Haas Company and American Cyanamid Company, was registered by the U.S. EPA on May 20 for use in controlling grubs and other soil-borne pests in turf. Approved formulations include a liquid (ZSC) and 1.5 percent granular. The granular will be available for all turf sites including home lawns, golf courses and industrial sites. The liquid may be used on golf courses and commercial landscapes. Most state registrations are expected to be granted over the next six to eight weeks.

John Thomas, Ph.D., RohMid manager, said the products will be available for the 1998 application season.

"Golf course superintendents and lawn care operations already are in the midst of grub and cutworm control

season," explained Thomas. "Mach 2 turf insecticide does have an extraordinarily wide window of application bridging preventative and curative application timings. However, the completion of the various state registrations will create a patchwork of product availability, limiting our full sales potential in 1997.

"RohMid will conduct a demonstration program with select golf courses this season using the liquid. Both products will be available to all users for the 1998 season."

The joint venture between the two speciality chemicals manufacturers was formed in 1995 to develop, register and commercialize Mach 2. The insecticide belongs to a new class of chemical compounds called molt accelerating compounds (MACs) which interfere with the normal molting processes of targeted pests. □

SUPPLIERS CORNER

AgriBio Tech, Inc. has purchased **E. F. Burlingham & Sons** seed company. Dr. Johnny R. Thomas, CEO of AgriBio Tech, says the buy combines research, production and distribution to establish AgriBio Tech in the turfgrass sector of the green industry. "Ownership of Burlingham germplasm should enhance AgriBio Tech's negotiations for biotechnology access," says Thomas. Burlingham will continue to market its proprietary turf products through its traditional channels.

AquaMaster Fountains and Aerators of Kiel, Wisc., has established distributorships with the following U.S. and foreign companies: Kamex Industries, Inc., Seoul, Korea; Irritec Irrigation, Belmont, Western Australia; Mantag Irrigation Systems, New Delhi, India;

Kilbpatric International Sales, Boynton Beach, Fla.; Globen Co., Ltd., Nagoya, Japan; and Landscape Li Chuan Corp., Taipei, Taiwan.

Cargill Salt has completed its purchase of **Akzo Nobel Salt, Inc.** The buy includes all of Akzo's North American production, processing and marketing assets, including familiar brands such as Alberger; Diamond Crystal; Salt Sense; Champions Choice; Red•Out; and ResinGard. "We have increased our production capacity for all types of salt; rock, solar and evaporated," says Charles Sullivan, president of Cargill's Salt Division. Both companies have been suppliers of deicing salt to the green industry.

Morbark, headquartered in

Winn, Mich., the largest manufacturer of wood chipping and solid waste grinding equipment, has bought **GDS Screens**, the largest maker of portable trommel screens. Loran Balvanz, CEO of USM Equipment, which owned GDS, will serve as a consultant.

Plant Health Care, Inc. has an Internet web site to serve as a one-stop information resource for biological plant health care products. Root zone ecology and living microorganisms that promote plant health including mycorrhizal fungi, beneficial bacteria and biostimulants, are included. The address is: <http://www.planthealthcare.com>

Pursell Industries has completed a management-led buy-out of its consumer product di-

vision, with Citicorp Venture Capital joining as an equity investor. Taylor Pursell will lead the business, to be known as Pursell Technologies, Inc. Jim Pursell is chairman of Pursell Technologies; David Pursell is president and CEO.

Don Clark is marketing manager for **Rain Bird Sales, Inc.**'s Contractor Division. He oversees the strategic marketing communications activities of the Division, and manages the product planning staff.

Christopher R. Shadday is products manager for **Rohm and Haas** Company's Turf and Ornamental Products business. Shadday contributes to the company's marketing, business development and management programs for its turf and ornamental products.

Sostram Corporation's Echo 720 Turf and Ornamental Fungicide has received EPA approval for use in California. The broad-spectrum, flowable, contact fungicide works on a wide variety of turfgrass and ornamental diseases.

The Toro Company will move the Toro Hardie Irrigation administration/distribution offices to Toro's Riverside, Calif. irrigation headquarters. The move will begin in mid-June and is expected to be completed by the end of November. Also, all Toro irrigation valves will now be produced at the Toro Hardie El Paso, Texas manufacturing plant; irrigation products will be built at the Riverside site. **LM**

Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

TURFGRASS DISEASE CD-ROM... *Turfgrass Diseases: Diagnosis and Management*, by Gail L. Schumann and James D. MacDonald is an interactive guide to identifying and managing more than 65 turfgrass diseases and disease agents. It combines an extensive collection of high-quality images with vast reference material and expert advice on disease control, including the most current approaches to environmentally-sound integrated programs. The guide is designed for anyone who works with turfgrass—from professionals to students to plant scientists. It's simple yet authoritative, with more than 350 images. Cost is \$295 U.S., \$310 outside the U.S. There is a 30 percent quantity discount with purchase of 10 or more. Contact: APS PRESS, American Phytopathological Society, 3340 Pilot Knob Rd., St. Paul, MN 55121-2097; (612) 454-7250; fax: (612) 454-0766.

IRRIGATION CATALOGUES... **HIT Products Corporation** of Lindsay, Calif., has a catalogue of turf products that includes Procode Solar Controllers, Rainbow Controllers, pop-up sprinklers, valves and pressure compensation devices, and more. Contact the company at (209) 562-5975. George Cook is the company owner and marketing manager. **Superior Controls Co., Inc.**, of Valencia, Calif., makes a variety of solid-state controllers, electro-mechanical controllers, automatic adaptors, globe valves and pressure reducing valves. To obtain a catalogue, contact the company at (805) 257-3533.

Events

JUNE

18: Turfgrass/Landscape Workshops, SUNY

Cobleskill College of Agriculture and Technology, Cobleskill, N.Y. Contact: (800) 873-8873

18: UMass Turfgrass Research Field Day, South Deerfield, Mass.

Contact: Thom Griffin, (413) 545-3066.

JULY

9-12: AAN/TNA Convention and Trade Show

Opryland Hotel and Convention Center, Nashville, Tenn. Contact: AAN at (202) 789-2900.

17-19: Turfgrass Producers International, Summer Conv. & Field Days,

Hyatt Regency, Minneapolis, Minn. Contact: Tom Ford, (847) 705-9898; (847) 705-8347.

22-25: Soil & Water Conservation Society Annual Meeting, Toronto

Sherraton; Contact: Nancy Herselius, (515) 289-2331.

26-28: International Lawn, Garden & Power Equipment Expo,

Kentucky Fair and Exposition Center, Louisville, Ky.; Contact: Warren Sellers, (502) 562-1962. **LM**

PLCAA— GROWING LEADERS FOR SUCCESS

The Professional Lawn Care Association of America is in the business of "Growing Leaders." Growing your career, your company and your industry. That's our mission. From all parts of the United States, Canada and around the world, PLCAA members are dedicated lawn and landscape professionals, grounds managers, industry suppliers, and students committed to professionalism and success.

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- > Legislative Support and Updates on the Issues
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- > Discounts on PLCAA's Operating Efficiency Study
- > Public Awareness Campaigns to Spread the Good Word About Turf
- > Discounts on Green Industry Expo Booth Space for Suppliers
- > Exclusive Use of the Symbol of Good Practice Logo

"We continue our membership in PLCAA to take advantage of the many benefits, strength in legislative affairs at the local and national levels, and specialists on staff who are a phone call away lead the list. Together Everyone Accomplishes More (TEAM) through PLCAA."

Tom Tollacz
Swingle Tree Company
Denver, Colorado

"PLCAA keeps our company sharp, which translates into efficiency. The many benefits we receive do trickle down to the bottom line. We belong to many associations, and PLCAA is truly the leader in understanding and servicing its members."

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TurfGrass TRENDS

Maximizing Turfgrass Irrigation Efficiency

By William E. Smith, Editor L. Green and Peter A. Gilman
University of California, Riverside

There were available for human consumption, agricultural production, and industrial uses. However, for only 1% of all water on the earth, the remaining 99% is salt water and unusable for humans. It is a particularly precious resource in the arid Southwest where average annual rainfall is only 10 to 20 inches. This limited rainfall is often unevenly distributed in the state of California, which receives 70-80% of the total rainfall in the region of the United States. In Riverside, CA, we have installed an average of 40 inches of water each month, which is a typical water-use requirement for turfgrass in the arid West. It is the right to irrigate that water users wish to gain in the arid West.

Irrigation is a primary component of regional landscape maintenance in the Southwest, and is becoming increasingly important in landscape maintenance. The



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SAVING WATER: the politics of conservation

Interaction between water utilities, green industry groups and government agencies can be confrontational or cooperative.

by LEAH ROTTKE

The politics of water is very much like the politics we see from Washington: there are those who make the rules, and those who must obey them, like it or not.

But the industry can help legislators understand that turf doesn't waste water, people do.

Here's a look at what's happening with water politics in the green industry today.—ed.

Nevada association wins

In January, 1997, the regional water board for the Reno, Nevada area attempted to have turf banned from all

new landscape installations on commercial properties. The plan called for:

- ▶ no turf on new commercial properties;
- ▶ no turfgrass on slopes greater than 10 degrees;
- ▶ 25 percent maximum amount of turf allowed in multi-tenant developments.

The Nevada Landscape Association responded quickly, says NLA president Michael King. It turned to Dr. James Beard, professor emeritus, Texas A&M, and others for help. It also hired attorneys and produced a 90-minute video showing industry's side.

The county responded to King's suggestions for revisions. The water board and the NLA met to work out a conservation plan together. They now meet twice each month, but city and county governments dictate irrigation scheduling to green industry professionals with a law limiting landscape watering to two days per week.

King wants to see the state adopt a performance-based water use program based on evapotranspiration (ET) rates.

"This has been a proven method in other cities where I have collected information, and it is a win-win situation in those cities; for the water purveyor, the landscape industry and conservation," says King, who adds that a water conservation program based on performance would secure the water needed for landscapes.

Automatic shut-offs

In 1991, the state of Florida passed a law requiring all newly-installed irrigation controllers to have rain shut-off devices. The on/off switch idea sufficed until October 1996, when Hillsboro County passed an ordinance requiring all controllers, regardless of their installation date, to have auto-

matic rain shut-off capability. The penalty for non-compliance is a \$500 fine, per controller.

The Southwest Florida Water management District oversees sixteen counties and regulates irrigation scheduling throughout its territory. Even numbered properties are permitted to water on Tuesdays and Saturdays. Odd-numbered properties can water on Wednesdays and Sundays.

Customers using reclaimed water are exempt from restrictions, and a 'stress exemption' can be made for commercial agriculture and golf courses.

The district tempers regulation with communication. A group called the Green Industry Advisory Committee meets with the water authority monthly. According to Water Conservation Analyst, Kathy Foley, all of the committee's revisions to a list of recommended plants—to be published for use by the public—were adopted.

The Georgia plan

Georgia passed a water conservation law in 1994 requiring applicants for a new commercial meter to present a water conservation plan. The law

More science than art

Technological advancements have allowed landscape managers to apply water at much slower rates, using low-flow nozzles and semi-porous tubing that reduce runoff," explains Dave Hanson, Environmental Care, Calabasas, Calif.

"Improvements in drip irrigation and bubbler equipment have made spot applications of water highly successful.

"Combined with changes in irrigation clocks that allow multiple programs and cycles of water application as well as moisture and flow sensing capabilities, one can easily see why water management programs are now more efficient than ever before," says Hanson.

"While we are not yet perfect, the importance of landscape water management is now certainly practiced as more of a science than as an art."