

JULY 1995 • \$4.00

# LANDSCAPE MANAGEMENT

## DEFINING YOUR IMAGE

**ALSO:**

- Beating the heat
- Tree maintenance
- Disease control strategies

AN ADVANSTAR PUBLICATION



From Tee-2-Green

# Penn Pals Profile:

A portfolio of creeping bentgrasses perfect for your plans... from the world's foremost marketer

Scientific name:	Growth habit:	Shade tolerance:	Heat tolerance:	Cold tolerance:	Traffic and wear tolerance:	Seeding rate, greens:	Seeding rate, fairways:
<i>Agrostis stolonifera</i>	Spread by aggressive stolons	Fair	Good	Excellent	Very good	1 to 1 1/2 lbs. per 1000 sq. ft.	Up to 50 lbs. per acre

## Penncross

For tees and greens

The standard for creeping bentgrasses since 1955 and still the most specified bentgrass for golf courses. Recovers quickly from injury and divots. Good heat and wear tolerance. First choice of golf course architects and superintendents.

A few fine courses with Penncross greens:

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- Wolf Run Golf Club
- Eagle Crest Golf Course
- Kananaskis Country Golf course



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- Pumpkin Ridge Golf Club
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- DesMoines Country Club



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- SandPines Resort
- Prairie Dunes Golf Club
- Baltimore Country Club
- Wild Wing Plantation



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- Riverwood Golf Club (winter overseeded greens)



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For more information, call or fax: **Tee-2-Green Corp.**, 1-800-547-0255 / FAX 503-651-2351

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## AS WE SEE IT

TERRY McIVER, MANAGING EDITOR



### Never mind sand traps: beware golf's status trap

We received a call from a superintendent who's been looking for a new job. He's currently employed, but seeks another opportunity.

This well-spoken, 40-year-old college graduate is certified by the GCSAA and has more than 10 years of solid Class A golf course experience.

But he suspects he's been compromised by the very thing we all agree is a lousy strategy: price shopping.

He wonders if, at his still-young age, he's being passed up for younger men who don't require as high a salary. He also wonders if he's become caught up in the "it's-not-what-you-know-it's-who-you-know" syndrome.

Maybe he just doesn't interview well, but let's hope the golf course hiring process doesn't mandate membership in a club that only offers opportunities based on youth, low income requirements or fraternity.

Employers should be willing to pay for a person's experience and certification. There's no point in being "the best you can be" and "pursuing excellence" if the gatekeepers won't then pay you what you're worth.

Our caller also said something that makes us wonder how green industry employers are handling interviews.

He said he drove for four hours to get to one particular interview. When he arrived, he walked into a room full of nine other applicants! He managed to get 40 minutes of interview time, but the third question he was asked was, "How much will you work for?"

Tacky. *Very* tacky. At least he wasn't asked his marital status or age, which is probably happening more often than not, if the truth were known.

Maybe the interviewer at that course is just one of a few who have poor interview etiquette, but let's remember to practice

what is preached in the pages of our professional magazines and from trade show podiums:

**1)** The interview is a two-way street; both parties deserve respect.

**2)** Don't believe all you hear about "doing more with less." Many service businesses have fallen for that line and are paying for it with inefficient crews and frustrated customers who don't come back.

**3)** Don't shop for price! It doesn't work when you buy equipment, and it's certainly a lousy strategy when you're looking for good employees. The reality of it all is that salaries are the most important items in the budget.

We recently wrote about the importance of business savvy to the modern superintendent—but don't take it too seriously. Being able to manage money is important, but don't discount the value of human potential. Anyone can learn how to do "zero-based" budgets and capital equipment appreciation and evaluation.

You've heard it before: "How am I going to acquire any experience if I'm not given a chance?"

And if you, Mr. Employer, want to hire someone "who can do it yesterday"—to coin that hip phrase used to describe "fast-paced, ever-changing job environments," then you're doing a poorly-planned and rushed job of hiring.

Turfgrass knowledge, individual talent and past experience can all be measured in dollars and cents.

If you plan to hire someone, take the time to measure accurately and fairly.

# LANDSCAPE MANAGEMENT

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Whether you're head of a golf or landscape maintenance department or a lawn or landscape company, your success is defined by your customers' perceptions.

*Jerry Roche*

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*Terry McIver*

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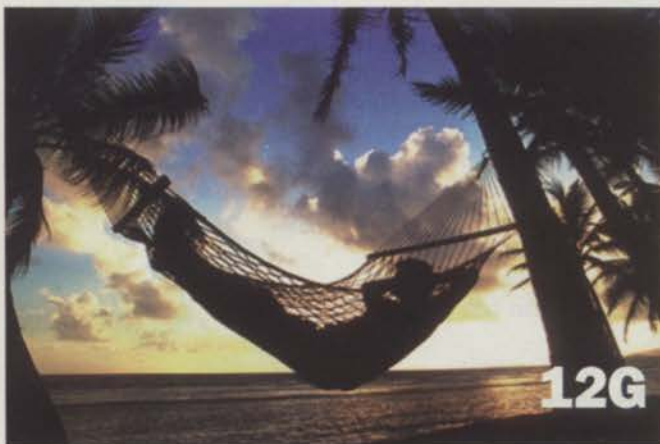
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*Ron Hall*



12G



18G

### 6G A new buying co-op

The United States Country Club Association is a new buying cooperative designed to help golf course superintendents purchase products at lower prices.

*Ron Hall*

### 8G Stadium conversions

Two weeks is all they get a San Diego's Jack Murphy stadium. Speed, proper equipment and a sharp crew are needed to get the job done.

*Steve Wightman*

### 12G Summer burnout

Relax. You can get through the year's two hottest, most stressful months by exercising or taking time out to talk to your favorite bartender.

*Jerry Roche*

### 14G Paying your people

Options are available to help you flatten your payroll, especially in times of huge overtime payments.

*Ron Hall*

### 18G Munny courses benefit all

Cities are using landfills, gravel pits and farmlands to make space for the deluge of Baby Boomer golfers entering the ranks.

## JULY BONUS: 7th annual SEED POCKET GUIDE...

...featuring turfseed blends & mixes,  
and your first look at results from  
the 1994 national turfgrass trials.

POLYBAGGED WITH THIS ISSUE



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*ON THE COVER: Chapel Valley Landscape Company designed this residential landscape in Potomac, Md. with planting beds to accent the distinct spaces throughout. Photo by Erik Kvalsvik.*

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LANDSCAPE MANAGEMENT (ISSN 0894-1254) is published monthly by Advanstar Communications, Inc. Corporate and editorial offices: 7500 Old Oak Blvd., Cleveland, OH 44130. Advertising, accounting, advertising production and circulation offices: 131 West First St., Duluth, MN 55802; 1333 N.W. Norcross, Seattle, WA 98177.

Subscription rates: one year, \$39, two years \$58 in the U.S.; one year \$66, two years \$99 in Canada. All other countries: one year \$130, two years \$195. Current issue single copies (pre-paid only): \$4 in the U.S.; \$7 in Canada; \$12 elsewhere; add \$3.50 per order for shipping and handling. Back issues, if available, \$10; add \$3.50 per order for shipping and handling (pre-paid orders only).

Office of publication: Advanstar Communications, Inc., 131 W. First St., Duluth, MN 55802. Second class postage paid at Duluth, Minnesota 55806 and additional mailing offices.

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**POSTMASTER: Send address changes to Landscape Management, P.O. Box 6198, Duluth, MN 55806.**



Printed in the U.S.A.

# ASK THE EXPERT

DR. BALAKRISHNA RAO



## 'Problem' zoysiagrass

**Problem:** One of our clients' lawns is zoysiagrass. He just bought the house and doesn't like the look of the turf. How do we get rid of the zoysia? (Ohio)

**Solution:** Zoysiagrass is a very aggressive turfgrass that doesn't green up early in the northern part of the U.S.

To remove zoysia, use a non-selective herbicide like Roundup or Finale. Apply uniformly when the turf is green and growing. Non-selective herbicides remove most green growth. Therefore, take precautions: avoid drift; do not walk on the treated area, then walk on desirable green grass; and, where feasible, walk backwards while applying.

Wait 10 to 14 days after treatment. If necessary, treat again to help manage any re-sprouts.

Once the zoysia is gone, use a slicer-seeder (Aeroseeder) or till the area, then seed the desirable turfgrass. Follow good seeding and establishment procedures. Maintain good seed-to-soil contact. After seeding, lightly cover with straw and be sure to water during germination and all through establishment.

## A discussion of herbicides

**Problem:** Once in a while, our small lawn care service gets complaints that lawn weed-killers like Trimec kill shrubs and ornamental plants. How can we determine herbicide damage on ornamental plants? How can a low dose of weed control chemical kill plants like burning bush when, many times, even the same mix has problems controlling lawn weeds? (Illinois)

**Solution:** Herbicides such as Trimec can be available in either ester or amine formulations. The ester formulation is more volatile and can cause injury when it comes in contact with non-target ornamental plants. For this reason, try to use the amine formulation, which has lower volatility and is less likely to cause injury to off-target plants.

Some components in Trimec can also be absorbed by nearby roots. Therefore, whenever possible, do not apply close to desirable or sensitive plants. Trimec's 2,4-D can be foliarly absorbed upon contact, while the dicamba can be absorbed by the root.

If the plants were accidentally sprayed, wash them if you can. Since the treatment is designed to manage herbaceous weeds, if it is mixed and applied properly, it should not cause severe injury to non-target ornamental plants like burning bush, as you mentioned. The concentration should not be high enough to cause permanent damage, unless the plant is under stress.

Examine plant leaves for broadleaf herbicide injury. Affected leaves—usually new growth—will show twisting, cupping, curling and veins that are pulled together. They will be thicker, "leathery" in texture and light colored.

The 2,4-D alone will normally cause leaves to show a downward cupping distortion. Dicamba produces cupping-up of leaf margins. However, when both 2,4-D and dicamba are present, the

affected plant may show both cupping-up and -down symptoms.

Study the suspected plants for a specific pattern. For example, check whether the damage is on one or two sides, or all over the plant. Since dicamba is a root-absorbed systemic herbicide, growth distortion would be throughout the plant, particularly on new growth. 2,4-D is also a systemic herbicide, but downward movement in woody plants is restricted, so injury is usually on the side of the plant where it comes in contact.

In addition to visual diagnosis, herbicide residual analysis of foliage can be conducted at specific labs. The price may range from \$90 to \$130 for testing each of Trimec's three components.

Finally, one of the reasons that Trimec may not be working effectively on the target weeds is that weeds must be actively growing, since products like Trimec are post-emergents. The treatment will have no effect on weeds that germinate after the application. Rain or irrigation soon after the application can also reduce its effectiveness.

## Micronutrient problems

**Problem:** One of our employees learned that a product called Envy can correct micronutrient deficiency problems, and that a foliar testing may not even be needed. Is it true? If so, will it help correct chlorosis on maples in our very high pH soils? (Michigan)

**Solution:** Envy is a water soluble micronutrient complex for turf and ornamentals that is manufactured by National Liquid Fertilizer Corp., Chicago. It contains copper (1%), iron (10%), manganese (4%), zinc (3%), magnesium (2%) and sulfur (12%). It is designed for both soil and foliar application.

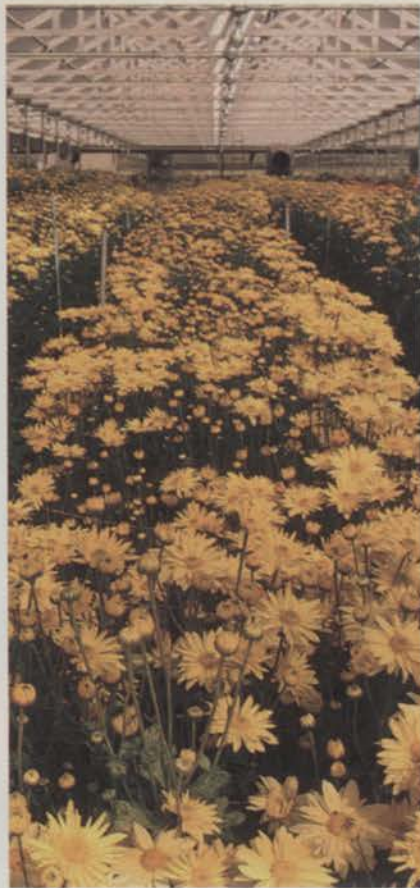
Even though Envy contains so many nutrients, it should not be used to treat all observed and/or suspected deficiencies. Ideally, you should have foliage and soils analyzed to determine the major cause(s) of chlorosis. However, if you don't want to wait for test results, Envy treatment could be a stand-by option, if you recognize the fact that it may or may not work in a specific situation.

The chlorosis on maples is most likely related to manganese deficiency. Test foliage and soil, then provide corrective treatments as needed. (Envy contains only 4% manganese. Based on test results, verify whether it can correct your specific problem. A specific nutrient deficiency may be more effectively treated with that nutrients rather than with a nutrient complex like Envy.)

Manganese treatments should be made just before or during early leaf expansion for the maximum benefit. Therefore, consider treating manganese-deficient maples early in the spring.

*Dr. Balakrishna Rao is Manager of Research and Technical Development for the Davey Tree Co., Kent, Ohio.*

*Mail questions to "Ask the Expert," LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. Please allow two to three months for an answer to appear in the magazine.*



## NOW THERE'S NO PLACE FOR PESTS TO HIDE.

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Steve "Bogie" Bogaards, President Preferred Maintenance, Inc. Miami, FL



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\*See your GMC TopKick dealer for terms and conditions of this limited warranty.

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# TOPKICK

THE STRENGTH OF EXPERIENCE



DEFINING

# YOUR IMAGE

**Whether you're head  
of a golf or landscape  
maintenance  
department or a lawn  
or landscape  
company, your  
success is defined by  
your customers'  
perceptions.**

**by Jerry Roche,  
Editor-in-Chief**

**Y**ou pull into the local Texaco station. Three attendants in immaculately-pressed khaki uniforms pop out of the building and, like whirling dervishes, pump gas into your tank, check the air in your tires, and flip up the hood—all in the space of 60 seconds.

You are impressed, and the next time you need a fill-up, you return to the same station.

Never mind that this was 40 years ago when Texaco was defining customer service with its "Men from Texaco" advertising campaign and jingle. ("Oh, we're the Men from Texaco, we work from Maine to Mexico...") The same rules still apply today. A pristine image still means good business.



**Ruppert employees attend a regularly-scheduled training session.**

**CURB APPEAL**

ISSUE 1992 Published by Brown Landscaping

**CASE STUDY**

**Unquahick Residence: A Romantic Garden**

When the owner of the Unquahick Residence in Massachusetts decided to build a garden, he gave a clear vision. He wanted a garden that was both romantic and practical. The garden was designed to be a place where the owner could relax and enjoy the outdoors. The garden features a variety of plants, including roses, hydrangeas, and ferns. The garden is also a great place for entertaining. The garden is a beautiful example of how to create a romantic garden.

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**ISS Turf Talk**

JANUARY 1995

ISS Inside-Out at The Dolphin  
ISS Insects Foliage and Fantasy

Holiday Greetings

ISS Turf Talk is a monthly publication for the turf industry. It covers a wide range of topics, including turf production, maintenance, and industry news. The magazine is a valuable resource for anyone involved in the turf business.

**RUPPERT REPORT**

A Pro-active Approach to Labor

The Ruppert Report is a monthly newsletter for the Ruppert family. It provides information on labor relations, employee training, and company news. The newsletter is a key tool for the Ruppert family in managing their business.

Newsletters and logos help companies stand out from the crowd. Here are some of the nicer newsletters we've seen, plus Phil Fogarty's popular sprite (upper right).

Image, of course, starts with how you look to customers and prospective customers.

Phil Fogarty of Crowley Lawn Care in Cleveland, Ohio, recently employed a freelance artist to create a new company logo. The artist had worked with Disney Studios' animation department, and gave Fogarty a variety of options, from which he chose the image of a green leprechaun (above right).

"We've got to be more user-friendly in this industry," observes Fogarty, an inveterate philosopher who tends to consider the "big picture" before making any important business decisions. "We have to counteract all the negative media we get, so the leprechaun was designed to make people feel at ease with us and to appeal to women.

"It's all very subtle stuff. I wanted a logo that would leave people with an impression that we can perform miracles. Leprechauns are mystical, magical and non-threatening.

"Women walk up to me and smile and say, 'Isn't that cute?,' and point at the logo on my shirt," Fogarty continues. "Dealing with people is a lot easier when they're in that kind of a mood."

Here are some other ways you can create or further define your image:

- Are your employees properly dressed? Do their clothes carry the company/department logo, displayed prominently? Are the employees neat and clean?

- Is your equipment clean and shiny? Will it catch the eye of the general public

when your crews are on a job site?

- Is your headquarters building (main-tenance facility in the case of golf courses) nicely landscaped? Is there a pleasant waiting/reception area?

- Do all your employees—not just the ones who regularly call on customers or interact with the greens committee—communicate well and know how to deal with agronomic problems? Have they been trained to be courteous, cheerful and helpful?

- Do you have the proper communication technology—fax machines, voice mail, mobile telephones and/or two-way radios—to immediately respond to customer or golfer concerns?

- Do you have a means to communicate with customers in writing, like a newsletter or brochure? Do you mail it out or post it in the clubhouse regularly? Does it accurately reflect a certain level of professionalism, and does it establish your company/department as an expert?

Kathleen Obenschain and Cheri Baker, public relations experts at Ruppert Landscape in Ashton, Md., have helped publish the *Ruppert Report* newsletter for nine of its 13 years.

"We have really gotten positive feedback over the years," Obenschain says. "In the customer's mind, the *Ruppert Report* is always there; it's a staple. And within the company, we realize that it's a good-looking (four-color) piece and something to be proud of."

Each issue has a theme—in the past,

value engineering, employee training, customer service. The most recent issue contained articles on attracting and retaining employees and controlling plant costs. It had interviews with various area property experts. One article featured "enhancement supervisor" Steve Bisset, and another revealed how Ruppert designed and installed the German Ambassador's landscape in Rosslyn, Va.

"Our purpose is to educate the customer about our company and the industry," notes Obenschain. "We also like to acknowledge employees."

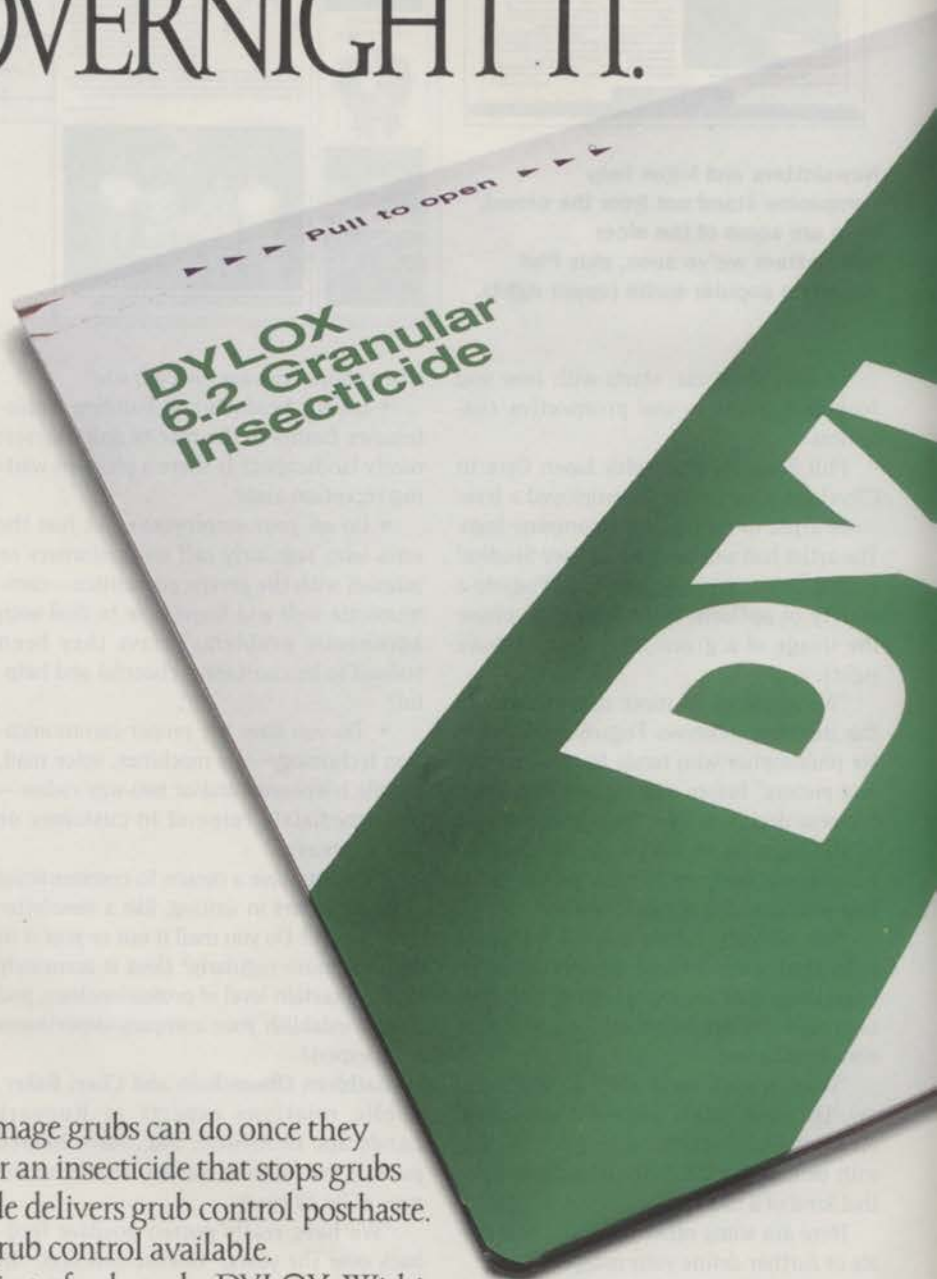
Yet the newsletter isn't the only way Ruppert creates its image.

"It's just one of many tools that we use," says Obenschain. "We market ourselves, but we're not really showy. People remember the *Ruppert Report*, but they also remember the good-looking trucks and uniformed employees."

Certainly, these are only the first steps you must take to create a squeaky-clean image. As you implement such programs, and your business or department attains a certain level of recognition, you can budget more money for image-building programs and refine them.

No matter what your image, it can be improved upon. Turn to page 12 for details on more ways to check yourself and your employees, from the viewpoint of one golf course superintendent and two landscapers.

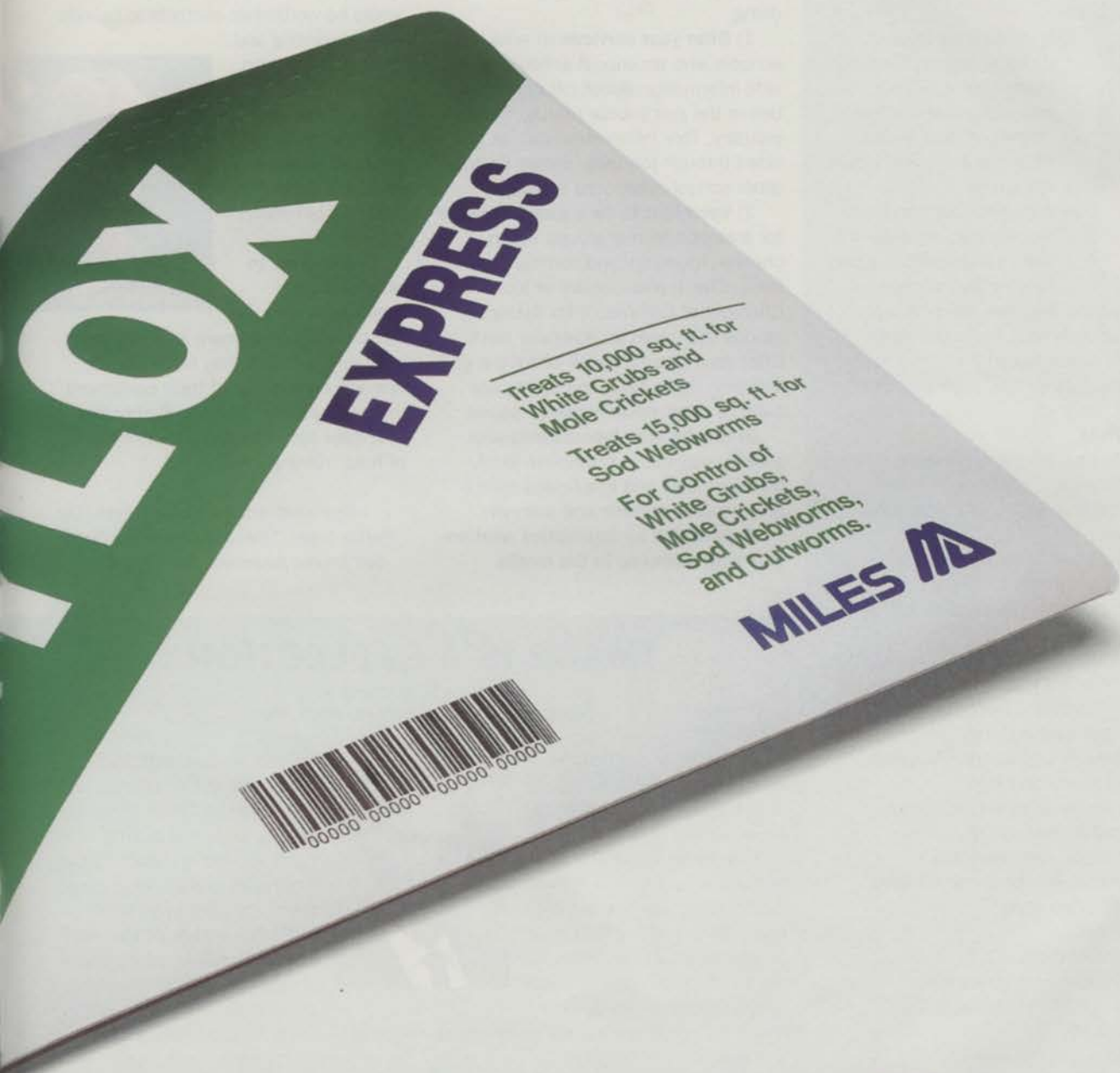
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And get fast grub control signed, sealed and delivered.



## IMAGE CHECKLIST

by Rich Akerman,  
Northwest Landscape Industries, Tigard, Ore.

Image is the sum of how the public and your customers perceive your firm, it is your firm's position in the marketplace.

A unified, consistent image serves two major purposes:

- 1) It indicates a level of thought, organization and commitment by your firm, indicating that the firm is "together" and knows what it's doing and where it's going.
- 2) It makes your firm more memorable, because it makes associations easier for your public when—

every time they see you or a representative of your firm—the same image is reinforced.

These factors all influence your company image:

### PERSONAL

- Wardrobe: uniforms, personal appearance
- Staff: dress, demeanor and attentiveness
- Receptionist: greetings and phone techniques
- Logo: on letterhead and all correspondence
- Office atmosphere: landscaping, look of office (pictures, photography, magazines, layout, lighting, neighborhood parking)
- Equipment: appearance, application of name and logo
- Community relations: activities within the community
- Association memberships
- Awards: from whom and for what
- Presentation style
- Client list

### NON-PERSONAL

- Brochure
- Direct mail
- Video
- Photography
- Advertising
- Publicity and publications

Whether favorable or not, your company will have an image. Shaping a positive image with clients and public requires effort and attention to detail. Ask yourself regularly, "If I were a customer, what would I think about my company's image?"

—Reprinted, with permission, from "Landscape Contractor News," the newsletter of the Associated Landscape Contractors of America. For more information about ALCA, phone (703) 620-6363.



## SUGGESTIONS TO IMPROVE YOUR IMAGE AT THE LOCAL LEVEL

by Bob Klitz, CGCS,  
Deer Creek Country Club, Coral Springs, Florida

■ Golf course superintendents have several means available to help get the word out on the fine job they are doing:

1) **Offer your services** to area high schools and vocational schools, to provide information about job opportunities in the golf course management industry. This information can be provided through job fairs, career days, or other school-sponsored activities.

2) **Volunteer to be a guest speaker** for area community groups at luncheons, meetings and various functions. Check newspapers or local Chamber of Commerce for listings of groups that meet on a regular basis. Offer your time to speak about the golf industry, home lawn and landscape care, or other environmental issues.

3) **Handle your interactions** with golfers, members, clubhouse staff, management, and employees with a professional attitude and manner.

4) **Establish an interactive relationship with someone in the media.**

Sportswriters, television reporters, local newspaper editors or columnists, environmental writers for area papers...all would be worthwhile contacts to provide with interesting and helpful information.

5) **Continue to operate your maintenance facility** in a clean, organized, safe and environmentally beneficial manner.

6) **Continue to provide your employees** with the latest safety equipment and training available. Be sure they know how to operate and use all of their equipment in a professional manner. Remember that their actions are a direct reflection of their training.

—Reprinted, with permission, from "The Florida Green," the magazine of the Florida Golf Course Superintendents Association.



## IMAGE IS A REFLECTION

by William E. Akehurst Sr.,  
Akehurst Landscape Service, Joppa, Md.

■ An image is a reflection of one's self or thing. In our businesses, just what image do we reflect to others?

It's been said that our actions often speak louder than words. The same holds true with the image that each of our businesses convey. We must continually monitor the way our firms are mirrored to our clients, our community and the public in general.

There are three areas that demonstrate the way others see us:

1) **The image of our person.** Our own witness to how people perceive our appearance and character.

If our own lives do not reflect a proper, moral, high standard, ethical and quality image, then how can we expect others in our organizations to conduct their lives and to perform their duties in such a manner as to reflect a good company image?

2) **Physical, outward appearance.**



This includes our facility, equipment and employees representing our firms. Does our facility depict a caring attitude? Are we an asset to the community and our neighbors? Is our equipment well kept?

3) **The image of the work we perform.** We are all aware of quality control. As professionals, we should have very

high standards. All too often, particularly on very competitive bid jobs, there are little details that if performed will give you a high quality image—but if they go unnoticed or overlooked, it will contribute to a mediocre or poor image. Our image as individuals, as members of our community, and as an industry should always reflect quality.

—Reprinted, with permission, from "Landscape News," the newsletter of the National Landscaping Association/American Association of Nurserymen. For more information about the NLA and AAN, phone

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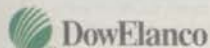
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# Tree care goes beyond pruning

**Other important tree care methods include proper placement, weather protection and preventive measures to protect trees during construction.**

## Prep fruit trees for winter cold

■ After harvest, fruit trees require a period of rest, which is when winter comes along. To help the tree weather the dormant winter period, use the following care

guidelines by Stella Otto, author of *The Backyard Orchardist* (1993, OttoGraphics):

1) Mow the vegetation around the trunk one last time and rake mulch and fallen leaves back from the trunk a foot or two.

High grass and mulch are havens for rodents that might gnaw on the trunks.

2) Paint the trunks with white latex paint, to help avoid trunk splitting caused by sun on the south side of the tree from reflecting up and heating the trunk.

3) Protect young trees with mouse guards. Most nurseries sell plastic spiral guards.

To make your own, form a 2-1/2 ft. cylinder of hardware cloth or screen around the trunk.

Allow an inch or so of space between the trunk and the guard.

4) Pick up any dropped fruit and rake up and compost diseased leaves. This helps keep insects and diseases under control in the following season, and deer and rodents will not be attracted to the fruit.

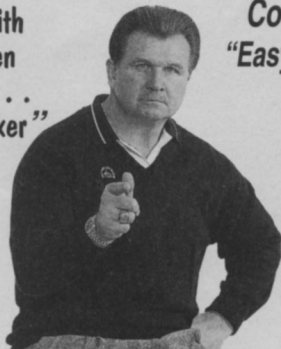
5) Use a repellent if deer are a problem. This is especially important on small, young trees and later in the winter as food becomes more scarce.

Small bars of deodorant soap, cloth bags of human hair and various scented repellent sprays will work.

Switch repellents if the deer build up resistance.

—To order *The Backyard Orchardist*, call (800) 345-0096.  
continued on page 16

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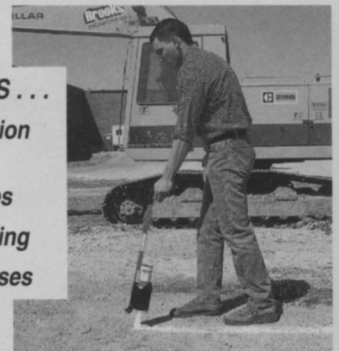
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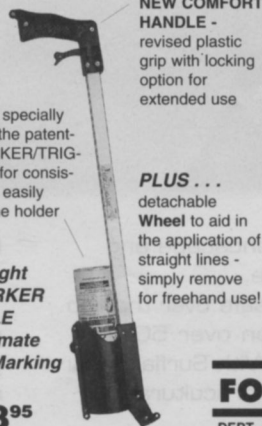
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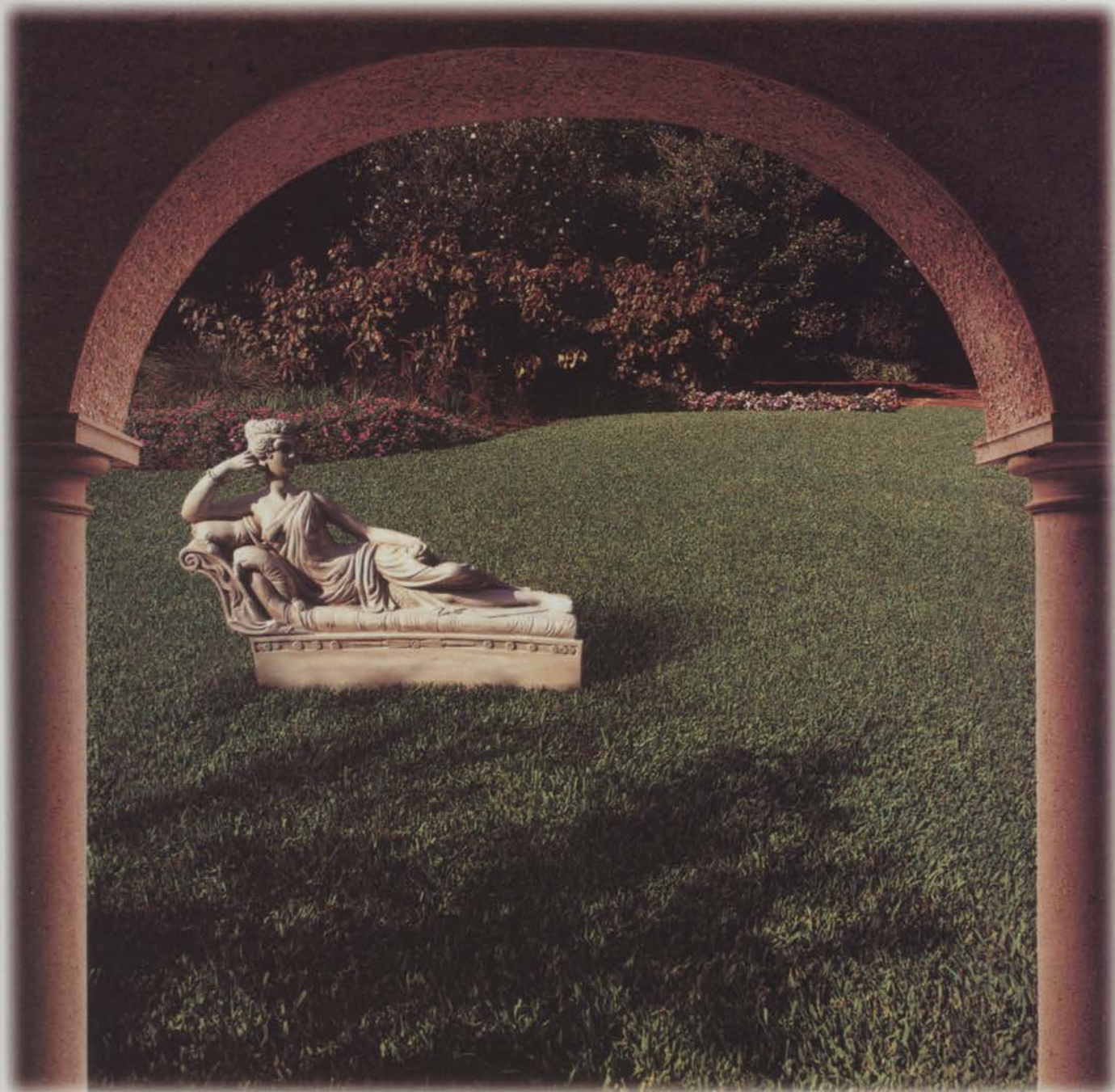


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ACTIVITY	WAYS TO TREAT, REDUCE DAMAGE
<b>Injury from equipment</b>	Fence in trees to enclose low branches and protect the trunk. Report all damage promptly to arborist.
<b>Pruning vertical</b>	Prune to minimum height required before construction begins. Consider minimum height requirements of equipment and emergency vehicles over roads. All pruning should be done by an arborist.
<b>Stripping organic surface</b>	Restrict stripping of topsoil around trees. Any woody vegetation to be removed adjacent to trees to remain should be cut at ground level and not pulled out by equipment, or root injury to remaining trees may result.
<b>Digging into topsoil layer while loading material</b>	Store materials outside fenced protection zones and away from roots while loading piles of soil, from root zones. Place plastic tarp, straw, plywood, sand or geotex tile material beneath pile.
<b>Lowering grade, scarifying, preparing subgrade for fills, or structures</b>	Use retaining walls with discontinuous footings to maintain a natural grade as far as possible from trees. Excavate to finish grade by hand and cut exposed roots with a saw to avoid root wrenching and shattering by equipment, or cut with root pruning equipment.
<b>Compacted soils</b>	Fence trees in to keep traffic and storage out of root zone area. In areas of engineered fills, specify minimum compaction (usually 85%) if fill will not support a structure. Provide a storage yard and traffic areas for construction activity well away from the trees. Use 12-14-inches of wood chip mulch to protect soil surface from traffic compaction.

Source: National Arbor Day Foundation

### Guide to arboriculture

■ ACRT Institute of Arboriculture & Urban Forestry has published an urban forestry *Student Activity Guide* to provide a complete urban forestry training program for apprentices learning to become line clearance tree trimmers, commercial and municipal tree trimmers, trimmer helpers and grounds maintenance personnel.

There are 29 illustrated lessons in the 525-page guide. Each lesson has a corresponding written or performance test, and features appropriate visual aids.

Curriculum begins with the basics: ropes, knots, terminology and personal safety, and moves into electrical hazard awareness, work site management, hazardous tree recognition and integrated pest management/plant health care.

ACRT developed the guide for use as a forestry textbook in the Job Corps urban forestry training programs. It says the guide is ideal for entry level training for

urban forestry and tree trimming workers. Utilities, municipalities, and commercial arborists who provide on-the-job training will find the guide to be a useful resource.

The *Student Activity Guide* costs \$85 plus \$5 shipping/handling. Contact the ACRT at (800) 622-2562, or send a check or purchase order to P.O. Box 401, Cuyahoga Falls, OH 44221.

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#### Injectors

Arborchem (215) 659-7922  
Arborist Microinjection (402) 467-5930  
Forestry Suppliers (800) 647-5368  
Friend Mfg. Corp. (716) 772-2622  
Grow Gun Corp. (303) 278-9112  
H.D. Hudson (312) 644-2830  
Lesco, Inc. (800) 321-5325  
J.J. Mauget Co. (800) 833-3740  
Ben Meadows Co. (404) 455-0907

#### Tree protectors

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Easy Gardener (817) 753-5353  
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NDS, Inc. (800) 726-1994  
Wane Tree Systems, Inc. (813) 961-1060

# GOLF & ATHLETIC TURF

## Highlands unlocks \$\$ savings with environmental approach



"Environmentally sound" management practices save Highlands Golf Course about \$60,000 each year.

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### Golfers at this public course in Nebraska get beautiful views at every tee in spite of reduced mowing, water and pesticide use.

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by Ron Hall,  
Senior Editor

■ Native grasses growing six feet tall can swallow golf balls at his course, says Richard Neumann, CGCS. But this is a tiny price to pay for the beauty that these, and other native plants like staghorn sumac and flowering dogwood, add to his Highlands Golf Course.

Neumann sees another type of beauty at Highlands, expecting 50,000 rounds in this only its second full season—the beauty represented in real-life dollars and cents savings.

Neumann estimates that his municipal

course located in Lincoln, Neb., saves about \$60,000 a year because of "environmentally sound" management practices. Actually, it was designed for these savings by Parks and Recreation Director Jim Morgan and City Project Manager Bob Wright with input from the architects, Golfscapes, Inc., and the builders, Landscapes Unlimited, Inc. Construction on Highlands began in March 1992 and the course opened in September 1993, the City of Lincoln's fourth 18-hole municipal golf course.

*continued on page 2G*

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### ELSEWHERE

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**New buying co-op seeks members, p. 6G**

**Field conversions require a plan p. 8G**

**Fight burnout with downtime, p. 12G**

**Muny courses make money, p. 18G**

**HIGHLANDS** from page 1G

The savings, says Neumann, results from three complementary strategies:

- setting aside natural areas for zero or very low maintenance,
- implementing an "intense" IPM program, and
- using ET-based irrigation. (ET stands for evapotranspiration, a precise calculation of a plant's water needs as opposed to its perceived needs.)

"Just cutting down the mowings, figuring about \$20 an hour, we save about \$30,000 a year," says Neumann. Other savings at the 250-acre municipal course include: pesticides, \$5,000; fertilizations, \$5,000; and irrigation, \$20,000.

"Getting to do some of these things is the most fun I've ever had in golf," says Neumann convincingly of his role is helping convert some of Lincoln—admittedly a small part—back to its prairie past.

Prairie grasses, like indiangrass, big and little bluestem, switchgrass and sideoats grama, cover 10 acres of Highlands. These areas of tall grasses separate the holes in what Neumann describes as "our unique prairie links setting." Only native trees and shrubs like eastern red cedar, locust, American linden, green ash

"Sure, some golfers complain. For instance, some say it's 'too shaggy,' but not too many," admits Neumann.

Some former pasture at the course are being left as "undisturbed" areas. "Later they can be converted to true native areas. This is something we're playing with, and having a little bit of success with. We're getting excited about it," says Neumann.

The planting of new cultivars of buffalograss into several other hard-to-maintain sections of the course will not add to his crew's maintenance schedule.

"When this conversion is complete, we expect it to require zero fertility, zero pest treatments and zero irrigation except under extreme conditions," he says. On the down side, some native grasses take three to five years to become established.



**Soil sampling at Highlands is helpful as Richard Neumann plans IPM.**

require some maintenance. Neumann admits that wildflowers can look weedy once they're out of bloom. In fact, he reduced the size of the wildflower planting by the club house to three acres.

He's had to tame some other locations as well.

"We've backed off of some natural areas because what we thought was out of play, really wasn't," adds Neumann. "It'll take some time for us to get this the way it

should be. We're going to make mistakes."

Neumann's IPM program is basic, but multifaceted—starting with monitoring.

"We try to train our entire full-time staff in scouting techniques. I don't expect everybody on my staff to be an entomologist or a pathologist, but I do expect them to notice something that shouldn't be there," says Neumann. "After we identify a problem, we make a decision on which method of pest control to use."

By mowing "a little higher," Neumann feels he can avoid some pest problems and reduce pesticide use. Also, the Kentucky bluegrass fairways are overseeded with ryegrasses containing high levels of endophytes.

Increasingly, Neumann adds, he's dealing with turf diseases curatively rather than preventively.

"We do not ignore the use of pesticides, but we're trying to minimize their risk to the environment," he explains.

The same philosophy is used with fertilizer. The Highlands' crew regularly monitors the fertility of tees, greens and fairways. It applies fertilizer only when the turf indicates that it's needed.

**Some problems**—Not everything at the course has gone as smoothly as Neumann would have liked. Irrigation is an example. "In a lot of respects we succeeded, and in a lot of respects we failed," says Neumann.

The course could not use either ground or available surface water for irrigation because both sources are too high in salts. Effluent water was ruled out because the

*continued on page 6G*



**Wildflower plantings at Highlands Golf Course were modified slightly so as to not interfere with play.**

were added to the willows and cottonwoods already on the property. Apart from golfers who can't shoot straight, the most common critters in these areas are jack rabbits, ring-neck pheasants and quail.

**Fescues & flowers**—About five acres of Highlands, including the clubhouse and the area surrounding the parking lot, were initially covered by a mixture of wildflowers and low-growing native grasses. They

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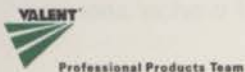
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## NEUMANN from page 2G

cost of laying a pipe to get it to the course was too expensive.

The course did experience some runoff problems during grow-in. Once, Neumann recalls, he was roused from a deep sleep by a caller informing him that the course was flooding the municipal airport located across the highway. Rushing to Highlands, he discovered one stuck sprinkler head.

Neumann says he was skeptical when the course's ET-based control irrigation system began operation.

"However I find myself relying more and more on it," he says. "I've also found that we can save



Kentucky bluegrass fairways at Highlands are overseeded with high-endophyte ryegrasses.

somewhere in the neighborhood of 25 to 30 percent of our water costs by relying on the ET-based system to make the decisions that I had been making in the past."

Neumann says he's pleased, and a little bit surprised by how well golfers have accepted the changes at the course.

"Areas that we didn't think would be acceptable at a municipal golf course have become the talk of the golfing community," says Neumann.

"I firmly believe that environmentally sound management practices are economically sound management practices, too."

## Supers included in new cooperative buying alliance

■ If a cooperative purchasing program can work for colleges and universities, why not for country clubs? Or for professionals at those clubs, like golf course superintendents?

Why not indeed, wondered Jeffery Dykehouse who, earlier this year, formed the United States Country Club Association (USCCA) to do just that.

In 1994, he worked with a similar program administered by the Midwestern Higher Education Commission for post secondary schools. "I saw how the process worked and, being a golf fanatic, I did some research and found out no one is offering a comprehensive cooperative purchasing program to private clubs," Dykehouse tells LM.

As its name indicates, the USCCA is accepting membership applications from private country clubs for charter membership through August 31. It's marketing services to a 10-state region: Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, Virginia, New Jersey and New York. Dykehouse says there are about 1450 private clubs with golf courses in the 10-state region, but private clubs from elsewhere can join too.

Dykehouse tells LM that interest from



Jeffery Dykehouse says private clubs are responding to cooperative.

country club general managers is strong for USCCA's Cooperative Alliance for Purchasing (CAP).

Fundamental to making CAP work will be the development of member advisory committees. Separate committees will be set up for each product or service provided. The committees will be made up of general

managers, golf pros, superintendents, and other leaders responsible for each area of business.

A Maintenance Equipment Committee made up of superintendents would then, for instance, assist with developing a survey for other member superintendents that determines just what types of products or services they would like to pursue for costs savings.

Initially, Dykehouse says, general managers and superintendents have indicated interest in insurance programs, maintenance equipment, fertilizer and chemicals, and golf cars. After the membership says just what it wants, USCCA takes that information into the marketplace and negotiates with purveyors and manufacturers.

"It's real important for us to include our members in every step of this process," says Dykehouse.

USCCA will also be building a Resource Sharing Program whereby superintendents can share the cost and use of maintenance equipment that would otherwise be too expensive for a single club.

Another benefit to members will be USCCA-coordinated regional meetings for member clubs and their staffs.

The USCCA strives to compliment other industry organizations rather than compete with them, adds Dykehouse, founder and president.

For further information contact: USCCA, 500 Cascade West Parkway, Grand Rapids, MI 49546; (616) 949-9411.



# BANOL<sup>®</sup>

**Stops pythium dead in its tracks**



Whether BANOL<sup>®</sup> Fungicide is used as a preventive or curative treatment, the secret to its success lies in its ability to protect plants from within and to disrupt the normal growth of pythium. Although a powerful, systemic fungicide, BANOL has also proven to be safe for use on all kinds of turf.

AS A PREVENTIVE MEASURE on established turf, BANOL guards against the onslaught of pythium, even during periods of high temperature and humidity — conditions usually considered perfect for pythium. ON OVERSEEDED AREAS, BANOL can be safely applied after germination to control pythium damping-off.

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**When it comes to stopping pythium, BANOL<sup>®</sup> Fungicide speaks for itself.**

**IMPORTANT:** Please remember always to read and follow carefully all label directions when applying any chemicals.

# Baseball to football field conversion a big job in little time

**Two weeks is all they get at San Diego's Jack Murphy stadium. Speed, proper equipment and a sharp crew are needed to get the job done.**

by Steve Wightman  
Jack Murphy Stadium

■ August, September and part of October is a busy time at San Diego's Jack Murphy Stadium.



**One of the big jobs in a baseball-to-football field conversion is adding seats. It's done with forklifts and wheelbarrow transport machines. Ten-ton forklifts move 36 seating units and the pitcher's mound.**

window for the conversion from baseball to football.

**How it's done**—First, we remove four-inches of heavy clay soil from the baseball skinned areas and fill to one-inch below grade with our standard sand-based field media. Bermudagrass sod—cut at 1-1/2-inch thickness—is put down in its place.

Thick-cut sod takes longer to knit than regular sod, but thanks to its bulk, weight and density, we can play football within three to five days. If standard-cut sod was placed over the field's sandy rootzone, we'd be replacing strips of sod after the first half of play.

The heavy-soil sod breaks every agronomic rule. Its higher clay and silt content creates a layering effect. We then spend the next two-and-a-half to three months increasing core aeration and topdressing to counteract the layering.

Throughout the season, we have two entirely different growing mediums within the same field. The turf looks the same on

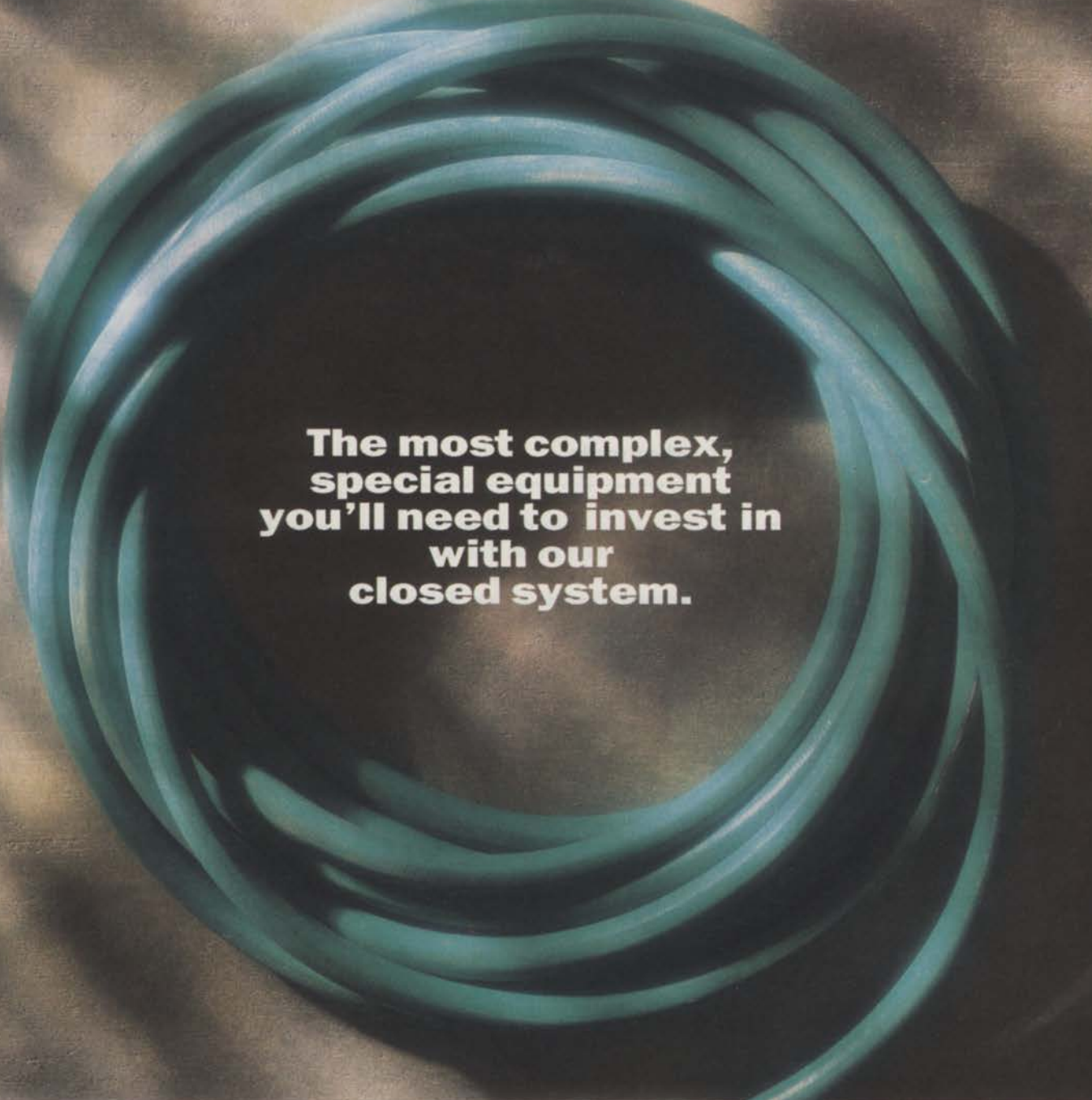
*continued on page 10G*

Besides the Chargers exhibition and regular season games, we have seven San Diego State University Aztecs games, the California Interscholastic Football Triple-Header (with three games on one day), a football game between Howard University and Delaware State University, the Holiday Bowl, and maybe even Chargers playoff games.

The biggest difference between sports turf management and other areas of turf care is that our prime concentration is

always on athlete safety and field playability. The optimum agronomic conditions for the turf and the aesthetic appeal of the field take second place. We also have extremely limited timetables in which to accomplish maintenance procedures and, with the income generated by a home game, we can't afford not to play.

The Padres' last scheduled home game is played on October 1st. There's an Aztecs game on October 14th, and a Chargers exhibition game on the 15th. That's our



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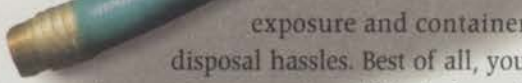
If you want to use a fungicide in a closed system, here's what you do. Get out your hose, fill your tank, throw in a new BAYLETON® turf and ornamental fungicide water soluble packet and you're ready to go.



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If you'd like more information, call us toll-free at 1-800-842-8020. Or if you'd like, write to us at Miles Inc., Specialty Products, Box 4913, Kansas City, MO 64120.



Pick up the new water soluble packets of BAYLETON. Then use all that money you didn't

spend on a measuring and metering device for something more useful.

**MILES** 

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**CONVERSIONS** from page 8G

the surface, however the rootzones prevent it from reacting properly to irrigation, drainage or fertilizer, so fine tuning is required.

**Ryegrass overseeding**—After the sod is in place, the entire field is overseeded with a perennial ryegrass blend. If the window is small, or weather conditions are less than ideal, we pre-germinate (or "prime") the perennial ryegrass, cutting a day or two from the initial timetable. In 21 days, there will be no advantage to using the primed seed.

During the period when the football and baseball seasons overlap, football is played on the baseball skinned areas.

The pitcher's mound and bullpen mounds are built on top of circular, 3/4-inch-thick steel plates, 13 feet in diameter. The 2-1/2-foot strip around the actual mound allows us to reshape the slope down to field level.



**5,000 seats are repositioned for football, moving from the third base area to left field and center field.**

The clay cover over the steel must be thick enough to avoid player injury.

A 10-ton forklift is used to remove and reset the steel plates. For the pitcher's mound, we lay 4x8-foot sheets of plywood from the warning track to the first base area to drive onto the skinned area. We then place plywood from second base to the back of the pitcher's mound for a straight shot across the turf infield. We dig down to expose the plate where the

**Crews are divided into 4 units. Each unit is assigned specific tasks, and each task must be performed in the correct sequential order. Anything that slows one unit usually will affect other units.**

forks will go, insert the blades, and lift up the plate and mound. The only cracks appear around the perimeter of the slope that meets the field surface. This method saves 85 to 90 percent of the work on the mound.

To reset the steel plate in the exact

plywood in the bottleneck area from one end zone to the 20-yard line. We geotextile and plywood half of the infield area, using three rows of plywood from the foul lines to first base and along the third base line.

Our 10-ton forklifts move 36 seating units, as well as the mounds. We also operate a smaller forklift and other self-propelled equipment including a large winch unit for areas we cannot cover with plywood.

We dry the field down to reduce compaction. The last irrigation takes place three days prior to a field conversion. The timing and amount of water applied are critical. We can't stress the turf, yet it must be as dry as possible to withstand the heavy traffic. We start adjusting our fertility and irrigation programs a month before the first conversion.

To reset the field for baseball, all of the above steps are done in reverse.

**Delegation is important**—Our 25-person conversion crew is divided into four separate units. Each unit is assigned to specific tasks, and each task must be performed in the correct sequential order. Anything that slows one unit usually will affect other units.

An additional, eight-person grounds crew works the entire conversion cycle. They pull, reset and rebuild the mounds, set and pull the football goal posts, place the benches and line the field.

A final inspection is done to make sure every task is completed and in proper operating order.

Because our schedule is so complex, I plan the entire year's calendar, and color-code each event. This allows me to view the big picture, make adjustments when necessary, and take advantage of every time window, no matter how brief.

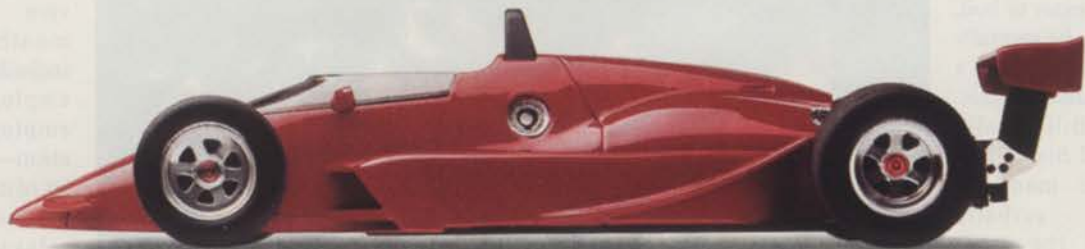
*—The author is stadium turf manager for San Diego's Jack Murphy Stadium, and an LM technical advisor. He is also a past president of the national Sports Turf Managers Association, and currently serves as an STMA advisor and chairman.*

position each time, we line it up with guide pins set it into the playing surface. Because of the precision required, it's easier to remove the steel plate from the pins than it is to reset it.

**Guard against compaction**—There is only one entry tunnel from the parking lot to the field. All materials moved on or off the field must travel through this tunnel. We use three, 150-foot rolls of geotextile material and lay out 250 sheets of 4x8-foot



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# The sizzle in summer: **BURNOUT**

**Relax. You can get through the year's two hottest, most stressful months by exercising or taking time out to talk to your favorite bartender.**

by Jerry Roche,  
Editor-in-Chief

■ Bill made a habit of visiting his company's top accounts at least once a month. On one particularly unbearable July day, he was quick to note that the edges along one parking lot weren't up to his usual standards. As he hopped into his pick-up truck to seek out the foreman, his blood began to boil. As he drove, he mentally worked himself into a nervous, quaking frazzle.

When Bill finally confronted his valued right-hand man, he erupted, verbally assaulting the man, leaving him dazed and confused, a lump on the sidewalk feeling like a useless slug.

This is not a good management practice—in landscaping, golf or any other field. Yet it happens too many times during the long, hot, busy months of July and August.

Bill was showing signs of job burnout, that terrifying spectre we hate to have to face (but must, at least once or twice a year in the golf and landscape business).

"Burnout is the result of unrelieved job stress," writes Andrew G. Goliszek in his book *Breaking the Stress Habit*. "Whenever we feel trapped in our jobs, or helpless to solve problems or conflicts," we run the risk of burnout.

In *The Pursuit of Happiness*, Dr. David G. Myers wrote that, "when challenges exceed our available time and skills, we feel stressed. When challenges don't engage us, we feel bored." As a result, we

very seldom attain that valued middle ground.

However, Myers adds, people who are the happiest with themselves and their job situations (and less likely to suffer burnout) exhibit some obvious traits. First, they genuinely like themselves. They also strongly believe that they choose their own destinies. Finally, they are optimistic and outgoing. Myers implies that anything an individual can do to strengthen these traits will lead to increased happiness.

**Preventive maintenance**—"The best tool you've got is you, and you have to

5) Disconnect your emotions from the outcome of events; establish preferences rather than expectations or demands.

Dr. Barbara Mackoff, in *Leaving the Office Behind*, suggests that people who are feeling pressure on the job "hum a few bars of a favorite song, doodle, exercise and talk to your bartender."

Another key to surviving July and August is to keep things in perspective. Don't become preoccupied with your career or job. "Work does not equal worth," notes Dr. David D. Burns in his book *Feeling Good*. "There is no such thing as

personal worth. Rather than grasp for 'worth,' aim for satisfaction, pleasure, learning, mastery, personal growth and communication with others, every day of your life."

The ability to survive these two months rests with individuals, both the employer and the employee. Relaxation—maybe not a lot of it, but certainly planned and deep relaxation—helps the individual's perspective.

"Make darned sure you learn to relax," says Jadin. "Relaxation is something you have to practice about 30 minutes every day. You have to be able to *do nothing* and not feel guilty. You should do what *you* want to do, not what everyone else is doing.

"You've got to find a socially accepted way of going crazy—like a good, violent physical activity—and deal with the whole mess. It forces you to unwind. Physical activity and mental activity are connected."

Separate work from home, Jadin continues. "Don't do the same kind of stuff after work you do at work."

Goliszek adds to Givens' list of "burnout extinguishers:"

6) Express your feelings and emotions regularly.

7) Schedule downtime.

8) Schedule work according to your

*continued on page 14G*



maintain yourself at least as well as you maintain your other tools," says Tom Jadin of Jadin Consultants, Shiocin, Wis. "You've got to learn to focus on the things you can change rather than banging your head against the wall on things you can't change."

In his book *Super Self*, Charles T. Givens says periods of high job anxiety should be balanced with a delicate approach to your job and your life:

1) Exercise for 20 to 60 minutes every other day.

2) Eliminate negativity from your life.

3) Continually affirm to yourself "it's just an event" when faced with a difficult situation. Realize that you can't really change events, but you can change your reactions to them.

4) Don't make value judgements about people or events.

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**RELAX** from page 12G

energy patterns.

9) Do not undertake more than one stressful activity at a time.

10) Engage in outside physical activities.

11) Break complicated projects into smaller parts.

12) Delegate authority.

13) Learn to say "no."

14) Improve your work skills by learning new techniques.

15) Learn to relax.

Another Jadin suggestion—one that Bill would do well to follow—is to have a certain "detached concern" in your dealings with other people.

"Learn to appreciate them," Jadin notes. "You don't have to be a friend or pal, but there's (also) no reason to get hostile or defensive or sarcastic.

"Practice being genuine. There are people who feel they have to put an emotional

uniform on the job, when all they have to do is the job. If you're a clown, be a clown...if you're a jerk, be a genuine, good jerk."

Above all else, be good to yourself. As Thomas Jefferson once said: "It is neither wealth nor splendor, but tranquility and occupation which give happiness."

## Begin thinking about next season's pay system NOW

**Options are available to help you and flatten your payroll, especially in times of huge overtime payments.**

by Ron Hall,  
Senior Editor

■ Mid-summer is a poor time to revise a technician pay system. Technicians are battling the heat, the work is hard, and the good people who have helped you through the hectic spring don't need any surprises now.

But mid-summer is a good time for a company owner or golf superintendent to

gather notes and mull improvements for next system's technician compensation package.

Many supervisors/owners pay technicians an hourly rate plus time-and-a-half for overtime. When the technicians work, they're paid; when they don't they're not, for instance when it rains. This system is easy to understand, both for the employer and for the employee.

But it's not necessarily the best pay system for every situation.

One reason for this is overtime. Production pressures often dictate that technicians work more than 40 hours per week during the growing season. Employees that are not exempt from overtime must be paid extra for any hours over 40 that they work in a particular work

week. Technicians are not exempt from overtime pay although most administrative, executive, professional, and outside sales people are.

Assuming that the technician is making \$7.50 per hour for 40 hours under the most common pay system used in the industry, the overtime pay is \$11.25 per hour over 40 hours—time-and-a-half. For a 60-hour week, the technician receives \$300, the 40-hour wage, plus \$225 representing the 20 overtime hours multiplied by \$11.25.

But there's another system that might fit some situations better. It's the so-called fixed-salary-for-fluctuating-work-week system. One of its most obvious benefits is that it flattens otherwise huge overtime costs.

In this system the technician receives a salary instead of an hourly wage. Let's

### PAYMENT PLANS

HOURS WORKED	'TIME-&-1/2' PLAN	'FIXED SALARY' PLAN
32-hr. (weather-shortened 4-day week)	\$240	\$300
40-hr. (normal week)	\$350	\$300
60-hr. (normal week + 20 hr. O.T.)	\$525	\$300

\*all earnings based on \$7.50 an hour wage



make the salary \$300 for the customary 40-hour week. With this system, the technician receives \$300 even if production is halted, perhaps by a rainy day.

### **A fixed salary for a fluctuating work week can be confusing to workers, so put it in writing, and review it thoroughly.**

But, what if the technician works 60 hours, the typical 40-hour week plus 20 hours overtime, in the week?

By dividing the 60 hours into the salary, the salary amounts to \$5 per hour. Then, to pay for the 20 overtime hours, the \$5 is halved and the resulting \$2.50 is added onto the \$5 hour rate—time-and-a-half. The cost of the 20 extra hours of overtime in this system is \$50 instead of \$225.

"If you follow the rules for fixed salary, you can do it that way," says Richard Lehr, general counsel to the Professional Lawn Care Association of America. "Your labor costs will not be so distorted during the busiest time of the year," he adds.

Lehr admits that a fixed salary for a fluctuating work week can be confusing to employees, so he suggests that the employer put it in writing and review it thoroughly with employees. In fact, Lehr suggests that employers have technicians sign off on it prior to starting their employment.

What about production incentives? They can be added to either system, says Lehr. But employers might have to tinker with their particular system. Wages that are too high or incentives that are too difficult to attain will discourage their intended results.

Some other points that Lehr thinks lawn care employers should be aware of:

❑ The work week does not have to start on Monday and end on Friday. It can start on Saturday and end the following Friday, for instance. For legal purposes a work week can be any consecutive seven-day, 168-hour period.

❑ Keep accurate records about the hours each employee works and the pay they receive. Keep these records three years, the statute of limitations.

❑ If an employee puts down an inaccurate number of hours worked on their time card, you have the right to cross through

## **WAGE-AND-HOUR INVESTIGATION: WHAT A DRAG**

■ Just because a wage-and-hour investigator shows up, don't automatically assume the worst. You, as an employer, have some rights too.

But, why would one show up at all? Usually the investigator is responding to a complaint filed by a disgruntled employee, past or present. It's not likely the Wage & Hour Division of the Department of Labor is conducting a spot check. They have too few officials for this.

Richard Lehr, general counsel to PLCAA, says a wage-and-hour inquiry is never pleasant. But an employer can take some steps to take some of the sting out of it.

The owner has a right to ask the nature of the investigation, but the official will not reveal who initiated the action. Although the investigator will want to review payroll records (as far back as three years if they want to), they don't have the right to remove them from your premises, says Lehr. Also, they don't have the right to confidential payroll information such as the owner's salary.

An investigator will want to see a record of the hours that employees worked; they'll review time cards and

whatever other documentation you can provide. The regulator may, in fact, want to interview some of your employees. If so, it would probably be better for you to talk to them first and tell them why the interview is being conducted. You'll also want to inform them that, although they may be asked to sign a statement, they're not required to. (The investigator will probably not tell them this.)

Don't be too quick to conclude that there has been a violation in your company; the investigator is not as knowledgeable about your operation as the senior people in your office. If possible, do your own research to see where you stand.

Lehr suggests that the employer maintain a professional, firm and, if possible, cooperative relationship with the investigator. These officials often have to make judgement calls, so why intentionally antagonize them.

And if there is a wage-and-hour violation? Lehr suggests attempting to solve it at the investigation stage before it gets to the solicitor's office.

"Wage and hour violations are expensive," says Lehr.

—R.H.



the incorrect information, date it, initial it and tell the employee that you did it.

❑ Insist that workers punch in at the correct time.

❑ Tell employees the amount of time they may take for lunch and the amount of time that's going to be deducted. Allowing employees to work through lunch is generally not a good practice. If an employee has to, it should be substantiated.

"You have more control over a pay system as a cost item than you may think that you do," says Lehr. But, to be effective, the pay system must benefit the company, be acceptable to employees, and be efficient and implementable.

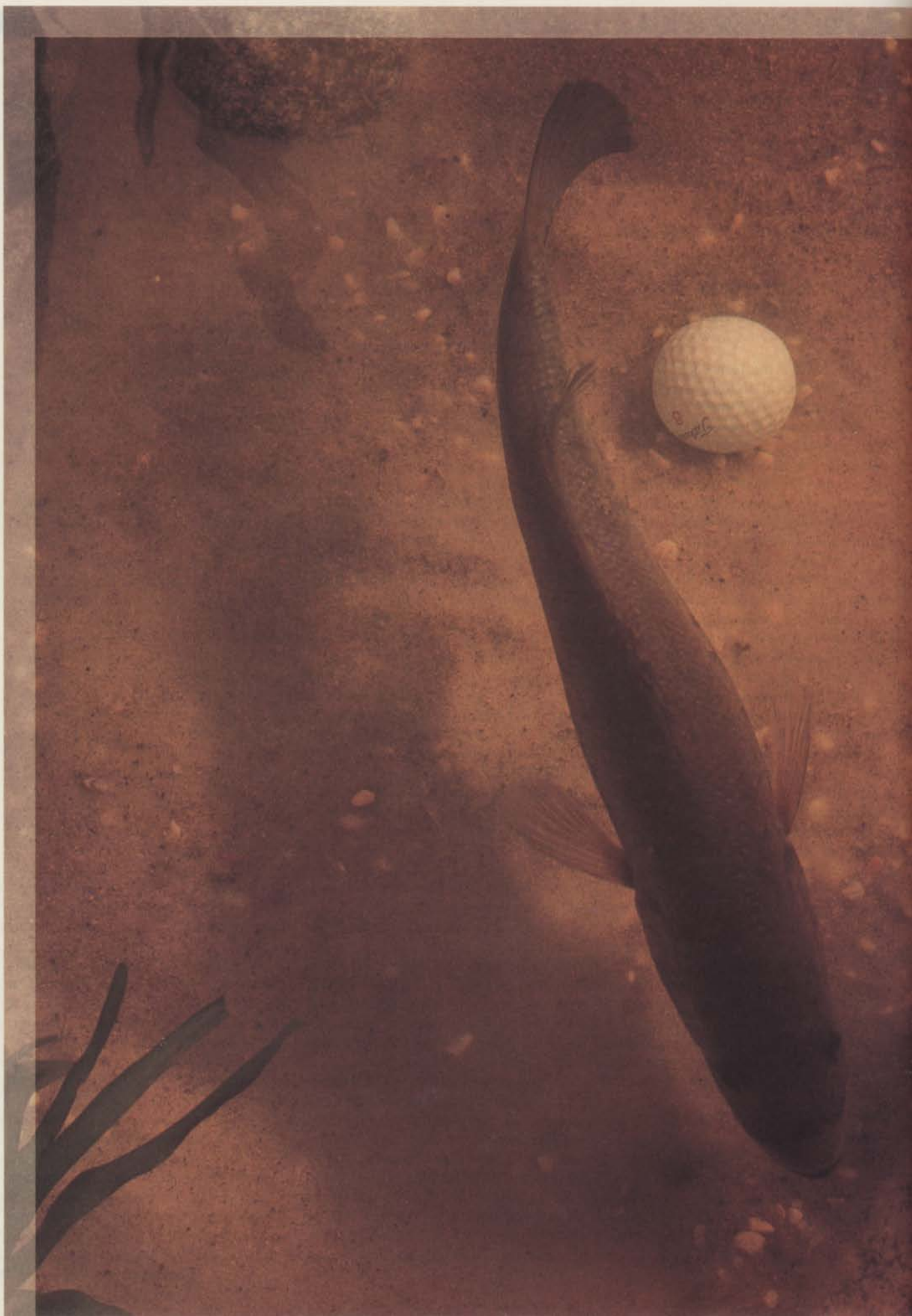
If an employer has any questions about the legality of their pay system, or changes to their system, they should check

with appropriate counsel, or state or federal officials. Violations of Wage & Hour Law can subject an employer to severe financial penalties.

Lehr says the best time to make changes to a pay system are, generally, at the start of a new year, at the beginning of the production season, and on the anniversary of an employee's hire date.

Of course, an employer should be aware of, and closely tracking their system at all times, even in mid summer.

—Lehr is a member of the labor and employment law firm of Lehr, Middlebrooks & Proctor, P.C., Birmingham, Ala. He has spoken at each of PLCAA's 15 annual conferences. The information for this article comes from his presentation at the 1994 conference.





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# Municipal golf courses: a win-win proposition

**Cities are using landfills, gravel pits and farmlands to make space for the deluge of Baby Boomer golfers entering the ranks.**

■ Municipal golf courses provide much more value to a community than basic recreation.

"Properly designed and maintained, a public golf course is an environmental oasis and economic asset to the community," says Don Knott, president of the American Society of Golf Course Architects. "The value of municipal golf courses is becoming increasingly obvious. As urban areas become more populated, the environmental, social and financial contributions municipal courses make take on added significance."

Consumer demand for more golf courses remains strong. An estimated 25 million golfers play more than 500 million rounds of golf annually on nearly 15,000 courses, according to the National Golf Foundation. What's more, 358 new courses opened for play in 1993. Of that number, 81 percent were public facilities.

Knott and other ASGCA members design new courses and redesign existing facilities to develop land that provides much sought-after recreation as well as revenue. The key, says Knott, begins with sound course design.

"It's in the planning and design phase that responsible solutions are found for environmental and playability issues," adds Knott.

In California, ASGCA member Damian Pascuzzo designed the Santa Clara Golf & Tennis Club. Located on a former landfill, the municipal course is an example of proactive design and forward-thinking construction.

Detailed surface drainage patterns, a heavy clay cap, high density polyethylene pipe (temperature tolerant, strong resistance to water, fusible) for irrigation systems and

properly-installed methane gas vents were all critical design features.

The course averages nearly 200 rounds of golf a day. Greens fees are \$12 for residents, \$21 for non-residents—extremely affordable, especially in this part of California—and generate an estimated \$1.15 million in annual revenues.

Farther east, the village of Channahon, Ill., embarked on a project to reclaim an abandoned sand and gravel pit and develop farmland on 160 acres and transform it into a public golf course.

Former ASGCA president Dick Nugent designed the 18-hole facility based on the idea that if the community could incorporate a public course into its recreation program, it would make Channahon a more attractive place to golf...and live.

Nugent faced several serious design challenges, including sensitive wetland



**You want environmentally friendly? Here Lassing Pointe superintendent Jerry Coldiron inspects a bird's nest for inhabitants.**

topographic features offered by the mine pit and adjacent wetlands. Chuck Czoke, director of parks and recreation estimates that more than 30,500 rounds of golf are played each year, producing revenue of just under \$1 million.

West Lock Municipal Golf Course, Honolulu, Hawaii, separates a National Wildlife Refuge and a planned commercial development. The refuge contains a habitat for endangered waterbirds like the Hawaiian coot, wood duck and stilt.

Original plans called for building residential housing on the land. A golf course was proposed, based on the idea that it could balance commercial and wildlife needs, according to ASGCA member architect Rodney Wright.

The course not only protects wildlife species from urban development, but it also provides more than 70,000 rounds of golf each year. Fees range from \$4 to \$12 per round and required carts cost \$12 per round. Estimated total revenues are \$1.8 million.

—The ASGCA publishes *An Environmental Approach to Golf Course Development*. For a copy, send a check for \$10 to the ASGCA, 221 N. LaSalle St., Chicago, IL 60601.



**Municipalities can take advantage of the public's desire for affordable golf courses. This public course—Lassing Pointe in Florence, Ky.—has been a money-maker since it opened in 1993.**

areas, spoil piles (a remnant of the mine), concrete and other debris. In August, 1993, the Heritage Bluff Golf Club opened for play. The course features USGA-approved greens and takes advantage of the unique

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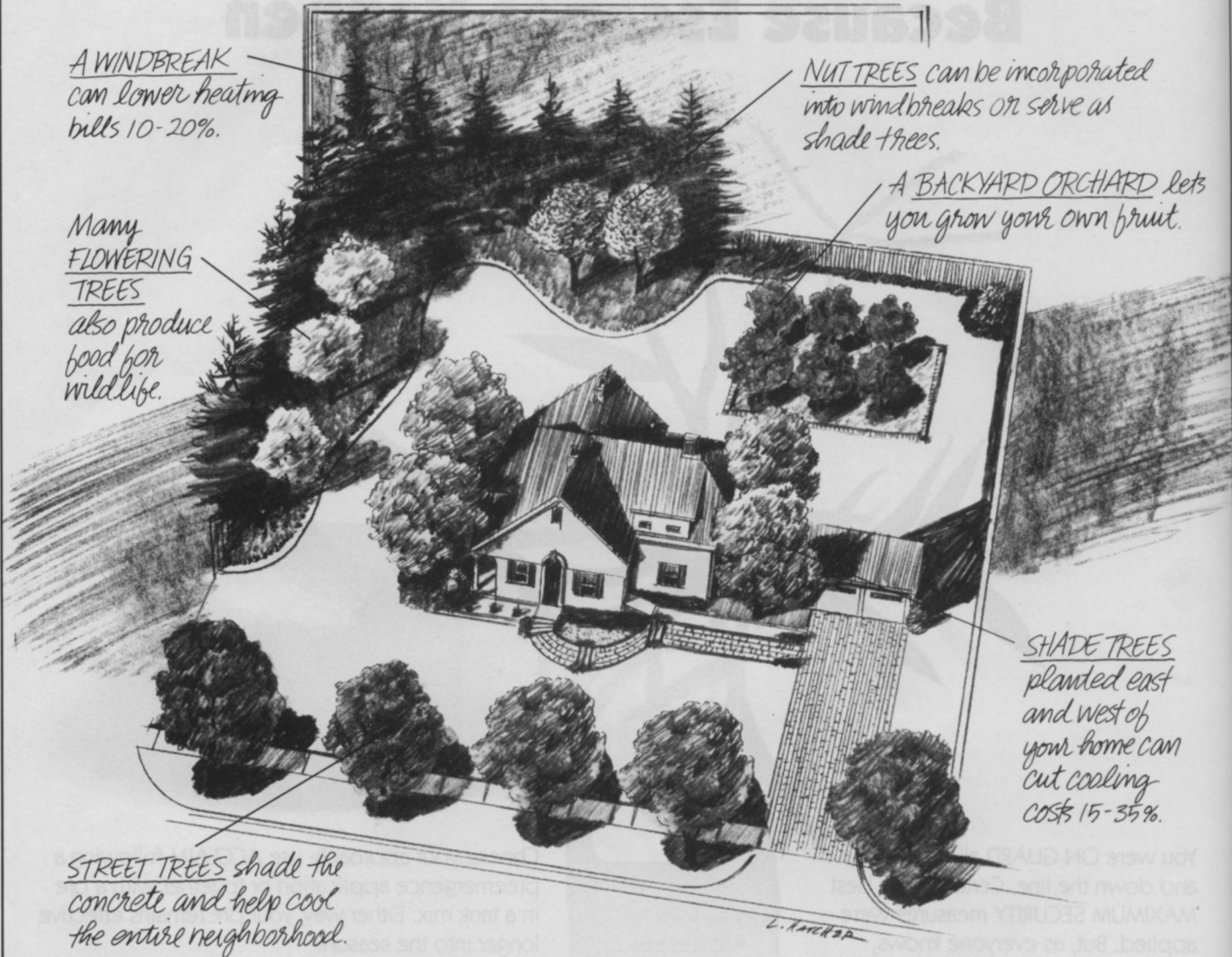
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**The National  
Arbor Day Foundation**

# LAWN CARE INDUSTRY

## Landscapes boost property VALUES



New studies provide powerful evidence of the monetary value of thoughtful site design and landscaping.

*Photo courtesy The Danter Co., Columbus, Oh.*

**Separate studies confirm what landscape pros have known but don't often emphasize—the financial benefits of their work.**

■ New studies give landscape professionals further basis to tell clients that well-designed, installed and maintained landscapes make good financial sense.

What's exciting is that these new and unrelated studies document the value of good landscapes in percentages and, in one study, dollars and cents.

In the summer of 1994 Dr. Mark Henry, a professor in Ag Economics at Clemson University, published the results of a study showing the relationship between landscape quality and the sales price of homes. The bottom line: nicely landscaped properties sold for more than those that weren't.

Later in 1994, The Urban Land Institute published the book, *Value by Design, Landscape, Site Planning and Amenities*. It contained case studies of 11 real estate developments, both residential and commercial, and documented the financial value of site planning and landscape design at each development. (See the related article in this section.)

Landscape pros can use this powerful new information to educate clients, including property managers and developers. It gives the green industry another solid marketing tool.

**Getting the message**—The public is recognizing the financial value of good landscapes and lawns, says a survey conducted last year by the Gallup Organization. It was conducted on behalf of the Associated Landscape Contractors of America (ALCA) and the Professional

*continued on page 2L*

### INSIDE

**Feeling burnout?**  
Learn to relax!, p. 6L

**Begin work now on**  
'96 pay scale, p. 8L

**Plan ahead before**  
you borrow, p. 12L

**Tree care challenge**  
at Hermitage, p. 16L

## VALUES from page 1L

Lawn Care Association of America (PLCAA). About 1700 people responded.

But respondents didn't list increased market value as the primary reason for desiring attractive landscapes. People want nice lawns and landscapes for more personal and intangible reasons.

The top five benefits of a well-maintained landscape, according to the ALCA/PLCAA Gallup survey, were:

- to beautify the neighborhood (60.7%).
- to provide a place of beauty and relaxation (53.8%).
- to reflect positively on the owner (50.3%).
- to increase real estate value (48.1%).
- to provide a comfortable place to entertain, work or visit (48.1%).

Joel Lerner of Joel M. Lerner Environmental Design, Chevy Chase, Md., says he focuses on the aesthetic benefits that clients will derive from his efforts.

"I seldom play on the property value unless the client asks," says Lerner. "The statistics are hard and cold, and I have that information in my hip pocket, plus some other anecdotal information about the financial benefits their landscapes will provide.



**Most contractors stress the emotional rather than the financial value of a beautiful landscape.**

*Photo courtesy The Danter Co., Columbus, Oh.*

"For instance, I can tell them that plants increase in value as they mature. Therefore, a nice landscape is the best home improvement they can make for their property.

"But I would rather my clients understand how enjoyable it's going to be to

come home every night after work and enjoy their landscapes," says Lerner.

"What sells people on a landscape is its emotional value, and your own enthusiasm and confidence in delivering something they will love."

**More education needed**—James

## Good design creates \$\$\$ value

■ Is landscape design valuable? You bet.

Lloyd W. Bookout, assisted by Michael Beyard and Steven W. Fader, provides real-life examples of its dollars and cents worth in the book, *Value by Design, Landscape Site Planning and Amenities*.

The book is the culmination of several years of research by the Urban Land Institute (ULI), which focused on 11 real estate developments across the country. These included single-family and multi-family developments, suburban office complexes and two retail centers.

The question it sought to answer: does quality site planning, landscape, and amenities contribute both quantitative and qualitative value to real estate development?

Yes, it does, says the well-documented book. Its researchers tracked the costs of each real estate project, concentrating on site development costs (including landscaping), and then charted the success of each of

the real estate developments in the marketplace.

Bookout, primary researcher and author for the book, says what was learned in the case studies demonstrates that landscaping and design amenities:

- Give developers a competitive edge and increase the pace of a project's occupancy.
- Help developers win public support for a proposed project, especially in contentious situations.
- Establish an image, identity, and sense of community for development projects.
- Influence decisions to buy or rent in both residential or commercial markets.



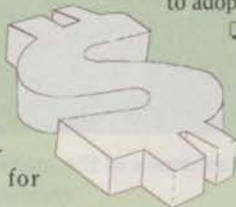
the market's perception of security, privacy and place.

- Increase the long-term value of a project as a financial investment in the minds of residents.
- Contribute to employee productivity, morale and job enjoyment.
- By example, cause other developers to adopt a higher standard of design.

□ Reduce the need for publicly funded improvements on site and off site.

The non-profit ULI, based in Washington, D.C., was supported in the project by the American Society of Landscape Architects, and also by the American Association of Nurserymen and the Associated Landscape Contractors of America.

To order the book, call (800) 321-5011 and ask for Catalog Number VO5; the price is \$25.95 to ULI members and \$32.95 to nonmembers.



- Encompass, in the minds of residents and tenants, highly valued environmental protection features.
- Contribute substantially to



Wilhite, operator of Wilhite Landscape, a small design/build firm in Tyler, Tex., agrees somewhat. "I don't know that you can convince somebody to appreciate the value of their landscape if they're unconvinced to begin with," says Wilhite.

Generally, he believes, managers of commercial properties understand the financial value of landscapes more readily than homeowners. But in both cases "there is only a certain amount of money in their budgets."

Wilhite says some developers make it difficult for new homeowners to get the full financial benefits of their outdoor environments. Developers sometimes view landscaping as just another trade.

"By the time we get to the site, it's usually too late to work with any natural terrain," he explains. "You're left with something that has been backfilled, leveled and scraped."

The most common improvements for new home buyers are landscaping, and the building of outdoor structures such as patios and walks, according to the U.S. Bureau of Labor Statistics.

These improvements either hold their value or appreciate in value. In some cases, they can even raise the market price of the properties around them.

That was one of the findings of Dr. Henry's investigations of single-family housing. His study analyzed nearly 300 single-family homes on quarter-acre lots sold from 1991 to April 1993 in Greenville, S.C.

In Henry's study, professional landscape designers evaluated the landscape of each of the homes. The designers rated 18% of the properties as having excellent landscapes, 30% as good, 29% as average, and 23% as poor.

The study discovered that there are three areas in which the quality of landscaping is likely to affect the sale price of a house:

**1) In the surrounding neighborhood:** Homes in neighborhoods with overall excellent landscaping typically sold for 7% more than similar homes in other neighborhoods.

**2) On adjacent lots:** Homes sold for more when they were located adjacent to excellent landscaping.

**3) On the lot of the house itself:** All else being equal, when the landscaping of a home was improved from average to good, the resale price of the home rose 8 to 12 percent. When it was improved from good to excellent, it rose 4 to 5 percent.

There were several other eye-opening findings in Henry's work. For instance, having a better landscaped property than neighboring properties does not provide

## Landscaping creates value for apartments

■ Good landscaping means good business at multi-family developments, says real estate consultant Kenneth Danter. He's been saying so for more than 20 years.

But, Danter, president of The Danter Co., Columbus, Ohio, went further than this. He generated data to back this belief. Then he published the results in his real estate research newsletter, *Apartment Resources*.

Several years ago, Danter created an index which measured how much value landscaping provides to apartments in a typical suburban market.

The Danter Co. surveyed all of the modern multi-family developments in that market. Then it graded each development for unit amenities, project amenities, and also aesthetic amenities to measure curbside appeal.

Putting a numerical rating to aesthetic amenities is admittedly objective, says Danter. This category includes the quality of architecture and also the quality of landscaping and the maintenance and care of the grounds.

Each of these factors—unit, project and aesthetic amenities—is rated on a scale of 1 to 10 to give a total rating of up to 30.

Using a computer program to create a regression analysis, the company then plots the median rent at each amenity index level. This produces what Danter calls its rent/value index for each community in that market.

Danter then developed a separate landscaping index (separate from the

the same jump to the resale price as improving the lot to the excellent rating of surrounding lots.

Admittedly, the study focused on a single market, but it does suggest that properties with sub-par landscapes, particularly, in nicely landscaped neighborhoods, sell for less than they could.

Landscape pros have always known



"aesthetics" category). Again he graded it on a 30-point scale: 10 points for uses of trees and shrubbery, 10 points for flowers and 10 points for general effect.

Using the same computer program, The Danter Co. discovered that

the eight facilities scoring highest on the landscaping index consistently rented for more than other developments in the that particular market area. In fact, they commanded rents \$39 higher than the median.

Adding \$39 per month per unit should result in an extra \$3,000 per unit in loan potential, says Danter, while the costs for a well-landscaped unit might only be \$500 per unit.

"Most within the multi-family industry are continually failing to take full advantage of the tremendous power of landscaping, which provides the opportunity to rent based on value instead of cost," says Danter.

"Landscaping is loaded with intangible values. Good landscaping gives people pleasure. People want to live in attractive places, and good landscaping is one component, along with architectural and continual building and grounds maintenance of a multi-family community that is attractive to residents.

"Potential residents are attracted by the quality of your landscaping, making your units easier to lease, and increasing the flow of potential tenants."

Adds Danter, "We have found that good landscaping can also provide a tangible (dollar) value."

this. Increasingly they can back this assertion with a growing body of unbiased, substantive data.

("The Contribution of Landscaping to the Price of Single Family Houses: A Study of Home Sales in Greenville, South Carolina" appeared in HRI Journal of Environmental Horticulture, June 1994. Contact HRI at (202) 789-2900.)

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# The sizzle in summer: **BURNOUT**

**Relax. You can get through the year's two hottest, most stressful months by exercising or taking time out to talk to your favorite bartender.**

by Jerry Roche,  
Editor-in-Chief

■ Bill made a habit of visiting his company's top accounts at least once a month. On one particularly unbearable July day, he was quick to note that the edges along one parking lot weren't up to his usual standards. As he hopped into his pick-up truck to seek out the foreman, his blood began to boil. As he drove, he mentally worked himself into a nervous, quaking frazzle.

When Bill finally confronted his valued right-hand man, he erupted, verbally assaulting the man, leaving him dazed and confused, a lump on the sidewalk feeling like a useless slug.

This is not a good management practice—in landscaping, golf or any other field. Yet it happens too many times during the long, hot, busy months of July and August.

Bill was showing signs of job burnout, that terrifying spectre we hate to have to face (but must, at least once or twice a year in the golf and landscape business).

"Burnout is the result of unrelieved job stress," writes Andrew G. Goliszek in his book *Breaking the Stress Habit*. "Whenever we feel trapped in our jobs, or helpless to solve problems or conflicts," we run the risk of burnout.

In *The Pursuit of Happiness*, Dr. David G. Myers wrote that, "when challenges exceed our available time and skills, we feel stressed. When challenges don't

engage us, we feel bored." As a result, we very seldom attain that valued middle ground.

However, Myers adds, people who are the happiest with themselves and their job situations (and less likely to suffer burnout) exhibit some obvious traits. First, they genuinely like themselves. They also strongly believe that they choose their own destinies. Finally, they are optimistic and outgoing. Myers implies that anything an individual can do to strengthen these traits will lead to increased happiness.

**Preventive maintenance**—"The best

people or events.

5) Disconnect your emotions from the outcome of events; establish preferences rather than expectations or demands.

Dr. Barbara Mackoff, in *Leaving the Office Behind*, suggests that people who are feeling pressure on the job "hum a few bars of a favorite song, doodle, exercise and talk to your bartender."

Another key to surviving July and August is to keep things in perspective. Don't become preoccupied with your career or job. "Work does not equal worth," notes Dr. David D. Burns in his

book *Feeling Good*. "There is no such thing as personal worth. Rather than grasp for 'worth,' aim for satisfaction, pleasure, learning, mastery, personal growth and communication with others, every day of your life."

The ability to survive these two months rests with individuals, both the employer and the employee. Relaxation—maybe not a lot of it, but certainly planned and deep relaxation—helps the individual's perspec-



tool you've got is you, and you have to maintain yourself at least as well as you maintain your other tools," says Tom Jadin of Jadin Consultants, Shiocton, Wis. "You've got to learn to focus on the things you can change rather than banging your head against the wall on things you can't change."

In his book *Super Self*, Charles T. Givens says periods of high job anxiety should be balanced with a delicate approach to your job and your life:

- 1) Exercise for 20 to 60 minutes every other day.
- 2) Eliminate negativity from your life.
- 3) Continually affirm to yourself "it's just an event" when faced with a difficult situation. Realize that you can't really change events, but you can change your reactions to them.
- 4) Don't make value judgements about

tive.

"Make darned sure you learn to relax," says Jadin. "Relaxation is something you have to practice about 30 minutes every day. You have to be able to *do nothing* and not feel guilty. You should do what *you* want to do, not what everyone else is doing.

"You've got to find a socially accepted way of going crazy—like a good, violent physical activity—and deal with the whole mess. It forces you to unwind. Physical activity and mental activity are connected."

Separate work from home, Jadin continues. "Don't do the same kind of stuff after work you do at work."

Goliszek adds to Givens' list of "burnout extinguishers:"

- 6) Express your feelings and emotions

*continued on page 8L*



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**RELAX** from page 6L

regularly.

- 7) Schedule downtime.
- 8) Schedule work according to your energy patterns.
- 9) Do not undertake more than one stressful activity at a time.
- 10) Engage in outside physical activities.
- 11) Break complicated projects into smaller parts.

- 12) Delegate authority.
  - 13) Learn to say "no."
  - 14) Improve your work skills by learning new techniques.
  - 15) Learn to relax.
- Another Jadin suggestion—one that Bill would do well to follow—is to have a certain "detached concern" in your dealings with other people.
- "Learn to appreciate them," Jadin notes. "You don't have to be a friend or

pal, but there's (also) no reason to get hostile or defensive or sarcastic.

"Practice being genuine. There are people who feel they have to put an emotional uniform on the job, when all they have to do is the job. If you're a clown, be a clown...if you're a jerk, be a genuine, good jerk."

Above all else, be good to yourself. As Thomas Jefferson once said: "It is neither wealth nor splendor, but tranquility and occupation which give happiness."

## Begin thinking about next season's pay system NOW

**Options are available to help you and flatten your payroll, especially in times of huge overtime payments.**

by Ron Hall,  
Senior Editor

■ Mid-summer is a poor time to revise a technician pay system. Technicians are battling the heat, the work is hard, and the good people who have helped you through the hectic spring don't need any surprises now.

But mid-summer is a good time for a company owner or golf superintendent to

gather notes and mull improvements for next system's technician compensation package.

Many supervisors/owners pay technicians an hourly rate plus time-and-a-half for overtime. When the technicians work, they're paid; when they don't they're not, for instance when it rains. This system is easy to understand, both for the employer and for the employee.

But it's not necessarily the best pay system for every situation.

One reason for this is overtime. Production pressures often dictate that technicians work more than 40 hours per week during the growing season. Employees that are not exempt from overtime must be paid extra for any hours over 40 that they work in a particular work week. Technicians are not exempt from

overtime pay although most administrative, executive, professional, and outside sales people are.

Assuming that the technician is making \$7.50 per hour for 40 hours under the most common pay system used in the industry, the overtime pay is \$11.25 per hour over 40 hours—time-and-a-half. For a 60-hour week, the technician receives \$300, the 40-hour wage, plus \$225 representing the 20 overtime hours multiplied by \$11.25.

But there's another system that might fit some situations better. It's the so-called fixed-salary-for-fluctuating-work-week system. One of its most obvious benefits is that it flattens otherwise huge overtime costs.

In this system the technician receives a salary instead of an hourly wage. Let's

### PAYMENT PLANS

HOURS WORKED	'TIME-&-1/2' PLAN	'FIXED SALARY' PLAN
32-hr. (weather-shortened 4-day week)	\$240	\$300
40-hr. (normal week)	\$350	\$300
60-hr. (normal week + 20 hr. O.T.)	\$525	\$300

\*all earnings based  
on \$7.50 an hour wage

make the salary \$300 for the customary 40-hour week. With this system, the technician receives \$300 even if production is halted, perhaps by a rainy day.

### **A fixed salary for a fluctuating work week can be confusing to workers, so put it in writing, and review it thoroughly.**

But, what if the technician works 60 hours, the typical 40-hour week plus 20 hours overtime, in the week?

By dividing the 60 hours into the salary, the salary amounts to \$5 per hour. Then, to pay for the 20 overtime hours, the \$5 is halved and the resulting \$2.50 is added onto the \$5 hour rate—time-and-a-half. The cost of the 20 extra hours of overtime in this system is \$50 instead of \$225.

"If you follow the rules for fixed salary, you can do it that way," says Richard Lehr, general counsel to the Professional Lawn Care Association of America. "Your labor costs will not be so distorted during the busiest time of the year," he adds.

Lehr admits that a fixed salary for a fluctuating work week can be confusing to employees, so he suggests that the employer put it in writing and review it thoroughly with employees. In fact, Lehr suggests that employers have technicians sign off on it prior to starting their employment.

What about production incentives? They can be added to either system, says Lehr. But employers might have to tinker with their particular system. Wages that are too high or incentives that are too difficult to attain will discourage their intended results.

Some other points that Lehr thinks lawn care employers should be aware of:

□ The work week does not have to start on Monday and end on Friday. It can start on Saturday and end the following Friday, for instance. For legal purposes a work week can be any consecutive seven-day, 168-hour period.

□ Keep accurate records about the hours each employee works and the pay they receive. Keep these records three years, the statute of limitations.

□ If an employee puts down an inaccurate number of hours worked on their

## **WAGE-AND-HOUR INVESTIGATION: WHAT A DRAG**

■ Just because a wage-and-hour investigator shows up, don't automatically assume the worst. You, as an employer, have some rights too.

But, why would one show up at all? Usually the investigator is responding to a complaint filed by a disgruntled employee, past or present. It's not likely the Wage & Hour Division of the Department of Labor is conducting a spot check. They have too few officials for this.

Richard Lehr, general counsel to PLCAA, says a wage-and-hour inquiry is never pleasant. But an employer can take some steps to take some of the sting out of it.

The owner has a right to ask the nature of the investigation, but the official will not reveal who initiated the action. Although the investigator will want to review payroll records (as far back as three years if they want to), they don't have the right to remove them from your premises, says Lehr. Also, they don't have the right to confidential payroll information such as the owner's salary.

An investigator will want to see a record of the hours that employees worked; they'll review time cards and

whatever other documentation you can provide. The regulator may, in fact, want to interview some of your employees. If so, it would probably be better for you to talk to them first and tell them why the interview is being conducted. You'll also want to inform them that, although they may be asked to sign a statement, they're not required to. (The investigator will probably not tell them this.)

Don't be too quick to conclude that there has been a violation in your company; the investigator is not as knowledgeable about your operation as the senior people in your office. If possible, do your own research to see where you stand.

Lehr suggests that the employer maintain a professional, firm and, if possible, cooperative relationship with the investigator. These officials often have to make judgement calls, so why intentionally antagonize them.

And if there is a wage-and-hour violation? Lehr suggests attempting to solve it at the investigation stage before it gets to the solicitor's office.

"Wage and hour violations are expensive," says Lehr.

—R.H.



time card, you have the right to cross through the incorrect information, date it, initial it and tell the employee that you did it.

□ Insist that workers punch in at the correct time.

□ Tell employees the amount of time they may take for lunch and the amount of time that's going to be deducted. Allowing employees to work through lunch is generally not a good practice. If an employee has to, it should be substantiated.

"You have more control over a pay system as a cost item than you may think that you do," says Lehr. But, to be effective, the pay system must benefit the company, be acceptable to employees, and be efficient and implementable.

If an employer has any questions about the legality of their pay system, or

changes to their system, they should check with appropriate counsel, or state or federal officials. Violations of Wage & Hour Law can subject an employer to severe financial penalties.

Lehr says the best time to make changes to a pay system are, generally, at the start of a new year, at the beginning of the production season, and on the anniversary of an employee's hire date.

Of course, an employer should be aware of, and closely tracking their system at all times, even in mid summer.

—Lehr is a member of the labor and employment law firm of Lehr, Middlebrooks & Proctor, P.C., Birmingham, Ala. He has spoken at each of PLCAA's 15 annual conferences. The information for this article comes from his presentation at the 1994 conference.



## You don't have to be a big-time operator

It's a common misconception that you have to be a big-time operator to make a good living. In fact, you can make a good living as a small-time operator. The key is to find a niche market and provide a service that is in demand. For example, you could start a business providing maintenance services for small businesses. This could include tasks such as cleaning, painting, and minor repairs. Another option would be to start a business providing services for individuals, such as lawn care or house cleaning. The important thing is to identify a market that you are interested in and that has a steady demand for your services.

One of the most important factors in starting a successful business is to have a solid business plan. This plan should outline your goals, your target market, and your marketing strategy. It should also include a budget and a timeline for your business. Having a clear plan in place will help you stay focused and motivated as you work to build your business.

Another key to success is to provide excellent customer service. This means listening to your customers' needs and providing solutions that meet those needs. It also means being responsive to your customers' inquiries and complaints. By providing excellent customer service, you can build a loyal customer base and increase your sales.

Finally, it's important to stay up-to-date on industry trends and developments. This means attending trade shows, conferences, and seminars, as well as reading industry publications and blogs. By staying informed, you can identify new opportunities and stay ahead of the competition.

Starting a business can be a challenging and rewarding experience. By following these tips, you can increase your chances of success and build a profitable business. Remember, you don't have to be a big-time operator to make a good living. You just need to be a smart and hardworking operator.

It's a common misconception that you have to be a big-time operator to make a good living. In fact, you can make a good living as a small-time operator. The key is to find a niche market and provide a service that is in demand. For example, you could start a business providing maintenance services for small businesses. This could include tasks such as cleaning, painting, and minor repairs. Another option would be to start a business providing services for individuals, such as lawn care or house cleaning. The important thing is to identify a market that you are interested in and that has a steady demand for your services.

One of the most important factors in starting a successful business is to have a solid business plan. This plan should outline your goals, your target market, and your marketing strategy. It should also include a budget and a timeline for your business. Having a clear plan in place will help you stay focused and motivated as you work to build your business.

Another key to success is to provide excellent customer service. This means listening to your customers' needs and providing solutions that meet those needs. It also means being responsive to your customers' inquiries and complaints. By providing excellent customer service, you can build a loyal customer base and increase your sales.

Finally, it's important to stay up-to-date on industry trends and developments. This means attending trade shows, conferences, and seminars, as well as reading industry publications and blogs. By staying informed, you can identify new opportunities and stay ahead of the competition.

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# Bank borrowing

by Dan Sautner  
Padgett Business Services

■ It's very difficult to run even the most profitable business without some bank financing. Chances are that growth—especially if it comes in spurts—will out-pace the cash that your current customers are generating.

You may also run into a problem resulting from the seasonality of the green industry, with a disproportionate amount of business coming in the spring and early summer. And if you're downsizing, the changes being put in place may require time to generate the cash you need to save.

All of these are reasons to approach your banker for a loan. The following are ways to approach this lending institution, and what they will be looking for in determining your chances.

Always think ahead and plan for requesting a loan. More importantly, do this prior to a crisis situation. Bankers have a hard time understanding that you are properly managing a good company when all of a sudden you run out of cash. Your cash flow needs are predictable, and you should be seeing any shortage ahead of time.

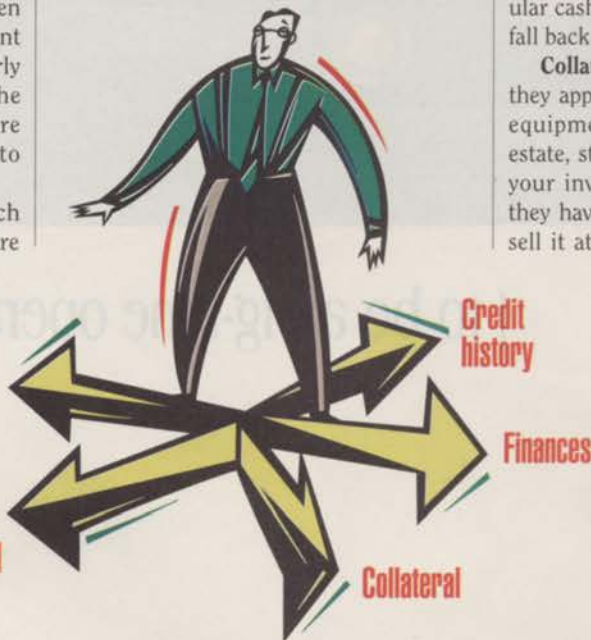
When you need a loan, ask the banker to visit you so he or she can see your business and how you operate it. Make sure that your banker is involved in commercial lending; otherwise, you will have to do it all again.

Explain—fully—how much money you need and why. Show the banker that you really know your business and what it takes to be successful. When your meeting is over, ask the banker to write you a letter describing what you will need to supply. (The bank may already have pre-printed lists of needed information. If so, use those.)

When everything is complete and packaged neatly, call the banker for an appointment. Have everything: the banker does not want to have a partial loan request cluttering his or her desk.

If you start off on the right foot, and show that you're organized, you'll have a better chance of getting your loan approved. Here are the common requirements:

- 1) A cover letter of request: what you are looking for, how much and why. Explain what the loan will do for your business, and how you will repay it. You may want to include a bit of your company's history: how you started, how you've done, what your services are. Be specific, and be realistic.
- 2) Personal financial statement.
- 3) The last three years' income state-



ments for the business (or personal tax returns if you're the sole proprietor).

4) Projections (a pro-forma statement) that should explain how the loan will affect your company's cash flow over the next one to three years.

The two basic types of bank loans can be structured in a multitude of ways.

**Short-term loans** will tide you over until you collect a receivable or complete an anticipated large sale. These are set up as notes repayable in 30, 60 or 90 days—or they may be set up initially as a line of credit.

Unlike your personal line of credit, you will probably have to ask the banker to advance the funds as you need them with a short-term loan. As a rule, they cannot remain outstanding for more than a year. The banks usually require that they be completely paid off for at least a month each year.

**Long-term loans** are set for a specific amount and for a specific length of time, such as a year or two or longer, and are repayable in monthly installments. These

are used for specific purposes, such as equipment purchase, remodeling, building purchase, and restructuring existing debt.

In some cases, you may be able to repay only interest, but only for a while. Discuss this with your banker.

In determining whether or not to approve loan requests, bank loan officers frequently refer to the "Three Cs" of lending: capacity, collateral and character.

**Capacity** is your ability to repay the loan. If this loan is approved, will you be able to repay it out of your company's regular cash flow? Do you have other assets to fall back on in an emergency?

**Collateral** is the security to the bank if they approve the loan. This could be your equipment, your building or other real estate, stocks, your accounts receivable, or your inventory. What will its value be if they have to foreclose on you and have to sell it at auction value to repay the loan?

This figure is sure to be a lot less than you would think.

No matter what type of loan you need, expect to personally guarantee the loans, most often using your residence or other assets—such as stocks—as additional collateral. If you are reluctant to do so, the banker will think that you are not sure about your ability to repay the loan. If you're not willing to take a chance, why should the bank?

**Character** includes your credit history. (Even if you had a problem paying bills on time in the past, if you can explain the causes for it and if you are currently paying your bills on time, you still might get the loan.)

Character also includes your general integrity. Do you have good moral standards? Are you a positive influence in the community? This segment of the loan decision process is intangible. If your application is on the borderline between approval and rejection, your character will sway the decision in one direction or the other.

Now, you can do all of this perfectly and still be denied credit. This can simply be because your bank is tightening up on its credit across the board. It may be useful to talk to other bankers.

Sometimes you might be denied because the amount you are looking for is too small. In this situation, consider borrowing the money personally and advancing it to the company. In any case, you want to be thinking ahead of the game. Good luck.

# Landscape professional offers helpful advice over airwaves

by Ron Hall,  
Senior Editor

■ "My parents said it was good."

With these words, landscaper Bruce Allentuck sums up the inaugural broadcast of his 7 a.m. Saturday radio program, *The Garden Path*. Allentuck, 29, devoted his first program to lawn care tips for homeowners. His program is heard on WINX (1600 AM) in the Washington D.C. area. It's broadcast out of the northeastern



Offering landscape advice via radio is both a way to help the public and promote the company, says Bruce Allentuck.

suburb of Rockville, Md. The program is sponsored by his own company, an apartment management firm and a fertilizer/turf seed supplier.

"I talked to a few customers who heard it and they said they enjoyed it," says Allentuck. "For the next few weeks we're going to try to gauge our audience. Maybe

we'll offer a discount to anyone who comes into our nursery and mentions they heard me on WINX."

Allentuck's star is rising in and around the nation's capital, partly because he's so helpful in his community. He's donated trees to schools, and his Garden Seminar Series always attracts a flock of local gardeners.

As a youngster, he mowed neighbors' lawns in his hometown Potomac. After he graduated from North Carolina State University with a degree in Horticulture Design, he returned. Today he owns and operates Allentuck Nursery & Landscaping, Inc., in Potomac. He bought the 30-year-old retail nursery three years ago. He says it accounts for about 30 percent of his sales. The rest of his revenue comes from design, contracting (subbing

out most of the masonry, irrigation and tree work), and maintenance. Sales are split pretty evenly between residential and commercial accounts, he says.

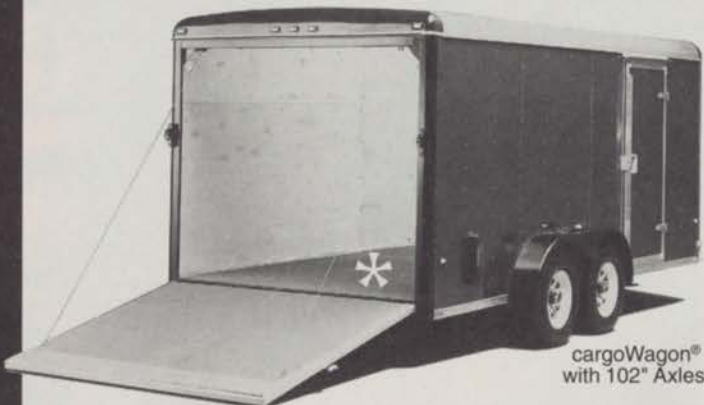
"I stepped out of the industrial cold bidding," adds Allentuck. "I found the margins too small. It wasn't worth our time. With our design/build growing, we decided to put our efforts into that."

Although the landscaper/nurseryman is making no claims to radio supremacy in D.C., he does promise he'll continue offering his listeners practical and valuable garden and turfgrass advice.

"Going on the radio wasn't something that I was necessarily looking to do," says Allentuck. "But we did a test program and it sounded fine. I think it's a good way to promote our company."

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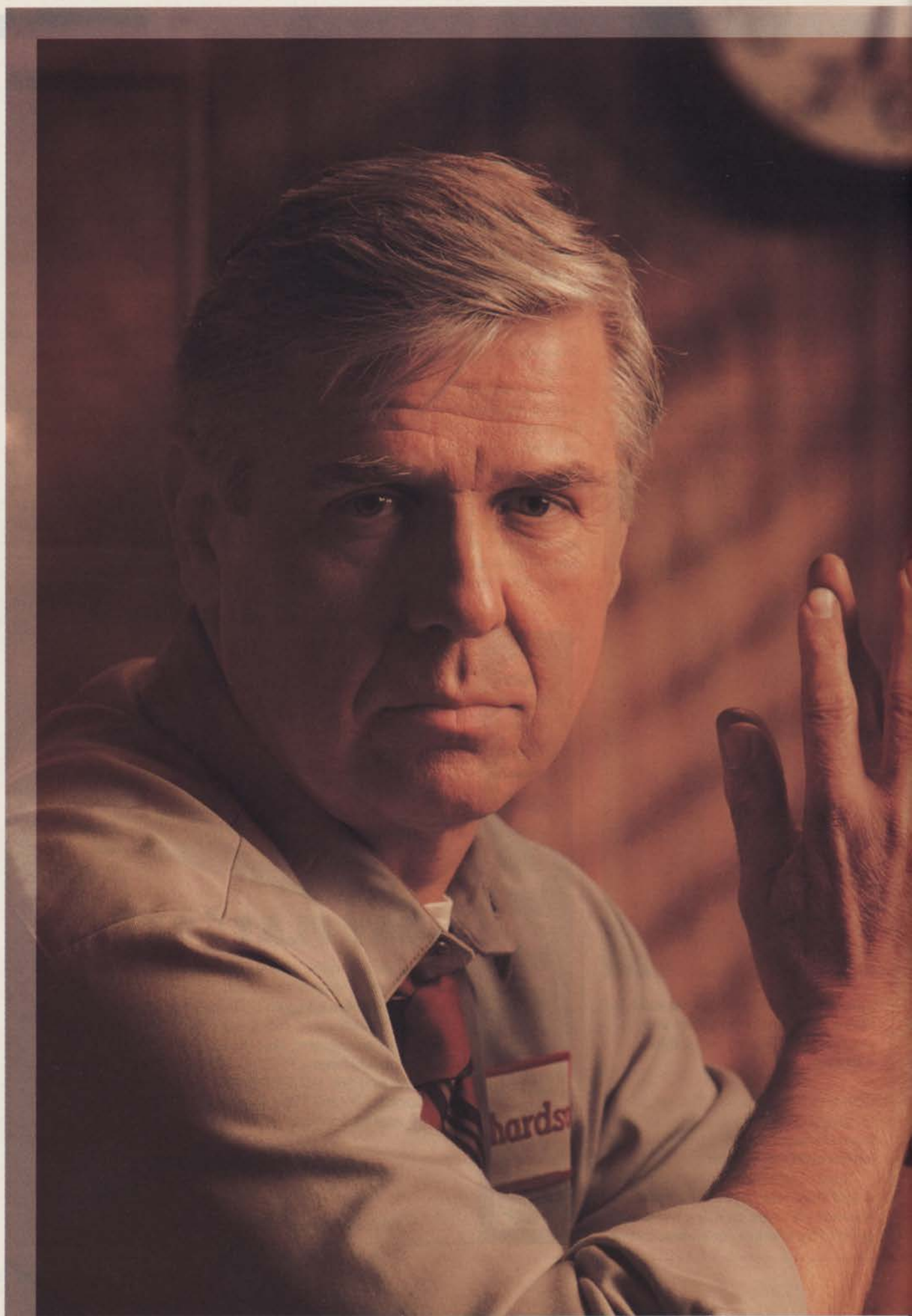
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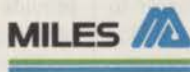
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# Doing what has to be done: INGENUITY AND VERSATILITY

**How the four-person grounds team at one of our nation's leading historical sites goes beyond the call of duty.**

by Ron Hall,  
Senior editor

■ The grounds team at The Hermitage must be both ingenious and versatile—and it is.

Otherwise horticulturist Mark Provost, grounds manager John Lohmann and gardeners Kristin Diekmeyer and Susun Stahl could never maintain the 650-acre Andrew Jackson estate.

The Hermitage, the estate of General Jackson, includes two mansions, the Jackson family cemetery, tree-shaded grounds, out buildings and open fields.

Remarkably, both Jackson's Greek Revival mansion and the adjacent flower garden, are relatively unchanged from Jackson's time. The surrounding grounds are a bucolic mixture of shaded paths, 120 acres of turfgrass, a small vegetable garden, hay fields, and a smattering of woods.

"We're pretty diverse," says Provost in his east Tennessee drawl. "I guess we do a little bit of everything."

Provost's title is horticulturist (a Tennessee Tech graduate), but in his seven-year employment at The Hermitage, he's also baled hay and done more than his share of bush-hogging and mowing.

This past winter, he and the other three team members reconstructed the unique picket fence at the Hermitage Flower Garden. It was a labor of love...but labor.

He and Lohmann hand-chipped each opening for the 720 pickets while Kristin and Susun painted the redwood fence.

"We'd rather work a little bit harder to make things just right," says Provost, vice president of the Middle Tennessee chapter of the PGMS.

"The Hermitage is an important histor-



The Hermitage Garden, designed by William Frost in 1819, remains essentially the same.

Leah Romine provides visitors with a history of the garden.

Far left—John Lohmann and Mark Provost, right, oversee 650 acres.

ical site. Obviously we can't do a lot of spraying, and we can't do a lot of weed eating or trimming either."

**Maintenance challenges**—Lohmann, 11 years at The Hermitage, still shudders at the memory of the mowing schedule that he and Provost used to face.

"It seemed like we were never going to get caught up," he says of the 120 acres of turfgrass. Three seasonal college students help now. They use an aging but still serviceable Hustler and two large John Deere mowers—one a front-mount 935, the other a mid-mount 855.

Hundreds of mature trees at the site provide Provost and Lohmann with their other biggest maintenance challenge.

Storms and a surprising number of lightning strikes keep their six-inch, PTO-driven Vermeer chipper busy.

leaves on one of the final mowings of the season. They're blown into tree rings around the base of the trees that dropped them.

The Hermitage, which draws about 250,000 visitors annually, is located about a 25-minute drive northeast from downtown Nashville. Jackson ("Old Hickory") was the seventh U.S. president. Her returned to The Hermitage in 1937 after serving two terms, and died there in 1845.

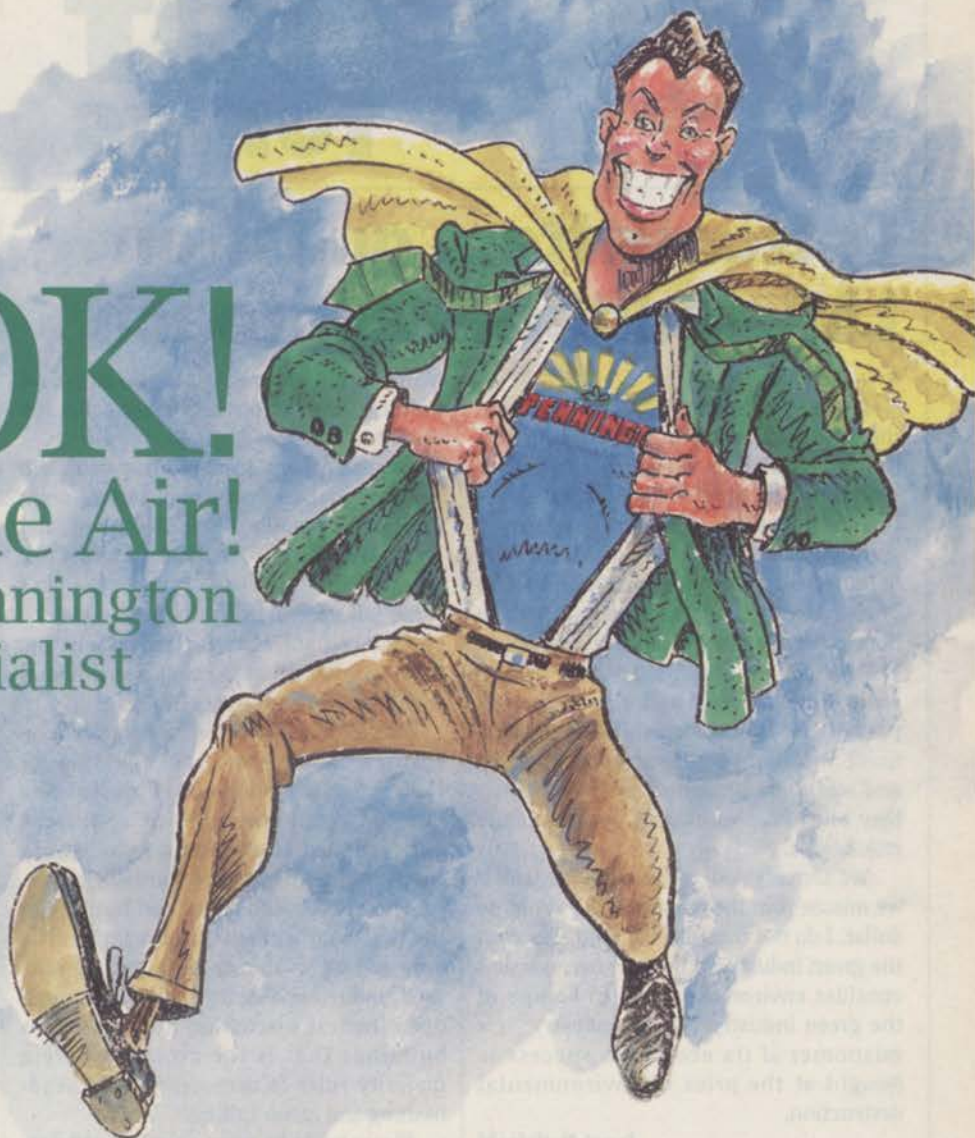
The Hermitage still belongs to the 19th century. Before neon. Before fast food. That's its charm.

That's what its tiny grounds staff is working so hard to help preserve.

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# HOT TOPICS

## Letter-writers question LM's editorial approach

### ■ To the editor:

I strongly disagree with your article in the May issue entitled, "Can't We All Just Get Along? Hell, No!," which singled out several pro-environment senators and representatives as foes of the green industry.

Regulation of the green industry is designed to protect the health and safety of *everyone*, from golfers and athletes to homeowners and turf industry employees. The regulations are also designed to help protect those in our society who are not part of the economic/capitalist system. Since wildlife, open spaces, clean water and wetlands have no economic value, they must be protected by environmental regulations.

We are very poor stewards of the land if we misuse it in the pursuit of the almighty dollar. I do not consider the regulations on the green industry to be excessive; nor do I consider environmentalists to be foes of the green industry. "Green industry" is a misnomer if its economic success is bought at the price of environmental destruction.

*Janet Betlejeski  
French's Hollow Fairways  
Guilderland Center, N.Y.*

### ■ To the editor:

I just read the (May) cover story "A Capitol Idea" and would like to share some thoughts with you.

I have been in the parks landscape business for over 20 years on both the East and West Coasts. My job requires dealing with many government regulatory agencies, even though I work for a county government, I too have the same issues with regulations that any business does. Yes, I really believe there needs to be change in

many of our laws related to the landscape industry, and I'm pleased to see action on that front.

However, I am dismayed that you seem to be politicizing your publication, seem to be using emotionally loaded terms, and giving negative connotations to terms like "liberal" and "activist control." Couldn't some folks featured in the article also be considered activists for more sensible laws? Couldn't they be considered liberal in their view of industry's desires?

The clincher, however, was the section entitled "Can't We All Just Get Along? Hell, No!" Such promotion of people being hostile to each other gets us nowhere. I am saddened to think that you would choose to use this form in journalism.

There is enough anger and hostility in the U.S. today without encouraging it. The only way we will progress in getting safe, sane, and reasonable legislation is through open, honest discussion and consensus building. That is the process where a majority rules (a democracy), not head-bashing and name-calling.

Please try to be more objective and positive in your articles.

*David J. Pierce  
Regional Park Planner  
Santa Clara County, Calif.*

*Industry magazines like LM must accurately portray the mood and view of the majority of its readers. Surveys show that most of you—especially small businessmen—have slightly antagonistic attitudes toward government regulation because of excesses in the past. The people interviewed in the articles were the top people in the industry who accurately, we believe, reflect the concerns of most LM readers.—Ed.*

## Greg Norman will market seed

**TEQUESTA, Fla.**—Professional golfer Greg Norman's new company will produce golf-quality warm-season turfgrasses.

Norman's new Greg Norman Turf Co. will develop grasses on a 140-acre production facility in Avon Park, Fla.

The first variety under production is GN-1 hybrid bermudagrass, which has a deep green color, better tolerance to low temperatures and parasitic nematodes, and thatches less than other hybrid bermudas, according to a press release.

"The new grass has proven to be superior in playing surface to the Tifway 419 used on the remaining holes" at the Medalist Club in Hobe Sound, Fla., where it was planted on the 17th and 18th fairways, the release contends.

Other speciality grasses planned for production at the company are FloraTex, a low-maintenance bermudagrass, and the newly-released FloraDwarf.



The Greg Norman Turf Co. will market warm-season grasses for golf courses.

### ELSEWHERE

**Support devised  
for aging tree, p. 19**

**PLCAA holds new  
workshops, p. 19**

**D.C. faces tough  
ozone laws, p. 19**

**Info-center, many  
new events, p. 20**



## NY community pays to put ancient cottonwood on life support system

**NEWBURGH, N.Y.**—How far will you go to save an historic tree?

If you're The New York State Department of Environmental Conservation (DEC) apparently a long way. The tree in question is a massive eastern cottonwood in Newburgh, NY, just north of NYC. It's believed to be about 300 years old. When it was much younger (and smaller), residents mistakenly thought it was a balm tree and referred to their community as Balmville.

In 1992 the DEC hired four independent consulting arborists to inspect the tree. They said it was unsound and recommended that it be removed. But the DEC didn't want to lose the tree. In mid 1994 it hired ACRT, Inc., Cuyahoga Falls, Ohio, to inspect the tree. A team of three ACRT professionals—consulting arborist Richard E. Abbott and plant pathologists Dr. Christopher J. Luley, and Dr. Kenneth C. Miller—plus engineer Donald E. Ruff from Canon Engineering in Jackson, MI, concluded that it was structurally unsound although it continues to grow.

They felt that the tree could be saved.

The ACRT team designed a mechanical support (see illustration) with a central column and four double reinforcing guys. Tree limbs are attached to the column by means of guy cables.

Also, the team suggested soil aeration via vertical mulching, fertilization, insecticide applications when needed, vine

removal and covering a hole to keep out animals.

Private funds are paying for the work as ACRT is seeking material donations from manufacturers, distributors and area businesses.

With the mechanical support in place, the ACRT team believes the tree has a 50 percent chance of remaining structurally intact for 10 years and a 25 percent chance of surviving another 20 years.

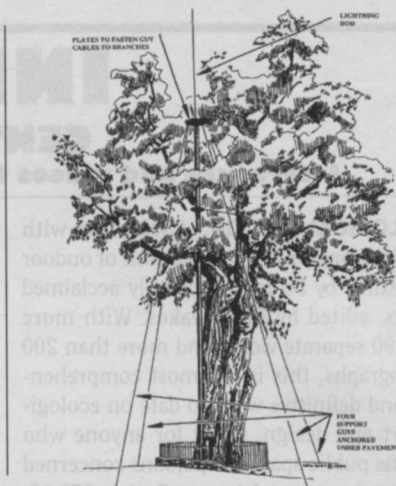
## PLCAA workshops in Iowa, SC, Ore.

■ Questions from customers and the media on topics such as the "Home Pesticide Use and Childhood Cancer" study released earlier this year can be intimidating and confusing to lawn care operators.

But help is on the way. The Professional Lawn Care Association of America's continuing 1995 Regional Workshop series in August and September will include a presentation on Risk Communication by a representative of DowElanco.

The day-long programs also include information on enhancing customer service, by Bob Andrews, owner of two Indiana lawn care companies, and a past president of PLCAA.

The objective of the workshops is to "take PLCAA to the members," says board



member Larry Messina of Lawn Cure of Southern Indiana, who adds that PLCAA also plans to stage from eight to 10 winter workshops on a variety of topics.

Dates and locations for the summer workshops are:

- August 30, Ames, Iowa (Starlight Village Motel) hosted by Darryl Johnson of American Beauty Lawn Care;

- Sept. 20, Portland, Ore. (Shiloh Inn Portland Airport), hosted by Pat Nibler of ProGrass, Inc.;

- Sept. 27, Columbia, SC (Sheraton Hotel and Conference Center), hosted by Gene Broom of Service Master.

Cost for the workshops is \$35 for members, \$50 for non-members. Lunch is included in the registration fee.

To register for a PLCAA summer workshop, call the association at (800) 458-3466.

## Ozone standards hang over D.C. green industry

**WASHINGTON**—Call this the tale of the ozone mowing ban.

The District of Columbia and 18 surrounding counties in Maryland and Virginia are among the first in the nation required to meet EPA-imposed ozone standards.

"What we have been battling on the local level are attempts to outright limit or impose restrictions on the use of lawn and garden equipment during days that are forecast to be in violation of the ozone standards," says Ben Bolusky of the AAN.

Ozone is a by-product of gasoline engine use. Under the EPA rules, commercial landscape firms would be prohibited from using internal combustion engines on high ozone days. Bolusky says the forecasts (of high

ozone) come out the afternoon or night before, making it impossible for landscape firms to schedule mowing. Skipping to the bottom line, "We beat that one back considerably. What we've done is gotten the supertanker to change direction," he adds.

Rather than having the EPA going after behavioral changes of a punitive nature, a coalition of AAN and other national organizations such as the Associated Landscape Contractors of America (ALCA) got the EPA to focus on technological changes. They proved that the vast percentage of ozone emissions came not from running engines, but from spills during fueling. They showed the EPA how inexpensive nozzles could capture 90 percent of the

errant ozone.

A second EPA misperception was that landscape firms running old equipment that spewed out exhaust fumes were part of the problem. But the LCA polled operators and produced figures to show that 41 percent of the landscape companies in the area buy new equipment every year, and 44 percent more buy new equipment every two to three years.

The story points up the value of having allies. "We probably belong to about 30 national coalitions dealing with national and regulatory officials. We're not bashful about lending our name to a business coalition we know serves the interests of our members," says Bolusky.

# INFO CENTER

## Literature and videos for the green industry

**ECOLOGICAL DESIGN...** "Sculpting with the Environment" is a collection of outdoor sculptures by 35 internationally acclaimed artists, edited by Baile Oakes. With more than 90 separate works and more than 200 photographs, this is the most comprehensive and definitive work to date on ecological art and design. Great for anyone who designs public spaces or persons concerned with environmental issues. Cost is \$59.95, available from Van Nostrand Reinhold publishers, (212) 254-3232.

**IRRIGATION TEXTBOOK...** The Society for Engineering in Agricultural, food and Biological Systems has published "Landscape Irrigation Design" by Eugene Rochester, an engineer and 25-year member of the Auburn University faculty. This is the 8th of a series of textbooks published by the ASAE. Rochester says the 220-page book is also ideal for independent learning. ASAE can buy the book for \$32 but non-members must pay \$38. Contact: ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659. (616) 429-0300.

**MORE WILDFLOWERS...** Applewood Seed Company's 1995 "Wildflower Seeds" catalog includes 7 new species of wildflowers, including 3 U.S. natives and 1 new native grass. The catalog features 130 wildflower species and 18 regional and special-use mixtures. To receive the catalog: Applewood Seed, 5380 Vivian St., Arvada, CO 80002. (303) 431-7333.

**MICHIGAN DIRECTORY...** The 1995 "Membership Directory and Advertisers Buyers Guide" for the Michigan Nursery and Landscape Association includes contacts and phone numbers for over 750 member companies, MSU's hort department, county cooperative extension offices, and state regulators. Non-members pay \$40; members' first copy is free. Michigan Nursery and Landscape Association, 819 N. Washington Ave., Ste. 2, Lansing, MI 48906.

**ROOTS BACK ON TV...** The International Society of Arboriculture says its new ISA book "The Landscape Below Ground" is also available as a set of two videos. Both

the books and the videos originated from the international workshop on tree root development in urban soils. Each of the videos is about 30 minutes long. Cost to members for the pair of videos is \$50, to non-members \$60. ISA, P.O. Box GG, Savoy, IL 61874. (217) 355-9516.

## GREEN INDUSTRY EVENTS

### JULY

20-23: ALCA Summer Leadership Meeting, Glenn Arbor, Mich. Phone: ALCA, (703) 620-6363.

20: Iowa Turfgrass Field Day, Horticulture Research Station, Ames, Iowa. Phone: 1-800-605-0420.

25-27: Freshwater Wetland Construction Techniques Short Course, Cook College Campus, New Brunswick, NJ. Phone: (908) 932-9271.

31: ITI/IGCSA Benefit Golf Tournament, Fort Dodge Country Club, Fort Dodge, Iowa. Phone: 1-800-605-0420.

26: U. of George Turfgrass Field Day, Griffin, Ga. Phone: Extension conference office (912) 681-5189.

26-29: AAN/MNLA Nursery & Landscape Convention & Trade Show, Minneapolis. Phone: AAN at (202) 789-2900 or MNLA at (612) 633-4987.

27-31: APLD "Minnesota Northern Lites" Summer Conference, Minneapolis. Phone: APLD (312) 201-0101.

30-Aug. 5: Perennial Plant Symposium, Minneapolis. Phone: Perennial Plant Association (614) 771-8431.

### AUGUST

1-4: "Design of Stormwater, Sediment and Erosion Control Systems," Okla. State U. Phone: OSU Engineering Extension (405) 744-9223.

2: Planning & Managing for Reduced Environmental Load, N. Va. Land Managers Conference, Woodbridge, Va. Phone: (703) 792-6285.

2: Illinois Landscape Contractors Association Field Day, Ball Seed Company, West Chicago. Phone: ILCA

(708) 932-8443.

3: U. of Mass. Open House/Turf Scouting & Pest Management Workshop, South Deerfield, Mass. Phone: U. of Mass. Extension (508) 892-0382.

3: NTEP Turfgrass Research Field Day, Beltsville, Md. Phone: (301) 504-5125.

3-5: Turf Diagnostic Course, Cornell University, Ithaca, NY. Phone: (608) 255-1792.

8-Sept. 14: Trees for Landscape Use course, meets Tuesdays and Thursdays, UCLA, Los Angeles. Phone: (310) 825-7093.

8: Golf Course Construction & Design Seminar, SUNY Delhi, Delhi, NY. Phone: NYSTA (800) 873-TURF.

8: Associated Green Industries Field Day, Mackenzie Nursery Supply, Perry, Ohio. Phone: (216) 428-4108.

9: Athletic Turf Management Field Day, Springfield, Mass. Phone: U. of Mass. Extension (508) 892-0382.

10: Wisconsin Nursery Association Summer Field Day & Trade Show, West Madison. Phone: (414) 529-4705.

13-16: International Society of Arboriculture Conference, Hilton Head Island, SC. Phone: (217) 355-9411.

16-18: Field Diagnosis of Insects & Diseases on Trees & Shrubs, Cornell U., Ithaca, NY. Phone: (518) 783-1322.

17: Michigan Turfgrass Field Day, MSU, East Lansing. Phone: (517) 321-1660.

16: Ohio Turfgrass Foundation Field Day, Phone: (614) 261-6750.

18-21: Nursery Management Institute, Michigan State U., East Lansing, Mich. (space limited to 50 individuals). Phone: AAN (202) 789-2000.

25-27: San Francisco County Fair Flower Show, Golden Gate Park. Phone: (415) 507-0142.

28-Sept. 1: "The Body Language of Trees," One-day hazardous tree seminars by Claus Mattheck. Aug. 28 in Mahway, NJ, Aug. 30 in Cleveland, and Sept. 1 in Chicago. Phone: (503) 254-0482.

30-Sept. 1: Pacific Hort Expo and CAN Convention, San Diego Convention Center. Phone: (916) 567-02003.

31: Turf Scouting & Pest Management Workshop, Waltham, Mass. Phone: U. of Mass. Extension (508) 892-0382.

### SEPTEMBER

10: "Festival of Color," Anderson Research Facility, University of Nebraska-Lincoln, Lincoln. Phone: (402) 472-2584.

# SUPPLIERS CORNER

■ **Dan Murray**, CGCS, showed his boss a little appreciation in June. Murray, construction manager at Lohmann Golf Designs, Inc., Marengo, won a 3-day trip to Shinnecock Hills, Long Island, site of the 1995 U.S. Open. The prize, offered by **Lofts Seed**, allowed for two persons to get all expenses paid, so Dan took his boss, Bob Lohmann. Murray earned the trip by correctly identifying Lofts' turfgrass varieties in an advertisement. His name was selected through a random drawing since his was not the only entry with the correct answers.

■ **Nibco Inc.** purchased the assets of **Pepco Water Conservation Products, Inc.**, Fresno, Calif., on June 9. Nibco, Elkhart, Ind., adds low-flow water conservation products to its traditional irrigation product line.

■ **Wade Rain**, Fresno, Calif., relocated

the manufacturing and distribution facilities of its micro-irrigation division to 2851 E. Florence Ave., Fresno, CA 93721. Wade Rain bought a 206,545 sq. ft. building there, more than doubling the size of its previous facility.

■ **Garry Hargrove, PhD**, joins **Pursell Industries**, Sylacauga, AL. Hargrove was formerly director of product development at Grace-Sierra, Milpitas, CA. Pursell is a leader in controlled-release fertilizer.

■ **DowElanco** stepped up production of oryzalin, the active ingredient in **Surflan** pre-emergence herbicide. Oryzalin worldwide sales have increased 15 percent over the last year, says Indianapolis-based DowElanco.

■ **Kubota Tractor Corporation** launches a new safety campaign promoting the use of roll-over protective structures

(ROPS) and seat belt with agricultural tractors. Kubota dealers have been provided with ROPS safety promotion materials including in-store videos, posters and brochures.

■ **Jim Mitchell** was appointed marketing technologies coordinator for **James Hardie Irrigation**, Laguna Niguel, CA. He joined Hardie in 1993.

■ **If you get a hankering for a bratwurst** at the 1995 International Lawn, Garden and **Outdoor Power Equipment Expo** in Louisville, check out the outdoor demonstration area manned by **Kohler Engines**. The Wisconsin-based firm will again be providing free brats and soda each day of the show.

■ **Congratulate Bill Bedford**, superintendent at La Cantera Golf Club, San Antonio. He won the "War Bird Special" Calloway driver featured in the **CoRon Corporation** booth during last winter's GCSAA Conference. CoRon, of Souderton, PA, manufactures liquid controlled-release nitrogen fertilizers.

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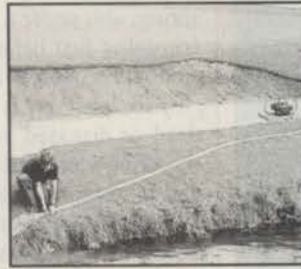
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## Pointers for perfect pruning

### When and how to prune all plants—from small flowers and shrubs to mighty oaks—and what tools to use.

■ The three primary reasons to prune plants are (1) to remove dead and diseased branches, (2) to control size and shape, and (3) to stimulate growth. Because it's a maintenance activity, the longer you put it off, the harder and more time-consuming it becomes.

Shade trees can be pruned high with thick crowns, so activities can take place under the shade. Windbreak trees can be pruned at the top to keep their fullness. Specimen trees can be pruned every year to maintain a thin, open crown and easily-viewed artistic form.



Young trees deformed by wind may be corrected by cutting back the leader and laterals on the downwind side (direction of lean) to more upright branches.

To make pines and other whorl-branched conifers more dense, you can pinch new growing tips (candles) in half, by hand, as they expand in the spring.

Pruning for size, however, is not acceptable, according to horticulturist Charles Owen of the Holden Arboretum, Mentor, Ohio. "It is infinitely better to select a plant for the available space than to select the wrong plant and to spend hours every year to keep the plant in bounds, a job which just gets more difficult and time-consuming every year," he says.

**When to prune**—Pruning to stimulate growth will be determined by the plant's characteristics and growing season. Spring-bloomers produce flowers on wood from the prior season. If you want a heavy flower growth next year, prune plants such as forsythia and azaleas, after the glory of their flowers have faded.

Summer-bloomers follow the opposite theory. Their flowers grow from new wood produced the same season. A late-winter pruning will encourage the growth of new wood and abundant flowers.

Evergreen trees generally need less pruning than deciduous trees. But when necessary, needle evergreens, such as pine and spruce, also prefer a late winter/early spring trimming just before their growth spurt. Avoid fall pruning of these evergreens.

Fall, however, is a good time to prune dead or diseased branches from spring-flowering trees and bushes. Late summer and fall blooming shrubs and perennials should also be trimmed once their flowers have fallen. If trees or shrubs are transplanted during the fall, cut back their branches to compensate for the roots that have been damaged. This will create less of a drain on the remaining root system and allow it to rebuild.

Heavy pruning is generally best done in late winter, when the plant is dormant and temperatures are above freezing.

"Pruning during the dormant season makes it easier to spot problem areas and place pruning cuts in trees that have lost their leaves," says Trevor F. Vidic of the Davey Tree Expert Co. "When new leaves sprout in the spring, they mask winter cuts."

There is some disagreement as to when trees that extensively bleed (exude sap) should be pruned. While Davey advocates

winter pruning of conifers, maples, horse chestnuts, birches, walnuts and cherries, the American Horticultural Society suggests mid-summer pruning (after new growth has matured) because they bleed even toward the end of their dormant season.

**Avoid topping**—"Proper pruning should not be confused with topping," Vidic notes. "Topping removes a tree's main leader and branches, resulting in stubs." Topping severely disfigures trees and results in "watersprouts"—weak limbs that are susceptible to damage from high winds or other adverse weather. Topping may also harm the tree's natural defense system.

Pruning, on the other hand, doesn't harm trees, if done properly. However, a pruning cut is a wound, and it is important for it to close quickly.

**The tools**—One key is to use sharp tools that are large enough for the job.

Long-handled tree pruners are excellent for hard-to-reach branches. Loppers, which can extend your reach and leverage, should be used for larger branches up to two inches in diameter. Hand pruners can be used on stems up to 3/4-inch diameter, while hedge shears can be used on all hedges except larger woody branches.

Hand-pruners and loppers are available with either anvil or by-pass blades. Anvil blades have a more efficient cutting action and are used on dry, hard and old growth. By-pass blades give precise, clean flush cuts that are ideal for new green growth.

**The cut**—Never make a random cut along a branch. Cutting in the middle of a branch will cause it to wither beyond the bud, providing a home for insects and disease. Try to select a bud pointing outward or in the direction you want new growth to follow. Cutting back to a bud or branch will stimulate growth at this point.

On smaller plants, be careful not to cut too close or too far away from buds.

For trees, keep the cut as small as possible and avoid "tearing" the branch. Try to cut on a 45-degree angle with the lowest part of the cut directly opposite and

*continued on page 24*

## A TIME TO PRUNE

### LATE WINTER/EARLY SPRING

- Summer blooming bushes and shrubs
- Fruit trees (after dormant-before bloom)

### LATE SPRING/EARLY SUMMER

- Spring blooming bushes and shrubs after bloom

### FALL

- Maples, birch, walnut, poplar

### ANYTIME

- Water sprouts
- Dead or diseased branches



## ANATOMY OF A TREE

- LEADER BRANCH
- PRIMARY/MAIN SCAFFOLD BRANCH
- SECONDARY SCAFFOLD BRANCH
- LATERAL BRANCH

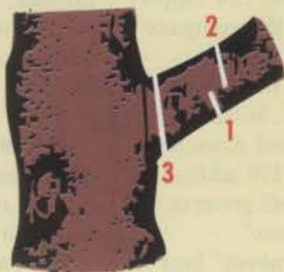
### STRENGTH IN ANGLES



- WATERSPROUTS
- SUCKERS

## 1-2-3 STEPS IN PRUNING

### LARGE LIMBS



### "V" CROTCHES



- 1) UNDERCUT-1/3 WAY THROUGH LIMB
- 2) TOP OF LIMB CUT
- 3) FINAL CUT-REMOVE LIMB

## THE PROPER CUT



CUT TOO LONG CAUSES DIEBACK.



CUT TOO CLOSE INTERFERES WITH BUD GROWTH



CUT TOO SLANTED EXPOSES TO DAMAGE



PROPER ANGLE AND DISTANCE PROMOTES HEALTHY GROWTH

**PRUNING** from page 22

slightly above the bud or branch of your pruning point.

On evergreens, do not prune into the inactive center of world-branched conifers because new branches won't form to conceal the stubs. When a leader is lost, replace it by splinting to a vertical position the upper lateral on the highest branch. Prune all laterals immediately below the new leader.

A thinning cut removes an entire branch at its base. When you remove a scaffold branch, make the cut at the main trunk; when you cut a lateral away, make the cut at a strong main branch.

Heading a branch back keeps the shoot attached but removes the terminal bud and reduces the branch's overall length by one-fourth to three-fourths. Heading back produces a more bushy, dense appearance than thinning cuts.

Dr. Alex Shigo, a recognized national authority on trees, cautions against making branch-removal cuts that are flush with the stem or the trunk. Instead, he

advises a pruning cut that leaves a small stub. Recent critics of Shigo's technique—which is based on plant physiology—advocate a cut between flush and Shigo's for aesthetic reasons.

**Tips on cutting—**

**1)** Use the one-third rules on trees. Never remove more than *one-third* of a tree's crown. Try to encourage side branches that form angles that are *one-third* off vertical. Ideally, main side branches should be at least *one-third* smaller than the trunk's diameter. For most deciduous trees, don't prune up from the bottom any more than *one-third* of the tree's total height.

**2)** Be sure to cut only the branch tissue, and not that of the stem or trunk. Also, be very careful not to injure the branch collar, cutting just beyond the collar ridges.

**3)** Always start by removing dead wood. Then remove damaged and diseased parts. Then remove water sprouts and suckers. Finally, deal with rubbing branches.

**4)** When sawing off a branch, support the part being cut so it doesn't rip the trunk's bark as it falls away. If the branch being cut is too heavy, use a double-cut. Make a preliminary cut one-third to halfway through the branch, cutting from underneath about six inches beyond the collar ridges. Next, make the first complete cut on the outer side of the preliminary cut. Saw until the branch falls cleanly away. Finally, make the second complete cut at the collar ridges.

**5)** Dip pruning tools in a disinfectant (undiluted alcohol or 10% solution of household bleach) after each cut when you work on infected trees to avoid spreading diseases.

—Sources: National Arbor Day Foundation, Holden Arboretum, The Davey Tree Expert Co., The Garden Council, Virginia Tech, The American Horticultural Society, Fiskar's Inc.

## Cabling, bracing trees properly protects long-term 'investment'

**Cabling and bracing can support both trees and your bottom line—but make sure you know what you're doing.**

by James E. Guyette

■ Tree care companies that provide cabling and bracing services can support at-risk trees, along with the company's bottom line.

"It can be a real profit-making operation," says Dr. Kenneth C. Miller, a tree pathologist with Miller and Associates, Ravenna, Ohio. "An \$80 to \$90 cabling job is not uncommon, and it will preserve the aesthetic value of the tree, too."

This type of service "moves" best in upscale neighborhoods but homeowners need to be informed of the increased value involved. "That's something the company owner has to train the sales person in," says Miller. "It's something you're not going to sell in a blue collar area, but it

works in a yuppie area quite well."

**The benefit**—"Trees are usually a long-term investment," points out Paul McFarland of McFarland Landscape Services, Philadelphia, Pa. "If clients want the beauty of the tree, they would invest in cabling to preserve the tree's structure."

In many communities, few tree care companies tackle cabling work. "Cabling and bracing is dragging its feet because people are afraid to get into it," says Dr. Alex Shigo, Shigo and Trees, Associates, Durham, N.H.

"I think cabling and bracing is an extremely good practice, but many people run from it because they don't know how to do it."

Not only must the people attempting cabling and bracing be experts at tree biology, but mechanical engineering skills are also required.

**Be careful**—Even a seemingly easy cabling job can bring trouble, too.

"They have to match all the coordinates together to get a good hold, (or else) they could really create a lot of damage," observes McFarland.

He knew one cabling job that went

awry when the cable broke and went through a greenhouse.

Miller is even more explicit. "Landscapers should stick with dogwoods" or other easy-to-handle trees, he says. Using pole saws and ladders, a company can probably prune branches up to 20 feet high without harming the tree. However, cabling and bracing is a different story.

"I don't know if a landscaper wants to get involved with cabling," Miller notes. Even guy wire installation can be costly if attempted by someone without the proper training. "He or she is going to wind up girdling the tree."

"A mark of a professional is that he or she is able to make a decision," notes Shigo.

"You have to be brave enough to talk to the client and say, 'I'm going to assign risks. Here is a tree I will cable and brace—and here is a tree I will not cable and brace.' If the client wants something else, get it in writing."

—The author is a freelance writer specializing in the green industry. He is based in South Euclid, Ohio.

# Monitor potassium levels for healthy turfgrass

**A healthy grass leaf contains 2.5 to 3.5 percent of potassium. The growing medium and cation exchange capacity are keys to potassium content.**

■ Most soils contain relatively large amounts of potassium ( $K^+$ ) the essential element for plant growth, often in quantities as much as two percent of the weight of the mineral portion.

At the same time, the concentration of potassium in the soil solution from which the grass draws its needs may be only 50 to 100 parts per million.

This relationship illustrates the reason why the total chemical analysis of a soil has little correlation with its ability to supply grass with a nutrient and why soil testing procedures were developed which were more closely related to plant growth.

The potassium in the leaf is not associated with the structure of any specific compound such as protein or carbohydrate in the leaf. It appears as a free ion in the cell sap and helps maintain the ionic and pH balance within the cell as well as with some enzyme functions.

In fact, when a leaf dies, most of the potassium contained in the leaf will be leached out by the rain and returned to the soil.

The major portion of the potassium in the soil is found as an element in the structure of clay minerals and sand grains originating from the mica and feldspars in igneous rock.

Over many years, the potassium-containing minerals mica and feldspars break down. The potassium released due to this breakdown may become part of the structure of secondary minerals known as clay minerals or become exchangeable ions in the soil solution.

The potassium which is part of the clay structure is considered slowly available to the soil solution and can slowly recharge the potassium in the soil solution over a period of weeks or months. The rate at which the restructuring or breakdown of clay minerals releases potassium is known

as the potassium supplying power, and can vary significantly between soils.

Potassium taken up by the plant is composed of potassium in the soil solution and the exchangeable potassium.

**Cation exchange**—Cation exchange occurs when compounds or minerals are surrounded by a sphere of negative electrical influence.

This gives them the ability to attract positively charged ions. Ions such as potassium, calcium and magnesium carry a positive charge, and are attracted by the negative charge the same way the north pole of a magnet attracts the south pole.

Cation exchange is also a property of

clays and thus are more fertile due to a higher CEC.

There is little the turf manager can do to alter the amount or type of clay in his soil. He can, however, increase the humus content by returning clippings, top dressing with composted organic materials and use management practices which favor a dense, deep root system.

Don't look for immediate results; this is a slow process.

**Sports field CEC**—Sports fields built on an all sand rooting medium will have a very low CEC as evident from the above discussion. The lack of any CEC in sand is one of the reasons many designers will advocate the inclusion of a small amount (three to 10 percent) of natural top soil in the mix.

Attention to the potassium nutrition of turf growing on a sand system is critical. More frequent applications will be

## HUMUS/CLAY MINERAL POTASSIUM RETENTION THROUGH CATION EXCHANGE

	(grams potassium/kg. material)
Humus	78
Montmorillonite clay mineral	39
Illite clay mineral	15.60
Kaolinite clay mineral	3.12
Sandy loam low in organic matter	0.76
Sandy loam high in organic matter	3.90
Clay loam with kaolinitic clay mineral	1.56
Clay loam having illite clay minerals	21.45

large organic matter molecules, particularly when present as humus, because they also have a negative "sphere of influence" Since clay minerals and humus have a negative sphere of influence and therefore attract cations, the cations are held from leaching in the percolating ground water.

**Cation exchange capacity**—The ability of a soil to retain all cations by the exchange system is called its cation exchange capacity (C.E.C.). The CEC of a soil depends on the amount of organic matter, the amount of clay and the type of clay found in the soil. The silt and sand fractions do not have a negative charge, so they have no effect on the CEC.

The type of clay mineral which makes up the clay fraction has a large influence. Clays found in the tropics tend to be the kaolinitic types with a low CEC. Clays found in the temperate regions such as Canada have illite to montmorillonite type

required. A soil testing system will give a reading on the potassium primarily in the soil solution, potassium which may be quickly lost by excessive rain or irrigation. There will be little reserve in the cation exchange system.

The turf manager must decide the economics of frequent light applications of soluble forms of potassium versus the cost of the coated materials. There is little research available to guide him regarding the application timing of slow-release potassium.

All potassium fertilizers, with the exception of controlled release forms, are water soluble. As a result, they can cause foliar burn when applied at high rates or where there has been an over application due to equipment failure or operator error.

—by R.W. Sheard, P.Ag., writing in the *Sports Turf Newsletter*.

# New horizons in disease control

**New formulations, packaging and use rates make control products easier to use and more effective, as the green industry charts its course into the new century.**

*Control product manufacturers and end-users continue to find better product formulations and new strategies for prevention at lower rates.*

*Here's an exclusive look at some of the people—from manufacturers, to research professionals, to superintendents—who are finding new ways to get the job done.*

*—Terry McIver, Managing editor*

## Summer decline less complex with new control combination



**The edict that golf greens be "short and fast" puts added stress on turf root systems, which adds to disease control problems.**

■ Just three years ago, few people understood what caused summer decline complex on bentgrass golf greens. Even worse, no one knew how to control it.

In 1992, North Carolina State University researcher Dr. Leon Lucas found that 4-8 oz. of Chipco Aliette WDG and 4-8 oz. of Fore WP brand fungicides—applied every 14 days—provided excellent control.

Tests conducted in South Carolina by

Dr. Bruce Martin and research in other states have confirmed Dr. Lucas's results.

"We're seeing more evidence that high levels of fertilizers and especially potassium fertilizers, contribute to the onset of pythium diseases," says Lucas.

"For years there has been a move toward using more potassium because many people feel it helps turf tolerate heat and drought better. This seems like the ideal thing to do if you want to help cool-



season turf hold up better during the summer.

"But the levels of soluble salts are climbing too high, and we're seeing a clear connection between high amounts of salts from fertilizers and disease damage. These high salt levels can develop quickly on new, high-sand-content green mixtures with low cation exchange capacities.

"Applying high levels of potassium can cause direct damage to roots and stolons, making them more vulnerable to infection from pythium and rhizoctonia species," Lucas explains.

"In addition, it is believed that potassium may create a favorable environment in which pythium species can more easily reproduce."

Lucas recommends using potassium at rates of 5-6 lbs./1000 sq. ft. each year, provided potassium levels are monitored through soil tests and tissue analyses.

"In many of the cases where we see summer decline complex being most severe, we also see high levels of soluble salts in the soil," reports Lucas.

"Roughly 150-250 parts per million should be sufficient for optimal plant growth. As an extra precaution, I recommend one-half the recommended rate twice as often to further protect against injury. When I find salt levels above 300 ppm during dry weather, root rot and decline of bentgrass is more severe."

It is important to note, Lucas emphasizes, that the same soluble-salt fertilizer levels that are completely harmless during wetter weather may actually cause injury during drier periods. The only way to remove the high salt levels is to apply enough water to leach the salts deeper into the soil. Applying this extra water during hot weather, however, can actually encourage disease development.

**New formulations**—One new tool

superintendents now have for enhanced protection from summer decline complex is the option of using the flowable formulation of Fore fungicide.

Because of earlier difficulties with maintaining a suspension of the formulation, recommendations initially called for Chipco Aliette WDG fungicide to be mixed

remain healthy throughout the summer."

According to Lucas, the combination has been used on bermudagrass, with good results.

"We don't fully understand all the synergistic effects of combining Chipco Aliette and Fore just yet," says Lucas, "but it does provide enhanced disease control. We also see improvements in turf quality that cannot be attributed to disease control alone."

Despite the enthusiastic reports from superintendents throughout the U.S., Dr. Lucas still stresses the importance of accuracy in applications. Of critical importance with the Aliette/Fore combination is timing. For best results, apply the combination in early summer, when daytime temperatures reach the high 80s or low 90s, and when night time temperatures remain near 70 degrees.

"It's also important that superintendents continue making the applications at 14-day intervals throughout the summer as long as heat and humidity remain high," says Lucas. "Some people have waited until later in the season, or have tried applying the combination every four to six weeks when they see clear symptoms of decline. They do get significant curative effects but not nearly the dramatic improvements in turf quality and disease control that you get from being on the regular program."

**Precautions**—Research in 1994 showed a potential for phytotoxicity and thinning on high sand content greens when using the combination at the 4- and 8-oz. rates on newly-emerged bentgrass seedlings. Thinning was not observed on plots treated with Aliette alone. Based on these preliminary observations, caution should be used when treating newly

*New Horizons in disease control  
continued on page 28*

### Turf Quality and Color of Bentgrass Tests Conducted at North Carolina State University

Pesticide(s)	Turf Quality (Scale: 1-9)	Turf Color (Scale: 1-9)
CHIPCO® ALIETTE® WDG (4oz.) + Fore® FLO (13fl. oz.) + Blendex (1.25oz.)	8.5	7.8
CHIPCO® ALIETTE® WDG (4oz.) + Fore® WP (8oz.)	7.8	7.5
CHIPCO® ALIETTE® WDG (4oz.) + Dithane WP (8oz.)	5.8	6.0
Control	3.3	4.0

Note: Rates are in oz./1,000ft. Fungicides were not washed off of leaf surfaces (watered in) after application. Blendex® was used at a rate of 0.5 oz./gal. of mix; 2-5 gal. of water used/1,000ft. Turf quality rated 1-9, with 9 being best. Turf color rated 1-9, with 9 being the darkest green. July, 1994 - NCSU

#### Chipco Aliette and Fore: data from research of Dr. Leon Lucas.

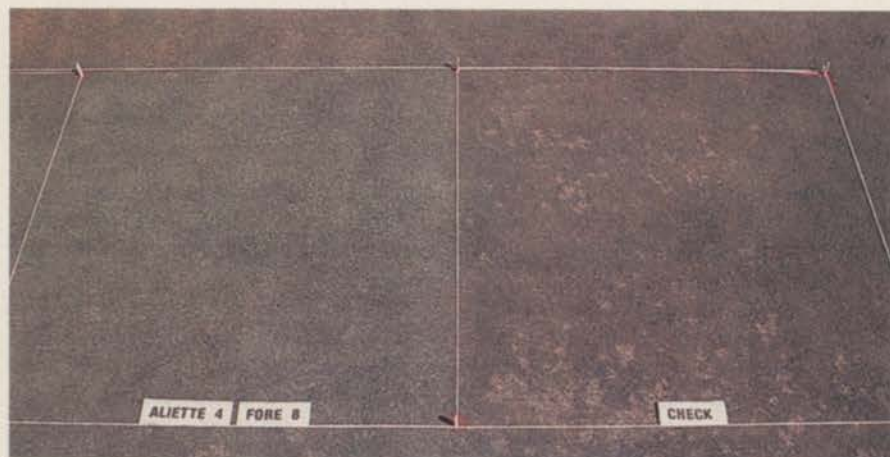
with Fore WP.

But research conducted by Dr. Lucas in 1994 shows that Chipco Aliette WDG can be mixed with Fore Flowable, provided that a compatibility agent is also used.

"We wanted to make sure this combination with Fore Flowable was safe and effective," explains Lucas. "What we found was that it actually provided even better turf quality than with Fore WP."

Superintendents have also begun using the fungicide combination on other grasses. Although formal scientific research is just getting started for many of these applications, reports from superintendents so far have been very positive.

"Some people have used the combination on other cool-season grasses such as tall fescue and had excellent results," reports Lucas. "I've personally seen two cases where the combination was used on home lawns—one with tall fescue and one with zoysia grass—and there was a dramatic improvement in the grass' ability to



The Aliette/Fore combination performs well on test plots in North Carolina.

## Product mix proves two can be better than one

■ When dollar spot got in the way of his brown patch research, Dr. Pete Dernoeden tried a product mix that today is a new product for disease control.

The University of Maryland professor of agronomy was testing AgrEvo's Prostar 50 WP fungicide. "Before we could collect our brown patch data," remembers Dernoeden, "dollar spot would appear and wipe out our plots."

improved control of both diseases, with brown patch control going from 14-21 days to 21-28 days.

"The product combination appears to have an additive effect," says Dernoeden. "In other words, mixing the two products together provided better control of brown patch (rhizoctonia blight) than would have been expected with a normal use rate of Prostar alone."

### Symptoms

■ On bentgrass golf courses, rhizoctonia blight symptoms first appear as tan blotches or lesions with reddish-brown margins.

The foliar blighting caused by rhizoctonia has a distinctive brown cast surrounded by a smoke ring effect when grass is wet. Large areas become blighted very quickly.

Rhizoctonia blight can often be misdiagnosed as pythium blight.

Couch recommends the Agri-Diagnostic kit now available to turf man-



agers. The chemical test is easy to administer and provides results in 20 minutes.

"Once turf managers know they have rhizoctonia blight, we suggest they spray with Prostar or Prostar Plus the first time that nighttime temperatures remain above 70 degrees," says Couch. "Temperature is the real key to rhizoctonia control, but when it also becomes humid, the fungus starts colonizing and you can get some serious disease outbreaks."

To gain control of the dollar spot problem, Dernoeden mixed Bayer Inc.'s Bayleton turf and ornamental fungicide with the Prostar. The combination

"A rate of two ounces of Prostar WP and one ounce Bayleton 25 DF per 1000 square feet provided a level of control equivalent to four ounces of Prostar."

emerged bentgrass greens. Tests are scheduled for this year to further verify any potential problems.

Lucas emphasizes the need for continued sound management practices, including fertilization levels, soil aeration as needed and air circulation around the greens.

"To get the best results, you have to look at the big picture and consider the entire biological system in which grass is grown."

**On the market**—The combination control product is now available as a "twin-pack," under the name Prostar Plus. After more than 50 university trials in 10 different states over seven years, brown patch control is consistent even under high disease pressure, according to AgrEvo.

Prostar Plus is packaged in water-soluble bags containing the lowest rates of both products. Each twin-pack covers 12,000 sq. ft. of turf at the normal usage rate. In addition, the combination provides control of 17 other turf disease, including pink and gray snow mold, summer patch, pink patch and Southern blight.

Another researcher who tested the product combination is Dr. Houston Couch of Virginia Tech. Couch described control of brown patch and dollar spot on a tall fescue sod farm as "extremely effective." An advantage of the tall fescue test was that researchers were able to count diseased leaves rather than estimate the percentage of blighted areas on bentgrass.

Couch recommends turf managers follow a preventive program of disease control rather than take a curative approach.

"They'll actually use less product this way," says Couch. "But the first step in proper disease management is accurate disease identification. Managers need to make sure which disease they are spraying."

Both Dernoeden and Couch suggest preventive brown patch control, during the first or second week in June on cool-season turf.

# Superintendent takes preventive measures

■ An integrated management approach based on preventive disease control measures works wonders for golf course superintendent Scott Werner, CGCS, of the Lincolnshire Fields Country Club, Champaign, Ill.

Werner's success begins with a turf foundation based on proper fertilization. By stimulating a healthy turf, Werner believes he wards off diseases and weeds that usually accompany stress conditions.

"Our goal is a fairly moderate rate of growth," says Werner. "We don't want any excessive periods of heavy growth which stress the turf and detract from playing conditions."

The greens at Lincolnshire are fertilized every two to four weeks, depending on conditions. Werner uses low rates of N, which means he can make applications more frequent without paying for it with rapid growth.

The fertilizers are high in potassium, to promote turfgrass vigor and stress tolerance, and a healthier, more vertical and upright growing plant.

**Soil problems**—The golf course that is Lincolnshire Fields was carved out of what Werner calls "good 'ol central Illinois dark, heavy loam." It retains water, drains poorly, and is prone to compaction in heavy traffic areas. After a heavy rain, the ground becomes water-logged or the water just sits on the surface.

"The soil type has a great effect on disease problems, particularly pythium blight, which is a water mold disease," says Werner. "We have a difficult time controlling diseases in those areas that don't drain well."

Dollar spot and brown patch frequently appear on the course, and Werner does his best to combat them. Subsurface drainage tiles have been installed, and he aerifies often with a Cushman GA60.

When necessary, preventive fungicides are brought into play.

"When you detect disease," says Werner, "a certain amount of damage has already been done."

"Given the fact that we work around play schedules and golfers, it would take us days to treat for a widespread outbreak.

By that time too much damage is done. We feel we can be more successful, cost-effective and use less total fungicide each year by treating the course preventively."

Greens are treated on a two-week rotation. Tees and fairways are covered every three to four weeks.

**Tank mixes**—Werner tank mixes systemic and contact fungicides, using several different products that complement each other's strengths and weaknesses. Though he follows label recommendations, he prefers the low-end rates and looks for synergy between products.

Werner mixes traditional sterol inhibitors—such as Banner and Bayleton—with contact fungicides—Thalonil, thiophanate, Chipco 26019, Vorlan and Curalan. He says the results have been favorable, especially in terms of product performance and turf safety. Pythium control was exceptional after applying the combination of Fore and Aliette.

Werner is trying combinations of newer products, such as Eagle fungicide, a newly-registered systemic from Rohm & Haas Co.

Werner looks closely for effectiveness and turf safety in the products he uses. Length of control is also very important. If a product passes his standards, it must then be as cost effective as his current line-up.

The superintendent tested Eagle for three years as an experimental product. Werner compared Eagle in side-by-side comparisons with Banner, Bayleton and Daconil for dollar spot control, one of the worst disease problems at Lincolnshire Fields.

Werner recommends Eagle in the fight against turf disease.



**Scott Werner and a view of Lincolnshire Fields. Werner considers product efficacy, safety and length of control.**

"We need all the products we can to control diseases and prevent resistance," he says.

**Cultural accompaniments**—Werner balances management practices to encourage turf vigor and discourage disease.

Werner overseeds perennial ryegrass at a rate of 200 to 300 lbs. per acre for tees and fairways in late summer and early fall. The overseeding contributes to healthier turf at times of heavy disease pressure.

Spring verticutting toughens the turf for the heavy play that summer brings. Grooming reels or turf groomers also provide a very light verticutting with each mowing.

A new computer-controlled irrigation system is almost completely installed.

It uses an on-site weather station to accurately monitor loss from the turfgrass and soil.

With the data, Werner can determine his irrigation needs and schedules. During the stressful summer months, he can let the computer program each day's irrigation automatically. The coverage and control of this new system allows for more accurate and efficient irrigating, which uses less water.

*New horizons in disease control continued on page 30*



Spring verticutting prepares greens for heavy play at Lincolnshire Fields.

Taken as an integrated plan, turf aerification, fertilization and irrigation provides the best possible turf conditions, explains Werner.

All of which is important when you consider the speed with which a disease problem can grow.

"If we don't practice good disease prevention and control," says Werner, "in a matter of days an untimely outbreak of disease could ruin all our good work."

## Social responsibility results in new 'vision'

■ Turf and ornamental chemical manufacturers must be able to adapt to the continuing changes in product regulations, market needs and technology as the start of a new century approaches.

Those changes include attention to programs for lower product rates, waste water reduction and innovative packaging.

Ciba Turf & Ornamental Products, for instance, has established "Vision 2000," which includes attention to social responsibility, environmental protection and economic growth.

"These elements will enable us to forge partnerships with green industry customers as we move closer to the year 2000," says company director Bill Liles.

Like many companies that manufacture control products for the green industry, commitment to exceeding regulatory standards is one of Ciba's self-imposed mandates.

One Ciba facility began a water recovery program and reduced waste water by 99 percent. Overall, company manufacturing facilities are well ahead of regulation standards which go into effect in 1998.

Membership—and involvement—in professional associations is a key aspect of some companies' commitment to the green industry. Ciba also co-sponsors educational programs such as the Audubon Cooperative Sanctuary Program for Golf Courses and scholarship funds for the children and grandchildren of golf course superintendents (the Legacy Awards).

Ciba and other manufacturers continue to offer products that can be used at low rates, while protecting soil and water resources. Low-rate products from Ciba include Banner, a broad spectrum fungicide.

Closed packaging systems limit user and environmental exposure to turf protection products during mixing. Ciba's turfPak is a returnable and refillable micro-bulk container.

Wettable powder and gel formulations in water-soluble packages are other innovations.



**Ciba's Bill Liles: stresses training and continued education.**

**Economic growth**—To ensure economic growth and a strong industry, product manufacturers go beyond simply supplying customers with a product. The next step is to provide customer and industry support.

"When a customer buys our product, they receive much more than just the packaged chemical," says Liles. "Included with that purchase is our guarantee of quality products, training and continuing education and nationwide industry support."

Liles urges customers to continue to support products labeled specifically for the green industry. Otherwise, he fears, "there is a serious risk that companies like ours will no longer be able to afford steep registration costs."

"The journey (a product takes) from test tube to market costs between \$15 million and \$30 million, and takes from seven to 10 years," Liles explains.



**The 'turfPak' system as designed by Ciba limits pesticide exposure, speeds application time and ends package disposal problems.**

# PRODUCT REVIEW

## Sound barriers install quickly, last a long time

The new Sylvia Outdoor Sound Wall uses prestressed wood that provides fast and easy installation, substantial cost savings and lasts two-to-three times longer than conventional sound walls.

Sound barrier units include wooden frames made of vertical and horizontal drilled prestressed wooden beams which surround either solid wood sound-reflecting panels or sound-absorbing panels filled with foam or mineral wool.

Frames that are longer than 13 feet need an additional supporting beam. A metal link runs across the top of the supporting concrete foundation blocks, which are placed eight to 30 feet apart, while a prestressed vertical pole secures the panel and bottom joist.

Prestressing increases the stiffness and



vertical stability of the wood panels, and provides enhanced impact resistance.

**Circle No. 191 on Reader Inquiry Card**

## Attachment reaches highest limbs with ease

The Hedger attachment from Technic Tool Corporation is designed to quickly and efficiently shape, prune, trim and thin hedges, brush and limbs up to 1-1/2 inches in diameter.

The cutting lade is made from hardened spring steel for longer teeth life.

The Hedger attaches easily to the end of the Technic Tool Power Pruner, and allows users to safely reach and trim in areas they couldn't reach with a reciprocating hedge trimmer.

The portable Hedger weighs less than two pounds and has a steel guard for operator safety.

The Hedger is available for both the standard and insulated Model D Power Pruners.

**Circle No. 193 on Reader Inquiry Card**

## Doppler radar predicts patterns and severity of thunderstorms

Accu-Weather, Inc. has made its proprietary StormVue Nexrad Doppler radar product available to the green industry.

Storm Vue predicts the path of thunderstorms. Individual thunderstorms are

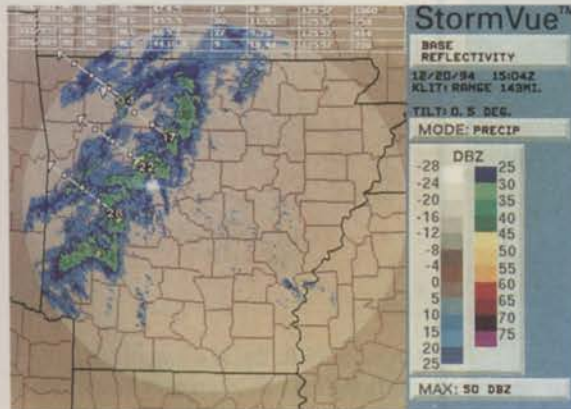
locations of storms. Boxes along the storm track indicate future positions of the storm at 15 minute intervals.

Accu-Weather's StormVue can be overlaid onto any of the 20 color graphic Nexrad Doppler radar products from any of the 88 Nexrad sites currently available from Accu-Weather.

The Nexrad storm information table identifies individual thunderstorms and contains valuable detailed information on the severity and movement of those storms. The storm information table even indicates which storms are producing hail, rotating and/or may be producing tornadoes.

Accu-Weather also allows users to overlay the storm information table onto any Nexrad product from any available site.

**Circle No. 192 on Reader Inquiry Card**



identified and highlighted within a boxed area. Predicted storm paths are displayed as a line or storm track.

StormVue also shows actual future



## Erosion control fabric keeps roads safe from mud slides

Traffic accidents caused by mud washing onto roads in Tucson induced city officials to provide protection against erosion on the city's new Kolb Road.

Armater geocell erosion fabric made by Akzo Nobel was used. Armater is a three-dimensional, semi-rigid geomatrix designed to provide erosion protection around the most demanding engineering and excavation projects where vegetation is scarce, as in earth and slope surface reinforcements, highway embankments, headwalls and pipeline installations.

The Armater stabilizes the surface of earth and fill structures, and offers excellent slope protection and support. It provides permanent erosion control with a non-woven, polyester fabric structure that is permeable, lightweight, rot-proof and strong.

Armater's distinctive honeycomb shape may be filled with sand, clay, gravel or other native soils to assure stabilization and erosion prevention.

**Circle No. 194 on Reader Inquiry Card**



## Walk-behind or ride new mower

The WR-1752 mower, from Rich Manufacturing is a commercial quality rotary mower that converts from riding unit to walk-behind mower without the use of a sulky or pull-behind device.

The mower goes from ride to walk positions while the machine is in neutral gear by removing a one-pin connector.

Hydrostatic transmission is by Hydro-Gear, and is combined with a gear reduc-

tion axle to reduce high pressure hoses and provide more space.

The mower was tested and developed during more than 7000 hours of lawn maintenance use.

The WR-1752 is powered by a 17-hp Kawasaki engine, and the mower uses a concentric shaft and chain-actuated control system.

**Circle No. 195 on Reader Inquiry Card**



## New gear box ready to go for outdoor equipment

Noram introduces a gear box that can be bolted on to standard three-to six-hp engines without modifying the engines for outdoor power equipment.

The Noram gear box has 6:1 gear ratio, enables engines to maintain a normal output capacity of 10-hp, and produces a



torque of 15 ft. lbs. at a lower RPM.

It features an aluminum transmission case, heat-treated, sintered metal gears, and ball-bearing PTO shaft which accepts standard, 3/4-inch crankshafts.

Custom PTO shafts are also available.

**Circle No. 196 on Reader Inquiry Card**

# We'll keep the pesticide industry from becoming a victim of air pollution.



Ahh, television news in the 90s.

Tabloid journalism has sneaked its way onto the airwaves. And the pursuit of facts seems to have been replaced by the pursuit of ratings.

So the specialty pesticide industry needs a media watchdog that not only watches. But that also takes action.

Fortunately, we have one.

RISE. Responsible Industry for a Sound Environment.

RISE is a coalition of manu-

facturers, formulators and distributors from all areas of the specialty pesticide business.

In addition to promoting environmental stewardship, RISE makes sure the media doesn't report misinformation as fact.

We also hold editorial meetings with media decision-makers. And respond to negative articles or broadcasts that are incorrect. We've been very successful so far. Not surprising considering what

our most powerful weapon is. The truth.

Of course, there's still a lot more work to do. But rest assured, RISE is up to the task.

Because we know if we eliminate air pollution, the pesticide industry can breathe a lot easier.



1156 15th St., N.W., Suite 400,  
Washington, D.C. 20005. ©1995 RISE RISB-0047

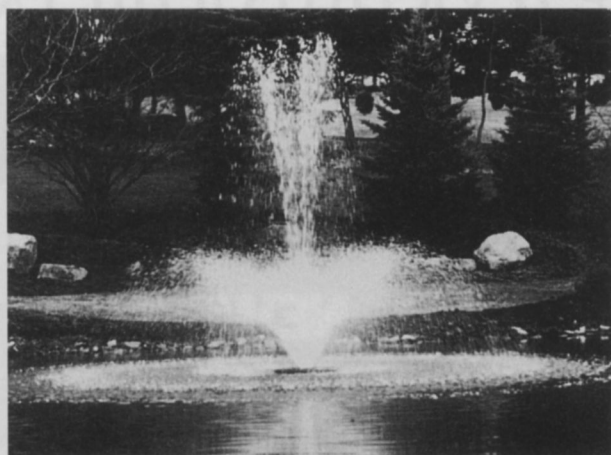
## Aeration series includes three interchangeable patterns

The Fractional Series by Otterbine uses many features from the company's other aeration systems, at a fraction of the cost.

The company describes the units as perfect for small ponds in housing developments, commercial complexes or golf courses. The line of high quality water features includes the "Starburst," "Phoenix" and "Rocket" spray patterns.

The "Phoenix" and "Rocket" patterns can be varied in height and diameter by adjusting the diffuser ring.

The units run on 1/2 hp, and



are made of stainless steel and thermal plastics. Each unit in the fractional series comes with 100-foot of power cable, st/st debris screen and a mini power center as standard features. The power center includes ground fault interrupter and a 24-hour on/off timer. As the motor is cooled by water rather than oil, the unit requires no maintenance.

Each Otterbine aerator system is electrically safety tested and approved as a package by ETL and ETLc.

**Circle No. 197 on Reader Inquiry Card**

## New tall fescue more drought tolerant, darker

Crossfire, the turf-type tall fescue that dominated the top rankings in the National Turf Trials a few years ago, will soon be available in a significantly improved reselection from Pickseed West, Inc.

The new variety, Crossfire II, is ideal for hotter areas of the country. Recently, Crossfire II was the top variety out of 91 tested in Mississippi turf trials, and number two in Georgia.

Crossfire II also ranked number one for versatility in the 1993 Rutgers trials.

The improved Crossfire II has an increased endophyte level of more than 80 percent. It features a darker green color, improved turf quality and better drought tolerance than its predecessor.

**Circle No. 198 on Reader Inquiry Card**

## Mulch leaves two ways with versatile mowers

The Cushman 6150 riding rotary mower is available with a choice of two leaf mulching kits.

The kit's heavy-duty screens adapt to either 35- or 41-inch cutting decks, and encase the blades for uniform mulching. Rear rubber deflectors help to evenly distribute the mulched leaves, thus improving the appearance of the grass.

The 6150 is designed to be used on large turf areas. Its "wing" configuration allows for cutting with one, two or all three decks. The mower also features a zero turning radius, four-wheel drive and a 7-acres/hour capacity.

**Circle No. 199 on Reader Inquiry Card**

## Flowable fungicide more concentrated

Sostram Corporation, maker of the Echo line of fungicides, has introduced a new, more concentrated Echo 720 Turf



and Ornamental flowable chlorothalonil fungicide for broad-spectrum disease control, including dollar spot, large brown patch, red thread, Helminthosporium leafspot and melting out.

With 6 lbs./AI/gal., Echo 720 delivers more disease control activity per ounce with less material applied per treated acre.

The more concentrated formulation provides better cost effectiveness thanks to labor-saving handling, less storage space requirements and fewer container disposal problems. Echo's technical chlorothalonil exceeds 99 percent pure active ingredients.

**Circle No. 200 on Reader Inquiry Card**

## Software provides degree-day forecasts

Spectrum Technologies, Inc. has an affordable Growing Degree Days software program that helps track growth factors needed to determine approximate growth stages.

You also can make better management decisions regarding fertility, insects, diseases and weeds.

The software program is designed to help the turf manager eliminate manual calculations and growing degree-day record keeping. Use the speed and convenience of your computer to determine growing degree days.

Users can select up to six different crop and field combinations, along with their respective lower and upper temperature thresholds. To operate, simply indicate the particular planting date and click the "calculate" button to display degree days for that period.

**Circle No. 201 on Reader Inquiry Card**

## Pump priming, pressure control for PTO pumps

The 6010 Series control unit from UDOR USA, Inc. is designed for easy pump priming and pressure control.

The 6010 is used for controlling pressure and by-pass on positive displacement pumps up to 18 GPM and 300 PSI.

The control was originally designed for gasoline engines, but can now be used on PTO-driven pumps.

Body parts and seals are suitable for use with most insecticides and herbicides.

**Circle No. 202 on Reader Inquiry Card**



### T&O herbicide controls variety of weeds

Fusilade II, a turf and ornamental herbicide from Zeneca Professional Products, has been approved by the Environmental Protection Agency.

Fusilade II is a selective post-emergence herbicide for controlling a wide variety of annual and perennial grass weeds.

Fusilade II controls grass in ornamental nongrassy plants, trees, shrubs and ground covers grown in commercial greenhouses and nurseries. It can also be used to suppress and eventually control some problem grasses in commercial turf areas, as well as turfed areas on golf courses.

Fusilade II controls virtually all grass weeds in non-crop areas, including airports, electric transformer stations and sub-stations, around buildings, on roadsides and on rights-of-way areas.

Circle No. 203 on Reader Inquiry Card

### New formulations for natural biostimulants

Roots 2 and ironRoots 2 biostimulants have replaced their original "parent" products this year, according to Roots, Inc. The company describes the new products as more useful and effective than its first biostimulants.

ironRoots 2 is a natural biostimulant that contains four percent fully-chelated iron phosphate-citrate for improved stress tolerance and appearance in turfgrass and acid-loving plants.

Roots 2 enhances growth—plants grow greener with larger roots—and also greatly improves fertilizer efficiency, allows reduced nitrogen rates, provides greater stress resistance and improves both growth rates and aesthetic values of turf.

Circle No. 204 on Reader Inquiry Card

### Barrier lotion protects skin from poison ivy

Trailside Poison Ivy Barrier protects the skin from exposure to poison ivy infection by forming an invisible non-greasy barrier film. Clinical results show that up to six hours of protection can be provided when used as directed prior to exposure. Lab test data show effective barrier action for as long as 15 hours.

The hydrophillic barrier lotion is the result of years of extensive laboratory and clinical testing.

Circle No. 205 on Reader Inquiry Card

### New turf fungicide has wide control spectrum

Eagle WSP turf fungicide is expected to benefit golf course managers, who need a wide spectrum of disease control, coupled with excellent safety to all types of turf-grasses.

Eagle, which received an EPA registration last spring, is manufactured by Rohn & Haas. In tests, it provided consistent control of brown patch; dollar spot; leaf

spot; melting out and crown rot; leaf smuts; necrotic ring spot or spring dead spot; powdery mildew; red thread; rusts; Septoria leaf spot; summer patch and copper spot or zonate leaf spot.

The new systemic fungicide can be used as a protectant fungicide and also provides post-infection activity. Recommended rate is 0.6 oz./1000 sq. ft.

Circle No. 206 on Reader Inquiry Card

## PRETTY AS A PICTURE



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Circle No. 105 on Reader Inquiry Card

## Irrigation controller allows for system expansion in changing site conditions

The new XF-416 Controller from the Irrigation Division of The Toro Company allows commercial and large residential users to expand their irrigation systems as site demands change.

The flexibility is provided by advanced modular technology; four-station expansion modules upgrade the standard, eight-station controller to 12 or 16 stations as needed.

The controller is easy to program and

maintain, and features four, fully-independent irrigation programs that can be assigned to any station.

The Toro SurgePro system safeguards each module against lightning damage and power surges.

In addition, a built-in sensor port can be used with the Toro Rain Switch to prevent water waste by allowing automatic system shutdown.

**Circle No. 207 on Reader Inquiry Card**



## Fungicide available as water-soluble packets

DowElanco announces the introduction of Rubigan 50WSP fungicide in water-soluble packets.

Rubigan 50WSP contains new Worker Protection Standard information, personal protective equipment specifications and per-acre rate specifications.

Each case of Rubigan 50 WSP contains four handy, non-tear pouches. Each pouch can be resealed and contains eight, pre-measured, water-soluble packets.

The water-soluble packaging ensures faster dissolve time and optimum tear strength of individual packets for easier use and applicator protection.

Rubigan 50WSP prevents and treats all major patch disease. It is the only fungicide on the market guaranteed to provide 80 percent control of summer patch, necrotic ring spot and Fusarium blight.

Rubigan 50WSP controls 14 difficult diseases, including dollar spot, anthracnose, snow mold and spring dead spot.

**Circle No. 208 on Reader Inquiry Card**

## Service provides wind speed, humidity maps

Golf Communications, Inc. now provides subscribers with wind speed maps and humidity maps.

Three humidity maps are included in the kits. The first updates every three hours and includes a color display of humidity in 10 percent increments.

This package also includes two humidity forecast maps showing expected conditions for the next two forecast periods.

Forecast periods are at 6 a.m., 12 p.m.

and 6 p.m.

Weather Express wind maps include three different wind map displays.

The first map updates hourly and includes a color display of wind speeds plus arrows which depict wind direction.

Two wind forecast maps show expected conditions for the next two forecast periods.

**Circle No. 209 on Reader Inquiry Card**

## Bermudagrass turf established from seed

Farmers Marketing released NuMex Sahara, the first turf-type bermudagrass from seed, in 1989.

In 1995, Farmers Marketing has released Princess bermudagrass, developed by the same plant breeder, Dr. Arden Baltensperger of New Mexico State University.

Princess is a very dark green color that compares favorably with the sterile hybrid bermudagrass varieties.

It is dense and very fine-textured compared to most bermudas, according to the company.

Princess seed will be available in limited quantities later this year.

**Circle No. 210 on Reader Inquiry Card**

## Label expands control of indoor, outdoor pests

Thanks to a new, EPA-approved label, Ciba Turf & Ornamental Products' Citation can be used to control several damaging insects in most indoor and outdoor nursery settings.

Citation's new label includes control of Dipterous leafminers and fungus gnats in landscape ornamentals, container-grown

ornamentals, house-grown ornamental bedding plants and ornamental crops and interiorscapes.

Citation may also be used to control shore flies on greenhouse-grown ornamental crops and interiorscapes.

The previous label only included control recommendations for leafminers on container-grown chrysanthemums in greenhouses.

Citation's new label includes a number of the most popular landscape plants, including gerbera daisy, baby's breath, impatiens, marigold, poinsettia and verberna, among others.

**Circle No. 211 on Reader Inquiry Card**

## Irrigation software for residential, commercial

Rain Bird's RainCAD-Lite is a new Irrigation & Landscape Design software program made for use by residential and light commercial design/build contractors and irrigation designers.

RainCAD Lite includes estimate and proposal functions, and performs a complete material takeoff.

Automated sprinkler placement can be diagrammed along a line or curve, or in square and triangular patterns.

An automated lateral line and main line pipe sizing and design enhancement tools such as total system flow calculations are included.

RainCAD Lite comes complete with more than 200 customized symbols for sprinklers and accessories plus choices for title blocks, north arrows, hatching patterns and line styles. An on-line tutorial and on-line help screens are included.

**Circle No. 212 on Reader Inquiry Card**

# TECHNICAL REFERENCES

## for Landscape Professionals



### Interior Landscape Design

by Nelson Hammer, ASLA

LSM-BK-800 .....\$65.00

This reference discusses the basic principles of interior landscape design and covers such topics as tree planting, designing large

planting beds, balcony plantings, cost estimation, natural and electric lighting, irrigation and more. Particularly useful to those in the field are five case studies which demonstrate design and construction processes for an interior landscape project. 288 pages, hardcover.



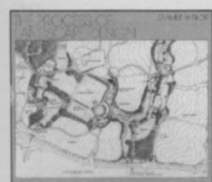
### Urban Trees A Guide for Selection, Maintenance, and Master Planning

by Leonard J. Phillips, Jr.

LSM-BK-801 .....\$37.00

This complete guide to urban tree care and planning covers

everything from new methodologies for cataloging existing trees to selecting the right species for your climate and site to running a high-power, cost-saving maintenance program and much more. Landscape architects, urban foresters, municipal administrators and students will learn how to develop effective municipal street tree master plans, take street tree inventory, choose the best trees for a community, care for trees and promote public awareness. 273 pages, hardcover.



### The Process of Landscape Design

by Seamus W. Filor

LSM-BK-802 .....\$40.00

Five completed projects

illustrate the general principles followed by landscape architects in developing designs from concept to implementation. Each case includes a summary of the principles which generated the design; a study of the architect's response to special conditions; a description of the stages of development; and an assessment of performance since completion. The five projects cover: landscape planning, urban regeneration, new town development, university campus and recreational development. 160 pages, hardcover.



### Landscape Architecture

#### A Manual of Site Planning and Design

by John Ormsbee Simonds

LSM-BK-803 .....\$73.00

Written for landscape architects, architects, planners

and engineers, this book features descriptions of proven procedures, includes useful charts, tables, checklists and teaching diagrams, and offers innovative ideas and fresh thoughts of direct application in the design studio, drafting room and field. 331 pages, hardcover.



### Turfgrass Science and Management

by Robert D. Emmons

LSM-BK-805 .....\$37.50

Intended for turfgrass managers and students, this text discusses the establishment and maintenance

practices used by successful turfgrass managers and reviews relevant scientific theory as well as practical management skills. 451 pages, hardcover.



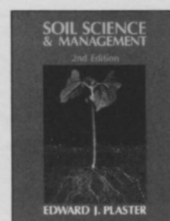
### Landscape Principles & Practices

4th edition

by Jack E. Ingels

LSM-BK-806 .....\$29.95

This introductory text leads the landscaping student from the basic principles of landscape design and graphics, through methods of installation and maintenance, to the business methods of beginning the business, bidding and cost estimating. 401 pages, hardcover.



### Soil Science & Management

Second Edition

by Edward J. Plaster

LSM-BK-804 .....\$39.95

This text introduces the reader to the soil and water resources of the United States, presents soil science theory as it applies to soil use by the grower, shows how soil is used by farmers and horticulturists, and covers the basics of soil and water conservation. An instructor's guide, summaries of each chapter and review questions are provided. 514 pages, hardcover.



### Ornamental Horticulture Science, Operations & Management 2nd Edition

by Jack E. Ingels

LSM-BK-807 .....\$40.95

Offering a balanced study of ornamental horticulture as an applied science, a craft, a profession and a business, this introductory text reviews plant structure, the role of soil, the plant classification system, growth regulators, reproduction, and pests and their control. Floral design; the interior use of plants; landscape design, installation and maintenance; turf selection, establishment and maintenance; and techniques of plant propagation are also examined, along with the floriculture, nursery and landscape industries, greenhouse and nursery production techniques and business considerations. 554 pages, hardcover.



### Landscape Plants

#### Their identification, Culture, and Use

by Ferrell M. Bridwell

LSM-BK-808 .....\$49.95

The text is invaluable in assisting students, nursery workers, landscape architects, educators and others in identifying landscape plants. More than 450 ground covers, vines, shrubs, trees, grasses, palms and bamboos are depicted in full color with physical descriptions, geographic growth zone information, pest problem data and other details. 560 pages, hardcover.



### Managing Turfgrass Pests

by Thomas L. Watschke, Peter H. Demoenen & David J. Shetlar

LSM-BK-766 .....\$69.95

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The durable, high quality engines feature hydraulic valve lifters which keep the engines virtually maintenance free, according to Toro ProLine.

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116	133	150	167	184	201	218	235	252	269	286	303	320	337
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07  0110 Lawn care service companies  
08  0112 Custom chemical applicators  
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106	123	140	157	174	191	208	225	242	259	276	293	310	327
107	124	141	158	175	192	209	226	243	260	277	294	311	328
108	125	142	159	176	193	210	227	244	261	278	295	312	329
109	126	143	160	177	194	211	228	245	262	279	296	313	330
110	127	144	161	178	195	212	229	246	263	280	297	314	331
111	128	145	162	179	196	213	230	247	264	281	298	315	332
112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
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115	132	149	166	183	200	217	234	251	268	285	302	319	336
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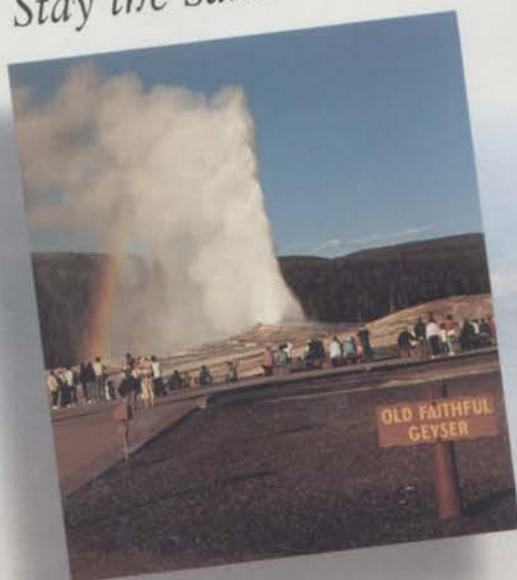
... This One  
Got Even Better!

# Jamestown II

Chewings Fescue

Contains endophytes for natural insect resistance

Some "Old Faithfuls"  
Stay the Same...



## What Benefits You Can Expect from Jamestown II

- Natural resistance to surface-feeding insects because of the endophytes
- Good performance even when mowed as close as 1/4"—or left unmowed
- Less fertilizer requirement
- Less need for irrigation
- Consistent performance in sun or shade
- Excellent cold hardiness
- Blends well with creeping bentgrass while exhibiting resistance to "take-all patch" which can damage bentgrass turf
- A very attractive, low-maintenance turfgrass

## Where You Can Use Jamestown II

- Golf courses— low-maintenance roughs, non-irrigated fairways, limited fertility areas, even as a companion grass with creeping bentgrass on tees, greens or fairways
- Reclamation sites — Roadsides — Parks
- Vacation homes or lawns that require less mowing or low-maintenance turf
- In the cooler climates, from Canada to the hills of North Carolina, where an attractive, low-maintenance turf is desired
- Use Jamestown II Chewings Fescue alone or combined with Reliant Hard Fescue in Lofts' Ecology Mix.

The Links of North Dakota at The Red Mike Golf Resort was designed by Stephen Kay with Stan Weeks as Superintendent. Jamestown II Chewings Fescue is included in the fescue/bentgrass mixtures used on the greens and fairways. Roughs are seeded with a Jamestown II/Reliant mixture. Photo is a view of hole #2 on this new course, recently quoted as a "masterpiece" by *Golf Digest*.



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