

DECEMBER 1993 • \$3.00

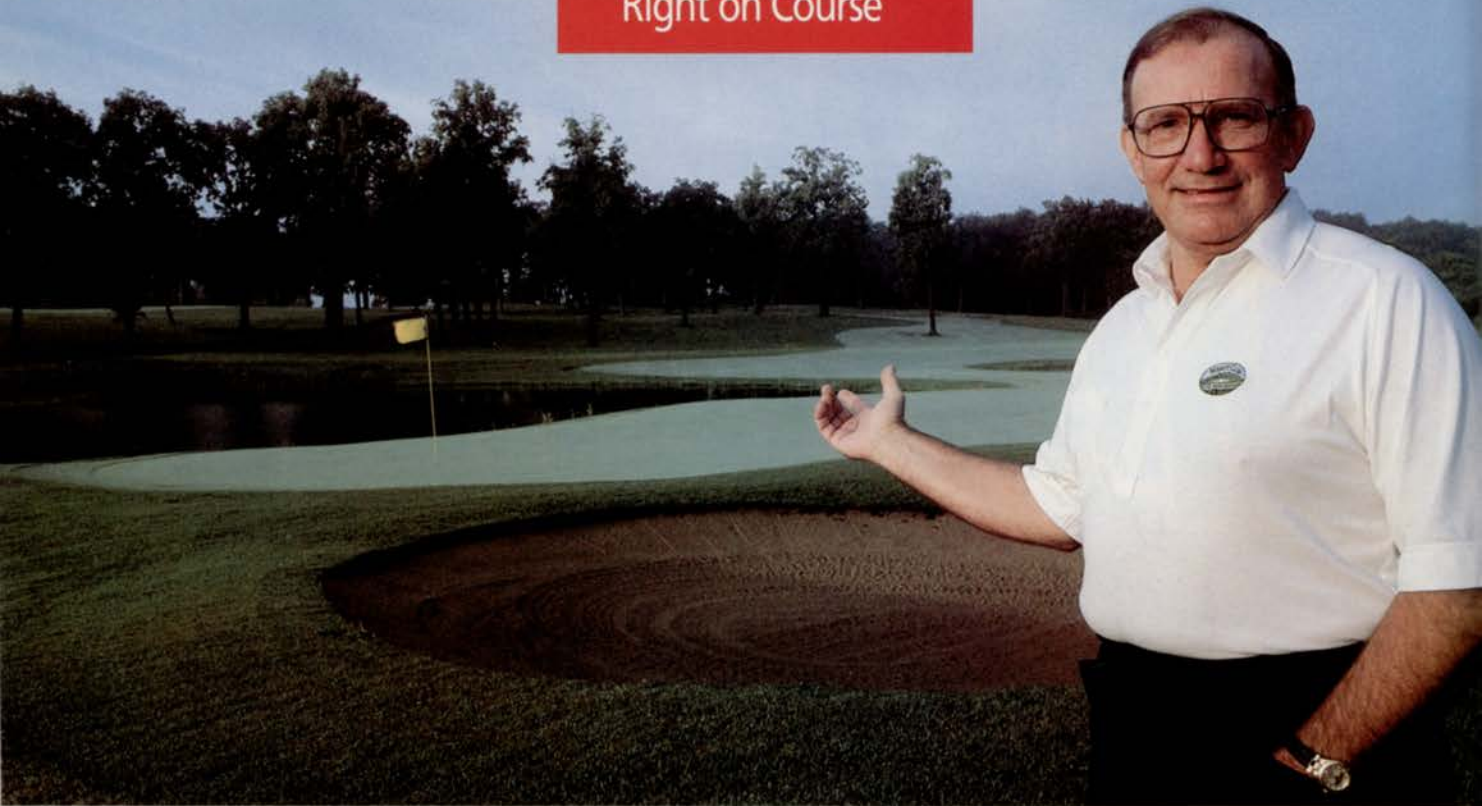
# **LANDSCAPE MANAGEMENT**

**'WE KNOW YOUR TURF'**

## **DISPOSING OF LANDSCAPE DEBRIS**



The Penn Pals:  
Right on Course



Oscar Miles, CGCS, overlooks the 6th hole at the Merit Club, Libertyville, Illinois.

## PennLinks Greens. Penneagle Fairways. Penncross Tees. The 'Penn Pals' Are Picture Perfect At The Merit Club.

Superintendent Oscar Miles, with Club President Ed Oldfield's affirmation, specified all the grassing of this Robert M. Lohmann designed club. With a clean canvas and open palette, Oscar began with PennLinks greens, Penneagle fairways and Penncross tees, framing them with bluegrass/fine fescue/wildflower and prairiegrass roughs. You couldn't paint a more attractive picture.

Oscar chose PennLinks greens for its rapid establishment, marvelous root system, a crown and stolons that take topdressing, upright, grainless qualities and good, consistent color ... the best putting surface available.

He selected Penncross for tees because they recover from divot scars more quickly.

And the Penneagle fairways? Oscar chose Penneagle for its upright growth, reduced thatch development, low nitrogen requirement and good drought and dollar spot resistance. He seeded at 80 lbs. per acre for immediate turf development and

erosion control. The fairways were playable in 8 weeks. Oscar's crew usually mows fairways in the evening and leaves the clippings; recycling nutrients while reducing removal and fertilizer costs.

Oscar articulates it best: "The unique coloring of the 'Penn Pals' contrasts beautifully with the grassing around them, defining the target areas. And with the dew on the bents early in the morning, they're a marvelous work of art."

**Tee-2-Green Corp.**

Post Office Box 250

Hubbard, OR 97032

800-547-0255

503-651-2130

FAX 503-651-2351

*Oscar L. Miles*

Circle No. 109 on Reader Inquiry Card

## LANDSCAPE MANAGEMENT

is a proud member of these  
green industry professional  
organizations:



**Associated Landscape Contractors of America,**  
12200 Sunrise Valley Dr., Suite 150, Reston,  
VA 22091; (703) 620-6363.

**American Sod Producers Association,** 1855-A  
Hicks Rd., Rolling Meadows, IL 60008; (708)  
705-9898.

**Golf Course Superintendents Association of  
America,** 1421 Research Park Dr., Lawrence,  
KS 66049-3859; (913) 841-2240.

**International Society of Arboriculture, P.O.**  
Box 908, Urbana, IL 61801; (217) 328-2032.

**International Turfgrass Society,** Crop & Soil  
Environmental Sciences, VPI-SU, Blacksburg,  
VA 24061-0403; (703) 231-9796.



**National Arborist Association,** The Meeting  
Place Mall, P.O. Box 1094, Amherst, NH  
03031-1094; (603) 673-3311.

**National Golf Foundation,** 1150 South U.S.  
Highway One, Jupiter, FL 33477; (407) 744-  
6006.

**Ohio Turfgrass Foundation,** 2021 Coffey Rd.,  
Columbus, OH 43210; (614) 292-2601.



**Professional Grounds Management Society,**  
120 Cockeysville Rd., Suite 104, Hunt Valley,  
MD 21031; (410) 584-9754.



**Professional Lawn Care Association of  
America,** 1000 Johnson Ferry Rd., NE, Suite C-  
135, Marietta, GA 30068-2112; (404) 977-5222.

**Responsible Industry for a Sound  
Environment,** 1155 15th St. NW, Suite 900,  
Washington, D.C. 20005; (202) 872-3860.



**Sports Turf Managers Association,** 401 N.  
Michigan Ave., Chicago, IL 60611-4267; (312)  
644-6610.

**Turf and Ornamental Communicators  
Association,** 8400 Normandale Lake Blvd.,  
Suite 500, Bloomington, MN 55437; (612) 832-  
5000.

## AS WE SEE IT

JERRY ROCHE, EDITOR-IN-CHIEF



### This blow to pesticide registries goes almost unnoticed by media

When Sen. Joseph Lieberman (D-Conn.) first chaired a Senate subcommittee on lawn care pesticides, his witnesses testified that the pesticides had caused them excessive physical distress. Some claimed they were inflicted with a disease, multiple chemical hypersensitivity, better known to Sen. Lieberman and his staff as MCS.

The national media readily picked up the testimony of this small group of one-issue crusaders.

The American College of Occupational and Environmental Medicine (ACOEM), we hear, now officially disputes the integrity of some of this testimony. It says the witnesses may indeed be sick—but not necessarily with MCS.

The ACOEM, which is composed of 5,300 physicians, wrote a letter to Chuck Charlow of Lieberman's staff. The letter said the ACOEM "concluded that (MCS) is an unproven hypothesis that requires further credible scientific research."

This conclusion, incidentally, is the same one reached by the American Academy of Allergy and Immunology in 1986, the American College of Physicians in 1989, and the American Medical Association in 1992.

The ACOEM's opinion doesn't preclude the existence of MCS, but the letter to Lieberman's staff *did* say this:

"ACOEM opposes an open national registry program for persons with potential or alleged sensitivity to lawn care pesticides. Although there may be anecdotal reports...this type of information cannot be used to prove the existence of a condition or determine the magnitude of any problem—if one exists [*italics mine*]."

"There is no evidence that establishing an open registry will aid persons who might have such a sensitivity. Such an open registry would include persons with a wide array of health problems, including psychological disorders. Participation in an open registry could have a negative

impact if participation was perceived as a validation of a diagnosis of chemical sensitivity, even though an individual's symptoms could be due to some other factor."

Of course, the people who claim to have MCS probably don't care much what the ACOEM thinks. Most probably don't trust the medical community very much. In our opinion, however, two key observations were made in this letter:

- 1) MCS is an unproven hypothesis; and
- 2) ACOEM specifically opposes establishing open registry programs as proposed by Lieberman.

Fifteen states already have pesticide registries or are considering them. But the bigger questions are:

- Should some lawmaker who knows little about either chemicals or exposures be drawing lines in the dirt at the feet of the lawn care community?

- Isn't it about time the rest of the U.S. Senate and the voting public become disillusioned with Lieberman's continued campaign against lawn pesticides? After all, the issue hasn't ever gotten out of subcommittee; and when New York Attorney General Robert Abrams used the controversy in his re-election campaign, he was met with a big yawn from the public.

- And isn't it time the national media, flaming liberals and sentimentalists that they are, realize that news value also exists in a letter from a highly-regarded medical organization to a senior U.S. Senator?

Earlier this year, Lieberman announced that he plans to introduce another strict piece of pesticide regulation legislation during the 103rd Congress.

Sometimes, it makes you wonder.

# LANDSCAPE MANAGEMENT

"WE KNOW YOUR TURF"

DECEMBER 1993 VOL. 32, NO. 12

## COVER FEATURE

### 6 Cover story:

#### Landscape waste disposal

Lawn/landscape business owners come up with individual strategies to deal with landfill bans and rising costs.

*Ron Hall*

## FEATURES

### 8 LM Reports:

#### Landscape fabrics

Landscape contractors can give many reasons to start their own nursery, but there's only one valid reason: better customer service.

*Ron Hall*

### 13 Aquatic gardens

Making a client's landscape stand out from the neighbor's is often as easy as installing a little water feature.

### 14 Evaluating employees

It is not an easy task to figure out how efficient and effective your employees are. Have a checklist that can help facilitate the review process.

*Jerry Roche*



6



18

### 15 How to sell tree cabling

Cabling and bracing can support both trees and your bottom line. But you have to know what you're doing, or you'll lose the trees and money.

*James E. Guyette*

### 15 Accounting: an introduction

It's a 'language of numbers,' not 'revenge of the math club,' says this accountant in the first of a series of articles written specifically for LM readers.

*Dan Sautne*

### 18 Going 'natural'

Twyla Hansen has to deal with ever more restrictive budget constraints. Despite that, she has continued to upgrade the landscape at Nebraska Wesleyan University, and she's doing it while reducing maintenance costs.

*Gary Burchfield*

## TECH CENTER

### 26 Winter weed control

Weed control varies depending on whether winter turf is overseeded or non-overseeded. Use these guidelines.

*Bert McCarty, Ph.D.*

## GOLF 'SCAPING

### 40 Multi-course management tricks

If you've got more than one golf course to maintain, you'll want to know these 'tricks' to avoid getting pelted with tomatoes from your audience: the players and members.

*Jerry Roche*

### 42 White golf holes

Until now, we have stopped just short of doing everything possible in providing the ultimate in visual definition. The one location where we can still improve—which, ironically, is the most important in all of golf—is in highlighting the hole itself.

*Scott Niven, CGCS*



## LAWN CARE INDUSTRY

### 44 1993 'Person of the Year'

Lawn Doctor's president and CEO, Russell J. Frith, is in the forefront of efforts to promote the lawn care industry's image and message on political front.

*Ron Hall*

### 45 Big man for big job

The PLCAA's new president, Lou Weirichs, will remain active in Green Industry Expo negotiations. He also wants the association to reach out to members.

*Ron Hall*

## DEPARTMENTS

- 1 As We See It
- 4 Ask the Expert
- 27 Bio-Turf News
- 46 Hot Topics
- 39 Events

- 42 Info-Center
- 51 Product Review
- 53 Market Showcase
- 55 Classified
- 56 Ad Index

## LM READER ADVISORY PANEL

**Ken Gerlack**  
Contra Costa Landscaping  
Martinez, Calif.

**Twyla Hansen**  
Nebraska Wesleyan University  
Lincoln, Neb.

**Tim Hiers**  
Collier's Reserve  
Naples, Fla.

**Bill Prest**  
Springvale Country Club  
North Olmsted, Ohio

**Mark Schlossberg**  
Pro-Lawn Plus  
Baltimore, Md.

**Brian Storm**  
Terrascaping Inc.  
Birch Run, Mich.

## LANDSCAPE MANAGEMENT

ADVANSTAR Communications, Inc.,  
7500 Old Oak Blvd. Cleveland, OH 44130  
Phone: (216) 243-8100  
Fax: (216) 891-2675

### EDITORIAL STAFF

**JERRY ROCHE**, Editor-in-Chief  
**TERRY McIVER**, Managing Editor  
**RON HALL**, Senior Editor  
**MICHELLE THERRIEN**, Graphic Designer  
**KEITH FAZIO**, Art Director  
**MAUREEN HREHOICK**, Group Editor

### BUSINESS STAFF

**JON MIDUCKI**, Publisher  
**ROBERT EARLEY**, Group Vice President  
**JUDY PAWLOWICZ**, Production Manager  
(218) 723-9281

**ROSY BRADLEY**, Senior Production Manager

**DEBI HARMER**, Production Director

**DIANE BIAS**, Administrative Coordinator

### ADVERTISING OFFICES

#### CLEVELAND (HEADQUARTERS) OFFICE

7500 Old Oak Blvd.  
Cleveland, OH 44130  
Phone: (216) 243-8100  
Fax: (216) 891-2675

**JON MIDUCKI**, Publisher: (216) 826-2855

**ROBERT EARLEY**, Group Vice President

**ROBERT OHLSEN**, National Sales Manager (216) 891-2682

**ANNE LANGHENRY**, Promotion/Research Mgr.:  
(216) 891-2739

**BRIAN KANABA**, Reprint sales representative:  
(216) 891-3155

**ANITA KNIGHT**, Sales Representative:  
(216) 891-3172

**DIANE BIAS**, Administrative Coordinator:  
(216) 891-2750

#### SEATTLE OFFICE

1333 NW Norcross  
Seattle, WA 98177  
Phone: (206) 367-5248  
Fax: (206) 367-5367

**BOB MIEROW**, West Coast Representative

#### SUBSCRIBER / CUSTOMER SERV.

(218) 723-9477 FAX (218) 723-9437



ADVANSTAR  
COMMUNICATIONS

President & CEO: Edward D. Aster

Vice President Finance/CFO: Richard D.W. Mead

Vice Presidents: Kevin J. Condon, William J. Cooke,

Robert E. Earley, Jane Edelstein, Brian Langille,

Brian Nairn, Bernard J. Rogers, Phil Stocker

Treasurer & Controller: Adele D. Hartwick

Secretary/ Dir. Corp. Finance: David W. Montgomery

Reprints of all articles in this issue and past issues of LANDSCAPE MANAGEMENT are available (250 minimum). Call or write Brian Kanaba, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130; (216) 891-3155; fax (216) 826-2865.

LANDSCAPE MANAGEMENT (ISSN 0894-1254) is published monthly by ADVANSTAR Communications, Inc. Corporate and editorial offices: 7500 Old Oak Blvd., Cleveland, OH 44130. Advertising offices: 7500 Old Oak Blvd., Cleveland, OH 44130; 1333 N.W. Norcross, Seattle, WA 98177. Accounting, advertising production and circulation offices: 131 West First Street, Duluth, Minn. 55802. Subscription rates: \$30 per year in the United States; \$55 per year in Canada. All other countries: \$100 per year. Current issue single copies (pre-paid only): \$3.00 in the U.S.; \$6.00 in Canada; elsewhere \$10.00; 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 West First Street, Duluth, Minn. 55802 and additional mailing offices. Copyright © 1993 by ADVANSTAR Communications, Inc. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher. POSTMASTER: Send address changes to Landscape Management P.O. Box 6269 Duluth, Minn. 55806. Date effective: September 8, 1992.



Printed on Recycled Paper



Printed in USA

# ASK THE EXPERT

DR. BALAKRISHNA RAO

## Surflan on grassy weeds

**Problem:** We have used Surflan to manage annual grassy weeds. In some situations we have had poor results. What do you think we may be doing wrong? How can we get better results with Surflan? (Virginia)

**Solution:** From your question it is not very clear whether you used Surflan as a pre-emergence material before the grassy weeds emerged or as a post-emergence herbicide to manage already established weeds.

Surflan is a selective pre-emergence herbicide for control of annual grasses and several broadleaved weeds. It does not work as a post-emergence herbicide.

If you have used Surflan as a pre-emergence herbicide and experienced variable results the following explanation might be helpful. Make sure that you are following good mixing procedures when tank mixing. Follow the guidelines given in the label while mixing Surflan alone or in combination with other materials. It is important to have agitation all through mixing as well as spraying. Without proper agitation Surflan may settle to the bottom of the sprayer tank. This could contribute to poor results. Surflan does not have to be incorporated. However, it should be watered in within 21 days with  $\frac{1}{2}$ - to one-inch of water.

Read and follow label specifications for better results.

## Locust tree seedlings in the lawn

**Problem:** Please advise on the best means to control locust tree seedlings that have invaded my lawn from my neighbors locust tree "jungle." (New Jersey)

**Solution:** Locust is extremely sensitive to triclopyr, which is contained in Turflon lawn herbicides.

Products containing 2,4-D would be less effective but could be used if triclopyr is not available. If the locust is a true seedling—that is, derived from seeds—there should be no injury to the parent tree. If, however, the locust is a root sucker, systemic herbicides such as triclopyr or 2,4-D may translocate to the parent tree and cause injury.

While the seedlings or suckers are very small, regular mowing can help manage the problem.

Read and follow label specifications for better results.

## Pin oaks and pH

**Problem:** One of our clients wants to install a blacktop parking lot. In this area there are a number of large pin oak trees. They were interested in using limestone as a base underneath the blacktop cover. Our concern is this operation will increase the pH and cause nutrient deficiency. Since pin oaks are very sensitive to alkaline pH, we are interested in finding some solution to neutralize the limestone effect. Is there an easy method to deal with this problem? (Iowa)

**Solution:** Your concern of using limestone under a blacktop parking area and potential increase in pH causing nutrient deficiency is also a major concern to me.

Pin oaks are extremely sensitive to alkaline pH. Although reports indicate that limestone material can provide a better compacted and stronger base for parking lots, there is a potential for soil pH increase. Unfortunately, there is no "quick fix" solution or product to deal with the problem.

Sulfur or sulfur containing products may be used to lower the pH effect. However, our experience and research indicates that it would be impractical to lower the pH to a desirable (neutral) level without causing an adverse effect on plants.

Your best option is to suggest using river gravel as a base. In addition to this, provide good cultural practices such as watering, mulching, fertilizing and aerating to help improve plant health.

Provide pest management as needed.

## Reader responses to past questions

### What goes with black walnut?

The following are readers' comments regarding a question concerning what kinds of plants can be planted or grown within the root spread of black walnut trees (January 1993 LM):

*"Please add Hosta to your list of plants growing under black walnut." Source: The Hosta Book: Making Sense of Gardening, by Paul Aden, Timber Press, Oregon.*

### On wolmanized wood

*"The column in the July 1993 issue of LANDSCAPE MANAGEMENT ran an item entitled "Defining Wolmanization."*

*The local lumber store representative badly misled you when you sought his answer to the question, resulting in an incorrect response.*

*The term is in fact a trade name for a particular brand of pressure-treated wood. There are many such trade names, including SupaTimber, which is offered by those who purchase chemicals from our company, Chemical Specialties, Inc. These brand names refer to wood that has been pressure treated with chromated copper arsenate (CCA), a wood preservative that is highly effective in deterring decay and insect attack.*

*Of further interest to your readers, a new wood preservative, ACQ, ammoniacal copper quaternary, is now on the market. It is just as effective as CCA but does not contain chrome or arsenic. This product is new, and is currently being marketed under the brand ACQ Preserve."*

For more information, contact Chemical Specialties, Inc., One Woodlawn Green, Suite 250, Charlotte, NC 28217.

---

*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.*

# You just won't cut grass. You'll make it disappear.

*T*ime is money. And nobody knows it better than a turf care professional. You need to squeeze maximum productivity out of every hour.

Toro responds with our new  
Guardian® Recycler,®



a patented cutting deck that makes your Toro Groundsmaster® 200 or 300 Series more productive than ever before.

It cuts and recuts clippings into fine particles, forcing them vertically into the turf. Now you see them, now you don't. No windrows, collecting, hauling or landfill fees. Just a superb quality of cut.

And, with no side or rear discharge, it's safer and trims equally well from either side. It's also ruggedly durable.

The Toro Guardian Recycler. The latest example of our 60 year partnership with turf care professionals.

And that will never disappear.

**TORO**

*Helping You Put Quality Into Play.™*

For more details, contact your Toro Distributor.  
**1-800-803-8676, ext. 176**

© 1993 The Toro Company. All rights reserved. The Toro Company, 811 Lyndale Avenue South, Minneapolis, Minnesota 55420. "Toro," "Groundsmaster," "Guardian" and "Recycler" are registered trademarks of The Toro Company.  
Circle No. 110 on Reader Inquiry Card



# Landscape waste disposal: No free ride

## Lawn/landscape business owners come up with individual strategies to deal with landfill bans and rising costs.

■ Eric Cross says his Hackettstown, N.J., company used to have a problem getting rid of landscape wastes. But not too much anymore.

"We worked around it," says Cross, of Duke's Landscape Management. "We had to."

No wonder. The admonition "*No Landscape Wastes*" is being bolted onto the gates of landfills across the United States. To date, 22 states have banned yard and garden wastes from landfills. More probably will follow.

Even where they can still be dumped, collecting, moving and getting rid of things like leaves and grass clippings can be a sizable expense, particularly in urban centers.

Pampered Lawns, headquartered in Houston, brings its landscape refuse back to each of the company's four locations, and disposes of it in 40-cubic-yard containers. A commercial refuse hauler then, at a charge of \$250 per load, takes the material to a landfill.

"It is an expensive proposition," admits owner Dwane McNabb. "We have looked at the possibilities of separation and grind-

ing. I feel that at some point it could be more economical to separate and either have a storage area to have a grinding service come into, or haul it to them and convert it into compost."

Lots of options? An informal survey by *LANDSCAPE MANAGEMENT* magazine indicates that green industry business owners are exploring all options to deal with the clippings, brush, and leaves generated in maintaining clients' properties.

Almost always they must meet the issue alone, keeping a wary eye on how much it will increase costs to customers.

"It's a tough enough industry. We don't need any extra expenses," says Cross.

Many landscape managers are trying to reduce waste at its source.

"We don't bag clippings unless it's absolutely necessary, like inside a fence around a pool area," says Cross. "We just have to educate the customer that the clippings break down. The customer has to realize that clippings do not promote thatch and create other problems."

Steve Browder of SDB Services in Charleston, S.C., says, "Some of my customers don't even realize that I'm using a mulching mower. Some are reluctantly accepting that we want to leave the clippings on. Most are aware enough because of the publicity that clippings are getting, and they're gladly accepting it anyway."

Here are some other possible solutions:

**1. Higher cuts**—"We're mowing grasses at 3- or even 3 1/2-inch heights," adds Kevin Mill of Mill Brothers Landscape &

Nursery, Fort Collins, Colo. "It's taken us years to bring our height of cut up. People used to think that two inches made for the best look."

But, Mill admits, "We're still having a hard time trying to convince some of our customers that you don't have to bag the clippings every cut."

### 2. Leave the clippings—

Russell M. Riega of R&R Landscaping in Lodi, N.J., often sees only two options: either leave the clippings on the lawn or put them on a truck and look for a place that will accept them.

"When it's applicable, we leave the clippings. But when we can't, dumping is a problem. I could pay \$120 for one load," says Riega. His company works in about 30 communities, and each town has its own regulations about what it will and will not accept, he explains.

Riega thinks manufacturers of mulching mowers still have some work to do. "We need better mulching machines, machines that can chop the clippings even smaller," he says.

**3. Recycle**—Waste management experts claim that the sheer volume of organic landscape material shortens the working life of landfills. This is both an economic and—to a lesser extent—envi-





ronmental issue. Developing a new landfill is increasingly costly. Some of this expense comes from fulfilling ever-more-stringent environmental considerations.

# es

Anyway, waste experts reason, much of the 33-35 million tons of landscape waste created annually on America's maintained properties can, and should, be recycled into useful product.

Charleston's Browder was one of several business owners telling LM that they've recently purchased chipper/shredders. So, while some woody refuse can be chipped or shredded into mulch, more landscape waste is starting to end up in compost facilities at either municipal or commercial sites. Large-scale composting is making noises like it's going to erupt into a

full-blown industry.

Writers Robert Steuteville and Nora Goldstein in the May 1993 issue of *BioCycle* magazine, for example, claim that the number of yard waste composting facilities increased from 2,201 to 2,981 from 1991 to 1992—35 percent!

Grass clippings represent most of the waste generated by landscape professionals in spring and early summer. But many compost sites are still wary of accepting clippings. Usually, these sites have a longer history of composting leaves. In fact, many compost facilities count on a certain volume of leaves as an ingredient in their compost "recipe."

**3. Watch those charges!**—That doesn't necessarily translate into a free ride for landscape professionals. Compost facilities, even community-operated ones, often levy dumping charges.

Lebo Newman of Redwood Landscaping, for example, says it costs \$20 to \$30 a cubic yard to dispose of landscape waste in compost facilities near his home base of Santa Rosa, Calif.

Likewise, Paul Stolar of Longmeadow (Mass.) Landscaping, pays to dispose of leaves in a community compost site. Like many such facilities in the Northeast and New England, Stolar must prove that he

actually works in Longmeadow before he can dispose of the leaves. The site will not accept grass clippings though.

**4. Waste holding areas**—Meanwhile, lawn/landscape business owners like Scott Wagner of Landmark Landscape Management in Richmond, Va., look to either sign agreements with neighboring farmers to take some of their leaves. Or, they're buying or considering buying additional property to serve as landscape waste holding areas.

Landfill charges, he says, are "almost prohibitive." And, in the late fall and winter when the rains come, wet leaves can add up to a staggering bulk. And expense.

Adds Kevin Mill in Fort Collins, Colo., "we're definitely thinking about acquiring some land to hold some of this material which we can then reuse."

He also says he is going to have to do a better job of explaining the problem of landscape refuse to clients.

"I don't think we've—and I mean both our company and in the industry itself—done a good enough job of showing them through the course of a season, particularly in dollars and cents, what they could save if they weren't paying us to handle all these clippings and material," says Mill.

—Ron Hall



This 3-acre yard waste disposal facility in Erie County, Ohio, is operated by Barnes Nursery. Recently blacktopped, it's a first-rate site that will receive organic material that's no longer allowed in Ohio landfills.

# Landscape fabrics for weed control



Unmulched fabrics on left have no weeds; weeds evident in mulches atop fabrics on right.

Photos courtesy Dr. Bonnie Appleton, Virginia Tech University

## Virginia Tech researchers Bonnie Lee Appleton and Jeff Derr offer insights into using geotextiles in landscapes.

■ Black plastic does a good job of suppressing weeds. That's why it's commonly used in commercial vegetable production. It's made of non-porous polyethylene and works best when laid over moderately moist soil.

However, placing it over wet soil prevents evaporation of excess soil moisture and promotes root rot or fungal decay. It doesn't allow oxygen, needed for root respiration, to infiltrate. Carbon dioxide often builds up to toxic levels. Black plastic can harm valuable trees and shrubs if placed around them.

Landscape fabrics, on the other hand, are porous. They permit exchange of water and gases. This is true, to one degree or another, regardless of composition (polyethylene, polypropylene, polyester),

construction (woven or non-woven, spun-bonded or needle-punched), or color.

But the bigger questions involving landscape fabrics are:

- Do they control all weeds?
- Are they easy to install?
- Do they harm valuable plants?

Virginia Tech researchers Bonnie Lee Appleton and Jeff Derr found some answers to these questions by putting various landscape fabrics through four years of field trials at the Hampton Roads Agricultural Experiment Station in Virginia Beach.

The first thing they noticed was that some fabrics are more porous than others. Even so, most fabrics suppress annual weeds fairly well. In fact, they found that landscape fabrics left uncovered, without mulch, do a very good job of stopping weeds. Most residential and commercial landscape customers don't find this aesthetically acceptable though.

**No guarantee**—Using landscape fabrics does not, however, guarantee weed-free beds.

For example, a layer of more than an

inch or two of a fairly small-particle-size organic mulch, such as ground pine bark, atop a fabric creates a good growing medium for weed seeds, the researchers discovered. The more porous the fabric, the more likely weed roots will push into the soil beneath.

Derr and Appleton say that one inch of ground pine bark is enough to protect the fabric from ultraviolet rays that cause deterioration, yet not deep enough to allow many weeds to sprout.

Larger or less-compacting organic particles (chunk pine bark and pine straw) can be used in deeper layers. These mulches, being more open, are less likely to sustain much weed growth. But, why use an underlying fabric at all with mulch piled as high as four to six inches?

Also, tenacious perennial weeds such as yellow nutsedge and bermudagrass can grow up under geotextiles and force their way up through fabrics. Again, fabrics that are less porous have more of a chance of curbing these weeds.

**How about trees?**—But does the limited porosity of landscape fabrics harm trees and shrubs?

The researchers planted all of their mulch/fabric test plots with red maple whips then monitored soil moisture and temperature for two years on a biweekly basis. Control plots were left bare or covered with black plastic.

Derr and Appleton discovered differences in soil moisture and temperature, but mainly between plots with no cover and plots with black plastic.

Among the geotextiles, almost no statistically significant differences were found in soil conditions, although the textiles' porosity varied from only 3 percent open (Weed-X) to as much as 40 percent open, they report. Very little difference in tree height or caliper was evident from one fabric to another.

The researchers also report that those fabrics that were very porous had tree roots growing in and through them. Sometimes roots even grew on top of fabrics that had a layer of moist organic mulch on top of them. As the fabrics were peeled up, quantities of tree roots often came up with them.

**Caution advised**—The researchers advise caution in installing fabrics in areas where plants may be added or changed every few years. Trees and other established plants can be stressed if portions of fabric surrounding them are pulled up

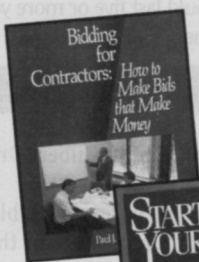
*continued on page 12*

# LANDSCAPE MANAGEMENT BUSINESS FOR PROFESSIONALS

INCORPORATING LAWN CARE INDUSTRY



Get the competitive edge with good business management: improve customer service; enhance finances; know the industry; bid smart. Make sure up-to-date information is at your fingertips by adding these books to your library:



## LANDSCAPE MANAGEMENT 1993 DIRECTORY AND BUYER'S GUIDE

Your complete guide to the professionals you want to contact for business, including key contacts at land grant universities across the country. Sections include equipment, equipment companies, seed and chemical companies, and control products. Find extra tips and information in special departments spotlighting products and "As We See It." 112pp. IS-BG-\$10.00

## BIDDING FOR CONTRACTORS: HOW TO MAKE BIDS THAT MAKE MONEY by Paul J. Cook

A clearly defined working guide for producing winning bids. Learn the benefits of the author's extensive experience in construction project management by providing contractors with the necessary tools to develop competitive bids from small jobs to multi-million dollar projects. 225pp. BK-348-\$35.95

## START & RUN YOUR OWN PROFITABLE SERVICE BUSINESS by Irving Burstiner

Step-by-step how to follow your dream of owning your own business into the reality of the service sector. Find out how to plan, launch and successfully run a service business: prepare a business plan; master the financials; buy an existing business or start a new one; choose a place of business; market your service; forms required for a proprietorship, partnership, corporation; model business plan; sample tax returns; and a list of selected franchise operations. 286pp. BK-349-\$18.95

## ACHIEVING EXCELLENCE THROUGH CUSTOMER SERVICE

by John Tschohl with Steve Franzmeier

This savvy guide holds all the ways to establish caring, dependable and speedy service to bring customers back again and again. From hiring and motivating workers to refocusing company policies and procedures on customer satisfaction, this book is the answer to customer service. 304pp. BK-350-\$22.95

## FINANCE AND ACCOUNTING FOR NONFINANCIAL MANAGERS by Steven A. Finkler

Completely updated, this expanded edition explains the basics of finance and accounting in clear, non-technical language. Get a firm grip on everyday business transactions involving finance, assets, depreciation, liabilities, inventory, costing, owner's equity, capital budgeting, audits, cost accounting, cash-flow statements, ratio analysis. Includes current tax laws. 225pp. BK-351-\$14.95

## WINNING STRATEGIES FOR LAWN & LANDSCAPE CONTRACTORS - A SYSTEM FOR SUCCESS by Brent Demos

Discover proven techniques that will help you meet and beat the competition! Win more bids, increase jobs from current clients, hire productive employees, and learn successful management skills. This comprehensive manual also includes effective tips for marketing and advertising, equipment management, diversification, education and training. 136pp. LSM-BK-761-\$59.95

## LAWN CARE INDUSTRY STATE OF THE INDUSTRY REPORT

An up-to-date report of lawn care business growth, average annual expenditures, and a look at the future of the industry. Ranks the largest lawn care businesses in North America. BK-230-\$10.00

# ORDER TODAY

Title & Number	Qty.	Price	\$ Total

Account # \_\_\_\_\_ Exp. Date \_\_\_\_\_  
 Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Name \_\_\_\_\_ Title \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Telephone ( ) \_\_\_\_\_

Check Enclosed or  Charge my:  MasterCard  VISA  
 American Express (\$10 minimum charge card order.)  
 Detach and mail this form with your payment or credit card information to:

### ADVANSTAR GUARANTEE

If you are not completely satisfied with the material you order, return it to us within 30 days for a full refund. No questions asked.



7500 Old Oak Blvd., Cleveland, OH 44130

Postage, Handling, and Tax must be included with payment.

Shipping & Handling Domestic: Please add \$5 per order + \$1 per additional book. All others add \$15 per order + \$2 per additional copy.

Please allow 3-4 weeks for delivery. Prices subject to change. Quantity rates available upon request. For information or to order call 1-800-598-6008 or FAX 216-891-2726.



Just enough mulch to cover landscape fabric presents finished look.

Photos courtesy Dr. Bonnie Appleton, Virginia Tech University

regularly, they believe. They also advise against using geotextiles around annuals unless you plan to plant year after year into the same holes you initially cut in the fabrics. Cutting new holes each year will increase weed growth. And don't use fabrics in beds planted with bulbs, clumping or rhizomatous perennials, or vines or groundcovers that spread by stolons or stems that root into the ground.

Installing geotextiles isn't complicated but it involves some thought and care, starting with providing a weed-free environment over which to put them.

If you plant first, carefully seam and pin strips of fabric around the plants to cover the soil. Even so, the researchers discovered that some weeds still found the weak points and were able to grow.

If you cover the soil with the fabric first, you must then cut holes through which to dig your planting holes. Remember, the bigger the hole you dig, the more fabric must be cut. Don't leave any of the hole's soil atop the fabric, or you'll have another place for weeds to grow.

**Cost effective**—Landscape fabrics are one of several options available for weed control. Base your decision upon weed spectrum, mulch type requested or desired, permanence of plantings, aesthetics and alternative weed-control options.

Also, consider cost. Though initially expensive to install, a landscape fabric may be a worthwhile investment if it is functional for several years. In the trials, fabric degradation was seen only where fabrics were not evenly covered with mulch, allowing photodegrada-

tion. Most fabrics should last five or more years if properly covered, the researchers found.

## LANDSCAPE FABRICS

**Dalen Products, Inc.**, 11110 Gilbert Drive, Knoxville, TN 37932. (615) 966-3256.

Weed-X, microscopic pores which block weeds, requires less mulch, made in three layers: micro-perforated film layer, porous capillary matting, and non-woven spunbonded fabric layer.

**Circle No. 311 on Reader Inquiry Card**

**DeWitt Company**, Highway 61 South, RR 3, Box 31, Sikeston, MO 63801. (800) 888-9669.

Pro 5 Weed Barrier, 5 oz. of polypropylene per square yard, woven, needle-punched fabric, 99.8% opaque to sunlight. U.V. stabilized. Available in rolls of 3'-12' wide by 250' long.

**Circle No. 312 on Reader Inquiry Card**

**Reemay**, 70 Old Hickory Blvd., P.O. Box 511, Old Hickory, TN 37138-3651. (800) 321-6271.

Tyrap Landscape Fabric, spunbonded polypropylene, resists tearing, punctures, rotting, etc., can be used for soil retention for timber retaining walls, around blind drains, etc., in rolls 3'-12.5' wide by 300' long.

**Circle No. 313 on Reader Inquiry Card**

**Contech Construction Products, Inc.**, 1001 Grove St., Middletown, OH 45044; (513) 425-5896.

TerraBond products for landscape/mulch separation, slope erosion control, pathway construction, brick patio construction, retaining wall filtration, pathway construction, etc. (shown on cover).

**Circle No. 314 on Reader Inquiry Card**

## Tips from Appleton, Derr

- ✓ Use geotextiles with a high percentage of closed space.
- ✓ If you use organic mulches, use coarse mulch material or thin layers of fine material.
- ✓ Keep geotextiles evenly covered at all times.
- ✓ Remove or kill any mulch-layer weeds while small.
- ✓ Consider applying a pre-emergence herbicide.
- ✓ Avoid unnecessarily pulling up geotextiles around trees and shrubs.

# Aquatic gardens popular additions to home yards

**Making a client's landscape stand out from the neighbors' is often as easy as installing a little water feature.**

■ Aquatic gardens, enjoyed and used by ancient Egyptian, Indian and Oriental civilizations, are enjoying renewed popularity among today's homeowners, according to a report from the University of Maryland Cooperative Extension Service.

Aquatic gardens can be an interesting and rewarding addition to any home landscape, no matter what the size of the yard, says horticultural extension agent Ray Bosmans.

"In addition to the interesting plant life they contain, aquatic gardens attract a variety of fascinating animals, including birds, frogs, turtles and more," Bosmans says. "A small garden pool can provide hours of education and entertainment, especially for children."

The development and increased availability of pre-formed pools, flexible liners and other containers have helped foster the current interest.

"These new materials are a great improvement over the old tedious process of building ponds out of concrete," says Bosmans.

**Many choices**—The style and size of an aquatic garden can range from a simple, above-ground tub garden suitable for a patio, deck or balcony, to a large pond constructed with a flexible liner.

"Many people begin with a very small aquatic garden and enjoy it so much that they later move up to as large a pond as space and budget will allow," Bosmans continues.

No matter what size the homeowner chooses, the first step in designing the aquatic

garden is to think about where it will actually be enjoyed the most by the client and family. Some good locations:

- near a patio;
- near a porch;
- within view of a window.

There are several other things to consider when selecting a pond site. First, a pond should be located where it will get at least five hours of full sun a day if you want to include flowering aquatic plants in the design. This is the minimum sunlight needed to produce blossoms on most flowering aquatic plants, though a few tropical water lily species will bloom in semi-shaded sites.

Avoid installing the pond directly under trees because leaves and debris will fall into it. And don't locate the pond in the lowest spot in the yard because surface run-off may wash mud and other contaminants into it.

An aquatic garden that is well balanced with plant and animal life does not need filtration. To achieve a balanced pond, build it as large as possible. Bosmans recommends a minimum size of 40 to 50 square feet by 18 inches deep.

"A very small pond is subject to rapid and frequent temperature changes, which stimulate excessive algae growth," he explains. "It also limits your choice of plants."

A pond can either be formal or informal in shape. Informally-shaped ponds are the most popular, according to Bosmans, because they allow the designer to use imagination and the soft irregularity found in nature to create a small haven for relaxation.

**Adding plants**—To help reduce algal growth, make sure the pond contains

enough plants to cover about 60 percent of the water's surface, with one bunch of submerged plants, such as anacharis and parrots' feather, for each one to two square feet of surface area. The submerged plants will provide additional oxygen in the water for fish, an important element of any aquatic garden.

"Fish are essential because they eat insects, including mosquito larvae, which develop in standing water," Bosmans says. "Ordinary goldfish are a good choice because they're quite hardy."

Aquatic plants are numerous and



**An aquatic garden need not be as grandiose as this one, but it should be at least 40 square feet by 18 inches deep, according to extension agent Ray Bosmans of Maryland.**

among the easiest plants to grow. They actually prefer being grown in heavy soil and have very few insect or disease problems. Pests that do appear can be controlled by simply removing the affected leaves.

Some plants you might want to choose from include:

- the many hardy water lilies;
- lotus;
- marginal plants such as cattails, arrowhead and pickerel weed; and
- floating plants such as water hyacinth, water lettuce and water fern.

For a special attraction, you can add one of the exquisite types of tropical lilies whose vivid colors of red, blue, yellow, white and magenta are unsurpassed for their size, beauty and fragrance. These lilies benefit greatly from fertilization using special fertilizer tablets that are inserted into the pots once a month (or less if extended-release tablets are used).

No matter the size, shape or scope of the aquatic garden, it's an excellent addition to a customer's fine landscape.



**Aquatic gardens can be designed in a variety of shapes, from figure-eight (left) to kidney-bean (center) to irregular (right).**

# This efficiency checklist helps grade employees

**Figuring out how efficient and effective your employees are is not an easy task. Have a checklist that can help facilitate the review process.**

■ When you've got to devise an efficient, thorough way to grade your employees on their job performances—perhaps in preparation for a merit raise—how do you start?

The best way, experts say, is to make sure you've got a complete checklist of the qualities you're looking for in a "perfect" employee. (The list at right will give you a head start).

Each employee, before being called in for a performance review—whether it coincides with a salary review—should be graded on the various components of his or her job by the immediate superior.

In its simplest form, the performance review issues a simple "yes/no" for each category. For instance, is the employee punctual? Yes or no? Does the employee put his or her ideas to action? Yes or no?

In a more complete review, the employee is graded on his or her performance in each of the categories. If you want to handle the grade like your high school teacher (A/excellent through F/failing), many employees can relate to that system.

However, you might want to make the grading process even more specific by using the grading scale listed at the bottom of the chart at the right. Simply make a matrix and check off whether the employee has been superior to unsatisfactory in each of the categories you're grading.

Another option is to use a numerical grading system. Normally, the employee is ranked from 0.0 to 4.0, or 0.0 to 10.0 (4 and 10 being the highest scores). In this manner, you can easily compare the performances of more than one person in each particular department or division. However, heed this warning: do not compare numerical scores compiled by two or more different supervisors, as these grades are highly subjective and the supervisors may be using different styles.

Finally, the most difficult but perhaps the most effective system of rating employee performance is a weighted system. Each of the categories you're issuing a numerical rating for, is issued a weight factor. Numbers are cross-multiplied before adding up a total score.

For instance, if you put a greater weight on an employee having an acceptable appearance than that employee responding to criticism, you might issue a weight factor of 2.0 or 3.0 to appearance while the "response to criticism" line would have a weight factor of 1.0.

Employee evaluations should all be done in writing by the supervisor. Besides whatever grading system you choose to use, evaluation sheets should also contain the following vital information:

- Employee name
- Department
- Job title
- Supervisor
- Date hired
- Current wage
- Date of review
- Recommendation of salary increase (if a salary review is included with the performance review)
- Overall employee grade, score or evaluation.
- Space for comments by the supervisor conducting the evaluation
- Space for comments on the evaluation by the employee being reviewed
- Appropriate approval signatures, up to and including owner/president, if necessary

After the written evaluation is completed, sit down and discuss it privately with the employee. You, as manager, should maintain an attitude of support and constructive effort. If you criticize them harshly, they will get defensive. So make sure you emphasize mutual problem-solving in problem areas. Invite the employee's participation, and establish specific goals, objectives and strategies during the interview.

Employee evaluations, if they are honestly done, can also be key elements in the process to dismiss ineffective employees (legally a delicate matter). Before committing to a particular system, consult your company attorney to avoid any legal employee rights infringements.

—Jerry Roche

## Efficiency categories

### JOB HABITS

- ✓ punctuality
- ✓ self-starting abilities
- ✓ willingness to learn
- ✓ team spirit
- ✓ quickness/productivity
- ✓ quality of work/thoroughness
- ✓ willingness to work overtime
- ✓ knowledge of equipment
- ✓ care of equipment
- ✓ following safety precautions
- ✓ honesty
- ✓ attendance

### DECISION-MAKING

- ✓ creating options
- ✓ new concepts
- ✓ weighing ramifications
- ✓ solution-finding
- ✓ follow-through
- ✓ putting ideas to action

### PLANNING/ORGANIZING

- ✓ planning
- ✓ setting priorities
- ✓ structuring time
- ✓ organizing equipment
- ✓ organizing jobs
- ✓ meeting deadlines
- ✓ assignment follow-up

### COMMUNICATION

- ✓ face-to-face articulation
- ✓ keeping staff informed
- ✓ report-back habits

### LEADERSHIP

- ✓ enthusiasm
- ✓ initiative habits
- ✓ positive attitude
- ✓ problem-solving
- ✓ staff interfacing
- ✓ appearance
- ✓ image
- ✓ authority
- ✓ respect of others
- ✓ flexibility
- ✓ motivator skills
- ✓ response to criticism
- ✓ career orientation

### GRADING SCALE

- SUPERIOR = outstanding performance consistently demonstrated
- HIGHLY COMPETENT = sustained, high performance
- COMPETENT = sustained good performance
- AVERAGE = few noteworthy accomplishments, either bad or good
- IMPROVEMENT NEEDED = performance short of desired objectives
- UNSATISFACTORY = inability to perform job; corrective action needed

# How to sell cabling

## Cabling and bracing can support both trees and your bottom line—but 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 knows of 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-



Shigo: cable with caution.

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.

## Accounting: an introduction

### It's a 'language of numbers,' not 'revenge of the math club,' says this accountant.

by Dan Sautner,  
Padgett Business Services

■ Financial statements are the products of accounting. They are primarily developed to help you run the business. Expressed in a common format—dollars—they show the results of every decision you've made. The purposes of financial statements are to:

- help you make better decisions for the future;
- allow you to file an accurate income tax return;
- help seek additional funding with your lender; and
- help attract buyers or investors.

Financial statements usually include three component statements: the profit-and-

loss, the balance sheet, and cash flow.

**P&L**—This ledger is a summary of the results of operation for a given time. It shows sales, costs of sales, and net income or loss (sales minus costs).

**Direct costs** include wages, equipment and advertising; **indirect costs** (those which will occur whether you have sales or not) include rent, interest expense and utilities.

**Net income** or loss will tell you how well you've used your resources. It also represents how likely it is that you will remain in business.

(Personally, I always look at the trend in net income. In business, it is not where you have *been*, but rather where you are *going*.)

**Balance sheet**—This ledger is a snapshot of the company's financial position at one point in time. It allows you to see what you have in the company, what you owe to outsiders, and what you own yourself. It will show you the original value of the assets on hand like office furniture and pick-up trucks.

These **assets** are offset ("balanced") by

**liabilities**—the company's obligations to outsiders—like bank debts, payroll and sales taxes.

The final section of the balance sheet is the **equity** section, which shows your original investment and the sum of undistributed income earned in previous periods. This is used to examine how well a company increases its assets, and what resources are available.


**Cash flow**—This ledger tells how the company took in cash and how it spent it.

**Adjusted net income**, for example, is your net cash position from the operation of your business. Paying debts or financial withdrawals by the owner would be shown as a use of funds. Reducing your inventory or financial contributions by the owner are shown as sources of funds.

The cash flow statement effectively ties together the income statement and balance sheet, and expresses it in terms of the change in your cash position.

—The author is chairman of Padgett Business Services, Inc., of Athens, Ga. This is the first in a series of basic accounting articles he is writing for *LANDSCAPE MANAGEMENT*.

# IF YOU HAVEN'T USED BARRICADE YET, LISTEN TO THOSE WHO HAVE.




Bill Womac  
Superintendent  
Dunwoody Country Club  
Dunwoody, Georgia

*"Barricade's extra length of control is an advantage to us in the South, especially with our long, hot growing season. Overall, Barricade has proven to be more cost-effective for us than other preemergence herbicides we've tried. We plan to use more next year."*

## Barricade

HERBICIDE

The Precision Performer.



Steve Carr  
Superintendent  
Pocasset Golf Club  
Pocasset, Massachusetts

*"Barricade makes it easy for us to fine tune our control program, as the length of control is determined by the rate used. We've found that one application is all it takes to keep us crabgrass free until the start of cold weather."*

DISTRIBUTED BY:

AG RESOURCES, INC.  
BRANDON, FL

AGRA TURF  
SEARCY, AR

AGRI TURF, INC.  
HATFIELD, MA

THE ANDERSONS  
MAUMEE, OH

BENHAM CHEMICAL CO.  
FARMINGTON HILLS, MI

CANNON TURF SUPPLY, INC.,  
INDIANAPOLIS, IN

ESTES, INC.  
WICHITA FALLS, TX

FISHER & SON, CO.  
MALVERN, PA

E.H. GRIFFITH, INC.  
PITTSBURGH, PA

GEORGE W. HILL & CO.  
FLORENCE, KY

HOWARD JOHNSON'S ENT.  
MILWAUKEE, WI

KNOX FERTILIZER CO.  
KNOX, IN

KOOS/SHORE, INC.  
KENOSHA, WI





Dick Stuntz  
Superintendent  
Alvarado Country Club  
Lawrence, Kansas

*"With the amount of flooding and heat we've had this season, most preemergence herbicides would have fizzled out by now — but not Barricade. It's still giving us excellent control."*

John Freeman  
Superintendent  
Deerwood Country Club  
Kingwood, Texas

*"Our preemergence weed control program was too expensive. Rather than cut back we switched to Barricade. Now, for the same dollars, we not only get excellent control, but also more coverage. Plus, we have the advantage of using multiple applications and getting better control of a broader spectrum of weeds."*



Barricade.  
Performance that's got everyone talking. Your best choice for consistent season-long control of crabgrass, goosegrass, foxtail, spurge and other problem weeds. For more information call your distributor or 1-800-435-TURF



**SANDOZ** Use pesticides effectively. Read and follow label instructions carefully. Barricade® is a registered trademark of Sandoz Ltd. © 1993 Sandoz Agro, Inc.

LEA'S GREEN MEADOWS, INC.  
TEMPLE HILLS, MD

LEBANON TURF PRODUCTS, INC.,  
LEBANON, PA

PENAGRO T&O PRODUCTS  
BOONE, NC

PENNINGTON ENTERPRISES, INC.,  
MADISON, GA

PROFESSIONAL TURF SPECIALTIES, INC.,  
ST. CHARLES, MO

REGAL CHEMICAL CO.  
ALPHARETTA, GA

TURF INDUSTRIES, INC.  
HOUSTON, TX

TURF PRODUCTS LTD., INC.  
W. CHICAGO, IL

TURF SUPPLY COMPANY  
EAGAN, MN

UNITED HORTICULTURAL  
SUPPLY, SALEM, OR

VIGORO INDUSTRIES, INC.  
WINTER HAVEN, FL

WILBUR-ELLIS COMPANY  
KENT, WA

Circle No. 108 on Reader Inquiry Card

# Going 'natural' cuts costs

**Improvements at NWU are a great example of synergy—the whole is greater than the sum of its parts.**

■ Like most campus landscape managers today, Twyla Hansen has to deal with more restrictive budget constraints. Despite that, she has continued to upgrade the landscape at Nebraska Wesleyan University, a private liberal arts college in Lincoln. And she's doing it while reducing maintenance costs.

Within five years of her 1982 arrival, Hansen had a landscape maintenance program in place and working.

"The improvements are a great example of synergy—the theory that the whole is greater than the sum of its parts," Hansen says. "As the appearance of the campus improved, building maintenance improved too. In the end, both contribute to student and faculty recruitment efforts."

**Going native**—For the past three years, Hansen has been converting annual plantings on the 55-acre campus to perennials, mostly with native plants. Not only does this reduce costs by cutting down on the cost of annuals, but it has added interest to the campus, too.

"A lot of people have never seen some

of the prairie grasses and flowers that are native to this area, so they find these new plantings intriguing. Botany and biology classes study them frequently, and campus visitors like to inspect them," says Hansen.

The entire western half of the campus is one of the 50 sites that make up the Nebraska Arboretum, which was established to maintain native plants for education and study. Hansen has developed a donor program for the campus, to replace trees that die and to add new trees and shrubs.

"We're integrating the native ornamentals in with the trees and shrubs, not only to add diversity to the campus, but to demonstrate the types of plants that can be grown in this area," Hansen says. "Plus, the beds have a secondary purpose of separating turf areas from woody plants, to cut down on the amount of trim mowing we have to do."

Initially, most of the perennials were seeded, with seed purchased from a couple of specialty seed farms in the area. "Now, we're getting to the point where we can divide the perennials and do our own transplanting to new beds," Hansen says. "We've also started some from seed in our own greenhouse."

**Enter, buffalograss**—Hansen is moving the campus to more natural plantings in other areas, too. "We've been planting some low-maintenance areas to buffalograss," she says. "There are small turf areas in some of the outlying parking lots, and we've been putting buffalograss in many of those spots, both with seed and plugs. We've done it long enough that we now have our own little buffalograss nursery near the stadium.

"We have to mow them pretty regularly

the first year or two to keep the weeds down until the buffalograss fills in. Sometimes, we spray the area with Roundup while the buffalograss is still dormant but the weeds are already growing. Once the buffalograss is established, the areas take very minimal maintenance."

Besides the campus turf and plantings, Hansen's crew is responsible for the athletic fields.

"We have added both men's and women's varsity soccer to the athletic program, so we have those practice fields to maintain, along with the stadium turf, baseball field and a football practice field. And the rainy weather this summer packed out soil pretty well, so we're going to have to aerate the whole campus this fall. This is the first year we've had to put down a fungicide, too...another consequence of the rainy weather early this summer."

Most of the turf areas are seeded to turf-type tall fescue, again to lower maintenance costs. Most lawn areas get a spring and fall fertilization, but some areas are fertilized only in the fall.

"We're using more groundcover, too—species like wild ginger and hosta for shady areas, and some of the sedums for sunny spots.

"Going to more natural plantings requires a little different way of thinking. You can't expect to have that neat, clipped look. Sometimes, you don't know how tall the native plants are going to get, so you wind up with a more 'casual' look to your plantings," says Hansen. "But going 'native' is cutting down on our maintenance costs, and students and faculty seem to like the unique appearance of the prairie plants."

—Gary Burchfield

## Twyla's secrets to low maintenance

- 1) Use perennials for annual plantings—native plants like prairie grasses and flowers, where possible—rather than annuals.
- 2) Establish beds to separate turf areas from woody plants, thus cutting down on the amount of trim mowing.
- 3) Divide the perennials and do your own transplanting to new beds.
- 4) Plant low-maintenance areas to buffalograss.
- 5) Use turf-type tall fescue for reduced maintenance.
- 6) Use more groundcover like wild ginger, hosta, the sedums.



# LANDSCAPE MANAGEMENT

W E K N O W Y O U R T U R F



*New  
For*

94

# LANDSCAPE MANAGEMENT

New For  
**94**

W E K N O W Y O U R T U R F

The  
Andersons

Fertilizer  
with Baricade

Professional  
Turf™ Products

Net Wt. 50 Lbs. (22.7)  
Feeds 16,025 Sq. Ft.

## THE ANDERSONS BARRICADE® PLUS FERTILIZER.

### "Dial In" Length of Control

The active ingredient BARRICADE, offers turf managers the longest pre-emergence herbicide residual, with up to eight months of control. Based on applied rates, applicators can determine the length of control through a single application (follow Andersons recommendations by region).

Circle No. 250 on Reader Inquiry Card

## EXCEL INDUSTRIES, INC.

Excel introduces the new Model 2500 Compact which features Excel's famous Trim-Steering™ for the most maneuverable, the most productive and easiest to operate compact mower on the market. The 2500 can be fitted with any of three rotary mowing decks - 52", 60", or 72" for an immaculate finish.

Circle No. 251 on Reader Inquiry Card



## GMC TRUCK

For the 1994 model year, GMC Truck offers an array of vehicles to meet diverse customer needs including an all-new, totally redesigned Sonoma compact pickup; a Sierra Natural Gas Vehicle (NGV) and Sierras alternatively fueled with a dedicated or bi-fuel system in a 1/2, 3/4 or one-ton pickup.

Circle No. 252 on Reader Inquiry Card

## GMC TRUCK, PONTIAC, MICH.

With an unparalleled heritage that spans 90 years in the truck business, GMC Truck is the leader in marketing GMC light duty trucks and vans and General Motors medium duty conventional and low cab forward trucks, such as the GMC Truck TopKick and Chevrolet Kodiak medium duty conventional trucks with an 18,000 lb. GVW.

Circle No. 253 on Reader Inquiry Card



## JOHN DEERE INC.

Two new utility vehicles from John Deere are dubbed "GATORS" for their endurance, aggressive traction, stability and light footedness. The 10-hp GATOR 4X2 rolls on four wheels with 2-wheel drive, powered by a single-cylinder air-cooled engine. The 18-hp GATOR 6X4 rolls on six wheels with 4-wheel drive, powered by a twin cylinder liquid-cooled engine.

Circle No. 254 on Reader Inquiry Card

## JOHN DEERE INC.

New John Deere 400 series heavy-duty lawn and garden tractors provide state-of-the-art features. The 425, 445 and 455 models include: 2-pedal foot control hydrostatic transmission with differential lock, internal wet disk brakes, hydraulic PTO clutch; shaft-driven implements and power steering with tilt steering wheel.

Circle No. 255 on Reader Inquiry Card



# LANDSCAPE MANAGEMENT

New For  
**94**

W E K N O W Y O U R T U R F



## KNOX FERTILIZER COMPANY, INC.

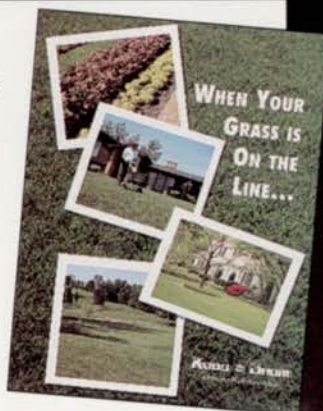
Formulators and packagers of quality plant food products for home and industry. If your present supplier is not providing you with a foolproof pest and weed control formula, call on the SHAW'S TEAM! They're fully loaded, on target and ready to BLAST your weed and insect problems away!

Circle No. 256 on Reader Inquiry Card

## KOOS/SHORE

Koos/Shore can help you develop annual fertilization programs for turf, trees and ornamentals, plus we can combine pre or post emergence herbicides or insecticides with dry fertilizer products to save you time and money. Koos/Shore manufactures fertilizer many ways, including homogeneous mini fertilizers, granular fertilizers, blended mini fertilizers, and more.

Circle No. 257 on Reader Inquiry Card



## LOFTS, INC.

Southshore Creeping Bentgrass, available from Lofts Seed, was developed through a breeding program of Dr. Richard Hurley, Lofts' Research Director, in cooperation with Rutgers University.

Southshore produces a dense, upright turf and exhibits a medium-fine texture that produces less grain. In NTEP trials, Southshore displays excellent resistance to brown patch and excellent overall turf quality.

Circle No. 258 on Reader Inquiry Card



## SANDOZ AGRO

Sandoz Agro's Barricade provides turf managers with season-long control (up to 26 weeks) of the most weeds of any leading preemergence herbicide — at rates three to four times lower than other products. Water soluble and dry granulated, Barricade is effective on turf and in and around more than 200 species of landscape ornamentals.

Circle No. 259 on Reader Inquiry Card

## SANDOZ AGRO: Mavrik Aquaflow

Sandoz Agro's Mavrik Aquaflow offers immediate and effective control of a broad spectrum of damaging insects and mites in turf and plants. Mavrik eliminates a variety of pest, including whiteflies, aphids, caterpillars, flea beetles, mealybugs, mites and thrips. However, the product's low toxicity to small pets, birds and wildlife makes it one of the most gentle insecticides available.

Circle No. 260 on Reader Inquiry Card



## WELLS CARGO

Wells Cargo's newly designed "wide axle" landscape trailer adds the advantage of an extended 102" track width for added road stability. In addition, you get a spacious 6'9" wide Interior Floor with no wheel boxes inside. This unit is perfect for larger motorized lawn and landscape equipment.

Circle No. 201 on Reader Inquiry Card





**KNOWLEDGE IS POWER.** Every day, Advanstar opens up a world of knowledge, becoming the prime source of information that you need for success — through leading publications serving diverse business and professional markets...productive expositions that deliver quality audiences...and sharply focused marketing services. Look at your world in a whole new light. *Advanstar. Serving business' need to know.*



PUBLICATIONS • EXPOSITIONS • MARKETING SERVICES  
7500 Old Oak Boulevard, Cleveland, Ohio 44130 216-243-8100 800-949-9049

**Publishers of LANDSCAPE MANAGEMENT, PEST CONTROL, and DVM NEWS magazines.**

# Getting customer feedback



**Robertson: 'potentially dangerous'**

■ Jack Robertson of Robertson Lawn Care, Springfield, Ill. has a unique comment card that helps his customers relay their satisfaction or dissatisfaction directly to him.

"This isn't just to get a pat on the back," Robertson says. "We did it at a potentially dangerous time of the year. We prefer getting customer comments *this way*; *another way* they can tell you is to cancel and go tell somebody else their problems."

Hey Jack!

- I'M IMPRESSED
- I'M PLEASANTLY SURPRISED
- I'M SATISFIED
- I'M A BIT ANNOYED

Your Name \_\_\_\_\_

Address \_\_\_\_\_

Dear ROBERTSON LAWN CARE Customer:

We pledge our total commitment to your service. We need the benefit of your viewpoint, needs, observations and impressions. Your opinion is of great value to me, as owner of ROBERTSON LAWN CARE, in setting policy, designing services and updating our commitment to you.

If we have let you down, please tell us about it. If you are pleased with us, we would like to hear that too. If you have special needs or would like us to modify any of our services, let us know.

We are proud to have you as a customer — and — we care.

Sincerely,

Jack



YOUR COMMENTS PLEASE \_\_\_\_\_

PLEASE RETURN IN THE ENCLOSED ENVELOPE — THANKS

The card is simple and direct. It features four boxes: "I'm impressed," "I'm pleasantly surprised," "I'm satisfied," and "I'm a bit annoyed," plus room for writing comments (see above).

The cards were dropped off with each summer application, and more than 100 have been returned so far. Ultimately, Robertson expects to get 1,000 back.

An earlier customer reply card that was mailed along with a postage-paid return envelope garnered a 72 percent response rate, and 93 percent of Robertson's customers rated the company at "satisfactory" or above.

"The players are going to be the companies that go that extra mile for the customer," Robertson says.

## LM GRAPEVINE

Still no word from the Golf Course Superintendents Association of America (GCSAA) as to who its new CEO, Deputy CEO and Financial Director will be. Via the phone as this issue hit an early deadline (Nov. 12), **Scott Smith** of the GCSAA Communications Department said selection of the three key people were imminent, but still pending. We should have an update for **LM's** January issue, which is—coincidentally—our Golf Course Show issue. We'll keep you informed.

Congratulations to **John Prusa**, who purchased the Lawnmark operations in Youngstown, Ohio, and Erie, Pa. Prusa, who has been with Lawnmark since its inception, maintains an ongoing contractual relationship with the parent company, located in Peninsula, Ohio, just a few miles from **LM's** offices. Lawnmark owner **Marty Erbaugh** is a past president of the Professional Lawn Care Association of America.

There has been a lot of coming and going in **LM's** hometown of Cleveland, what with the departure of Browns quarterback Bernie Kosar and Cleveland Stadium groundskeeper **David Frey**, who is now in business for himself. The former president of the Sports Turf Managers

Association now operates Field Specialties out of his office in Chardon, Ohio. He is an athletic field design consultant and also hawking two of his inventions, a tarp roller and the "Mound Meter." For more info, call Frey at (216) 635-0282.

The New York Turf and Landscape Association has named **Frank Claps** its Man-of-the-Year, according to a press release received by **LM**. Claps, a past president of the organization, has been a landscape contractor for 48 years, devoting much of his time to industry education. He will be honored with a dinner/dance in Scarsdale on Dec. 12.

You'll be seeing **Arnold Palmer's** face in **LM** for another three years, according to Lofts Seed. Palmer's contract with the marketer of "Palmer" perennial ryegrass has been extended for another three years, says Lofts director of research **Dr. Richard Hurley**.

**READERS!** Got an item for "LM Grapevine?" Call us at (216) 826-2830 between 8:30 a.m. and 5 p.m. Eastern Time.



# The first flotation

You never have to worry about sinking below the surface when you're in a John Deere Gator™ Utility Vehicle.

The reason is quite simple: high-flotation/low-compaction tires. They're standard features on both the Gator 4x2 and the

Gator 6x4. With only 7.1 to 7.5 pounds per square inch, these utility vehicles will barely bend the blades on your delicate turf.

This low psi also helps the Gators out in muddy, swampy situations. And when extra traction is called for, simply reach

down for the differential lock, conveniently located next to the shift control.

You'll also appreciate the fact that the Gator Utility Vehicles go easy on the ears as well. Large capacity, one-piece mufflers, lower engine rpm's, and, on the





# device for land

6x4, a liquid-cooled engine, result in extremely low sound levels.

And as light as the Gators are on their feet, they possess solid bodies. A heavy-duty, arc-welded frame. Bolt-on cast-aluminum rear axle housings. Internal wet-disk brakes. And

a rugged front suspension.

They're not lightweights when it comes to towing, either. The 4x2 has a 900-pound capacity; the 6x4, 1,200 pounds.

To see firsthand why a Gator Utility Vehicle rises above the rest, visit your local John Deere dealer.



**NOTHING RUNS  
LIKE A DEERE®**

## Winter weed control

**Weed control varies depending on whether winter turf is overseeded or non-overseeded. Use these guidelines.**

by Bert McCarty, Ph.D.  
University of Florida

■ Weeds in winter are unsightly due to their green color and leaf textural differences compared to brown-colored dormant turf. In addition, weeds shade the dormant turf, and thus may delay spring green-up.

Weed identification is the first step toward understanding why weeds occur and how to control them.

Understanding the biology, growth and reproductive characteristics of a weed is the second-most important step in developing a weed control strategy. Turf weakened by improper cultural practices, pest invasion, or excessive traffic is much more likely to become weed-infested and will take longer to recover.

**Post-emergence broadleaf weed control**—Broadleaf weeds such as chickweed, henbit, clover and dandelion have traditionally been controlled with single or combination applications of 2,4-D, 2,4-DP, MCPP, MCPA or dicamba (Table 1).

Several considerations before using one or more of these materials:

- Most broadleaf weeds, especially perennials, generally need a two- or three-way herbicide combination for satisfactory control.
- Younger weeds are easiest and cheapest to control. Applications should ideally be made in December. Waiting until March or April requires sequential applications 10-14 days apart. This: increases labor and herbicide costs, increases equipment wear-and-tear; may delay green-up; and may require longer for herbicides to work.
- New chemistry such as triclopyr

(Turflon) and metsulfuron (DMC Weed Control) can be alternatives to the traditional materials. However, economics and turf tolerance must still be considered before use.

**Post-emergence grassy weed control**—In winter, the predominant annual grass weeds are annual bluegrass and clumps of ryegrass that escape from the intended overseeding site.

Annual bluegrass can be effectively controlled with post-emergents, assuming the turf is not overseeded with ryegrass or other cool-season grasses. In non-overseeded turf, atrazine (AAtrex), simazine (Princep) or pronamide (Kerb) will provide excellent control of annual bluegrass and ryegrass.

The first applications should be applied in middle to late fall; a second application in late January or early February will control the second flush of germination that normally occurs at this time.

Atrazine and simazine have the added benefit of controlling many winter annual broadleaf weeds such as lawn burweed, chickweed and henbit (Table 2). However, if control is attempted later in March or April, herbicide effectiveness is reduced, the time needed for weed control is greater, spring green-up may be delayed, and turf may be injured.

**Non-overseeded turf**—Chemically controlling winter weeds in non-overseeded turf is generally much easier and effective than weed control in overseeded turf because of a wider range of available herbicides.

In bermudagrass, centipedegrass, St. Augustinegrass and zoysiagrass, atrazine and simazine provide the widest spectrum of weed control at the most effective cost. These materials have pre-emergence activity, and they are just as effective on newly-germinated weeds. Applications should be in mid-fall and repeated 6-8 weeks later.

Atrazine and simazine provide good to excellent control of annual bluegrass and most winter annual broadleaf weeds on

dormant bermudagrass or zoysiagrass. These materials are not recommended for early spring use. If a hard-to-control weed persists, Prompt (a pre-packaged atrazine/bentazon combination) can be used. Repeat applications 4-6 weeks later are recommended.

Annual bluegrass in non-overseeded bermudagrass and zoysiagrass is generally controlled by most pre-emergents. Or, early post-emergence control of annual bluegrass should be made in mid-fall with Kerb, atrazine or simazine. Applications should be repeated in 60 days for season-long control.

Post-emergence broadleaf control should also begin in mid-fall when weeds are small and easiest to control, and when temperatures are still relatively warm. A combination of 2,4-D plus 2,4-DP, MCPP, MCPA or dicamba will provide a wider spectrum of control. Repeat applications 7-14 days apart will be necessary.

**Overseeded turf**—Weed control in overseeded turf is more difficult because the growth habit and herbicide susceptibility of the overseeded ryegrass and annual bluegrass are similar. Until it is fully established, ryegrass is somewhat sensitive to many post-emergents.

Pre-emergence herbicide control choices are limited; each herbicide has its strengths and weaknesses:

Kerb provides good to excellent pre-emergence annual bluegrass control, but must be used 60-90 days before overseeding—mid-summer in most areas. High rates (2.5 to 4 lbs./1000 sq.ft.) of charcoal are necessary. Disadvantages of using Kerb are the inability to re-establish the ryegrass when the charcoal treatment fails, and activated charcoal is messy to handle and apply.

Rubigan, a fungicide with selective herbicide activity, also is available for pre-emergence annual bluegrass control without adverse effects to overseeded ryegrasses or bermudagrass. Best bluegrass control results from a series of two or three applications. The last application

*continued on page 35*

## Positive results reported from study of IPM on home lawns

A two-year project by the North Dakota State extension service proves lawn care customers will change bad habits if you show them how.

by Ronald C. Smith, Ph.D.

■ A two-year study of Integrated Pest Management (IPM) on 20 homelawns by the North Dakota University extension service has proven the effectiveness of IPM when it's done right.

The project was started in conjunction with two local lawn care companies, ChemLawn and Outdoor Services.



Ryobi Mulchinator runs 90 minutes on a full charge. Ryobi is in Anderson, SC.

### EXCLUSIVE BIOTURF NEWS CASE STUDY REPORT

Clients were picked based on their willingness to cooperate with extension service recommendations.

Test lawns were equally divided between the two companies because of other clientele commitments, and the time required to begin the program. Some customers expressed concern that IPM would cost more and yield poor results, and at first were suspect of company motives in the project.

After being assured that the objective was mutual education, they were willing to change past bad habits.

**Understanding IPM.** Integrated Pest Management involves the consideration to pest control and turf management. Pesticides are not eliminated, but are a part of the management scheme to achieve the desired outcome: a healthy, functional and attractive turfgrass system.

Since the lawn care companies did not provide turnkey services, the homeowner was made to realize that their practices of mowing and watering could negate the best efforts of these professionals.

IPM programs start with an inventory of the property. This includes:

- a list of problem areas;
- client concerns and desires;
- a soil test, the linchpin for most initial decisions apart from mowing and watering.

**Proper turfgrass mix.** Turfgrass species in our region are all cool-season grasses: Kentucky bluegrass, creeping fescues and perennial rye. Some lawns are sodded with three or four cultivars of elite bluegrass; one is a monoculture of *Touchdown* Kentucky bluegrass, and another was a tall fescue blend.

One of the challenges in lawn care is to find a mix of grass seed that will be a good overseeder without differing substantially from the existing turfgrass. Since most of our clients had elite turfgrass mixes, an "IPM Mixture" was developed that met most of those needs and differing conditions. The mix contained three bluegrass cultivars: *Glade*, *Cynthia* and *Rugby*, and a single cultivar of perennial ryegrass, *Regal*. This mix provided quick germination growth in sun or shade and tolerance to a variety of conditions.

**New mowing practices.** Clients were instructed in the proper way to mow:

- mow at three inches high to keep weeds down;
- keep the blades sharp;
- mow frequently, based on turf growth rates, not a calendar;
- leave the clippings.

Customers were also encouraged to alternate mowing patterns to minimize compaction and encourage more upright growth.

The program used a Ryobi Mulchinator—a rotary mower powered by a 24-volt battery. It runs quieter than a household vacuum, mulches turf clippings and leaves, and can run

*continued on next page*

### INSIDE

- Follow nature's formula for best compost
- Nematodes vs. Florida mole crickets
- Teaching IPM to your crews
- Predator wasps at work out West

**IPM study** from page 27

90 minutes on a full charge (about 20,000 sq. ft. of turf).

Leaf removal was emphasized as an important part of preparing the lawn for winter. In autumn, turf needs maximum sunlight to photosynthesize and translocate the carbohydrates to the crown, roots and rhizomes for winter storage.



Thatch layer of 2.25 inches, too much to remove at once with a dethatching unit.

**Heavy clay soil.** Most of the problems were caused by heavy clay soil that was stratified with subsoil of nearly equal density. Compaction, low infiltration and low percolation were all problems. Compaction was verified with a Dickey-John unit that convinced every client that their lawns needed aeration.

(Patch diseases during hot spells were also thought to be caused by the poorly drained soils.)

Poor oxygen diffusion into the soil caused problems during the cool, wet summers of 1992 and 1993. While aeration is not a substitute for decent weather and proper fertility, it did improve the appearance of every lawn; in fact, the effect was essentially equal to that of a fertilizer application.

**Irrigation schedules.** Most clients were unaware of the importance of proper irrigation for healthy turf. Noting our weather pattern for the two years under study, they simply needed to be turned off.

But then, with the limited rainfall from August through September of 1993, some people opted to not activate their systems at all. This created drought stress, putting the turfgrass

system at a disadvantage going into the winter months.

Basic watering advice was to irrigate twice a week, making sure the moisture reaches the root zone completely. This means homeowners have to water .33 to .50 inches each time, depending on exposure, slope, soil type, wear, etc. The most common fault was over-watering, especially where automatic irrigation systems existed.

**Fertilization tips.** A basic application of sulfur coated urea—a slow-release form of 36 percent N—was applied at a rate of 2.7 lbs. per 1000 sq.ft. One pound of nitrogen was delivered on normally sunny sites, with the rate being cut in half for two sites where heavy tree shade existed over the turf canopy most of the day.

In a few instances where the turf did not respond favorably to this standard treatment, a non-ionic



Before (above) and after. The difference a higher cut makes.

wetting agent (Noburn) was applied, with good results. The Noburn apparently released some of the micronutrients in the soil, —most notably iron— that was previously unavailable because of high pH or bicarbonates making them unavailable.

**Pest control.** Weeds were controlled with Trimec or Confront. Where drifting or leaching danger to surrounding ornamentals existed, Confront was the chemical of choice.

Insects were monitored by using pitfall traps, yellow sticky traps and pheromone traps. For turf purposes, the pitfall traps worked most effective-

ly. Pests collected were cutworms, armyworms, sod webworms, billbugs and chinch bugs.

The presence of June beetle adults indicated egg-laying activity in the lawn. The turf quality was monitored closely; some insect damage was noted, but not enough to warrant any insecticide use.

It was found that fungicide use could also be significantly reduced if the homeowner were to allow annual aerations, thereby increasing the competitive activity of other microbial populations which reduce the number of potentially destructive fungi.

**Thatch control.** Where thatch exceeded 0.5 inches in thickness, homeowners were advised that thatch reduction would make water, fertilizer and pest control more effective. Some opted to remove the excess thatch themselves, and rented aerators. Spring and fall aeration was advised for lawns that had a very thick thatch layer (2.5 inches).

**IPM=Common Sense.** IPM begins with a change in mowing and watering practices, and evolves into other cultural practices such as aeration and dethatching. Appropriate pesticides are never eliminated; rather, depen-



ency on them is reduced.

A program of inspection and inventory, regular monitoring and perhaps preempting a potential problem with a selected application of the appropriate pesticide will result in satisfactory results over the long term.

—Ronald C. Smith, Ph.D., is an extension horticulturist at North Dakota State University.

After mowing heights were raised to three inches, customers realized that a more extensive root system requires less water.

# Nature provides best compost formula

Pay attention to soil temperature, pH levels and nitrogen content.

by Paul D. Sachs

■ Soil temperature can have a profound effect on the rate of organic matter decomposition.

At a soil temperature of 88 degrees F, with adequate air and moisture, organic matter is destroyed faster than it can be produced. This is a common condition on tropical soils where high temperature, moisture from tropical rains, and an abundance of air from extremely sandy soils are all at an optimum level for bacterial decay.

Shading the soil can reduce soil surface temperatures and slow down the decomposition of organic matter. Turf stands, for example, that are mowed at maximum height during the hottest part of the year can shade the soil and reduce soil surface temperature by as much as 20 degrees. This is not always possible because of use restrictions, such as for golf greens and tees. However, in many instances a tall green stand of turf is much preferred over a short brown one.

Lime can significantly accelerate the decomposition process of humus. The low pH in acid soils inhibits the activities of bacteria. As the pH is raised by applications of lime, bacteria populations grow and a relative increase in decomposition activity occurs.

The right amount of lime can stimulate plant growth to a point where the production of organic residues is at its maximum level. However, excessive lime applications can create conditions too favorable for decay bacteria and hasten the destruction of organic matter at a pace greater than the plant residues can produce it. Chronological scheduling for lime applications without performing periodic pH tests can eventual-

## INFLUENCE OF TEMPERATURE ON SOIL ORGANIC MATTER CONTENT

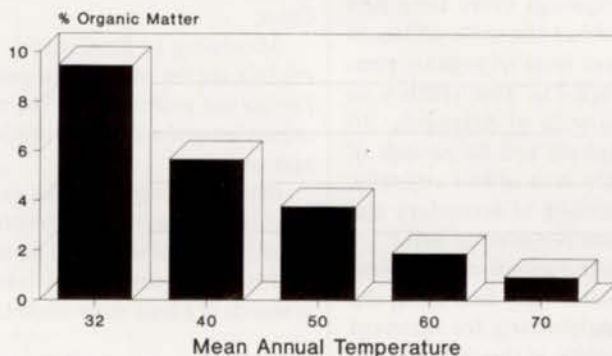


Figure 2

ly lead to a significant loss of soil organic matter.

Measure nitrogen levels. Nitrogen is as vital to the development of decay bacteria as it is to the growth of plants. The ratio of carbon to nitrogen in an average soil is approximately 12:1. At this ratio, populations of decay bacteria are kept at a relatively constant level because there is not enough available soil nitrogen for a rampant population explosion. When large quantities of inorganic nitrogen are added to the soil, the bacteria populations are stimulated and they begin to decompose organic matter.

Stable humus is relatively resistant to further decomposition, when stimulated by added nitrogen, but younger, less decomposed material is not and may never evolve into stable humus if subjected to conditions that are conducive to quick and complete decomposition.

An increase in bacterial activity from excess nitrogen can also mean a depletion of soil oxygen levels which can inhibit root growth and cause slower production of organic matter. Lack of oxygen to the root systems can stress plants which can, oftentimes, increase its susceptibility to disease and insect problems.

Natural organic nitrogen is easier

on soil organic matter because it is organic matter and provides energy needed by decay organisms in the form of carbon compounds. Inorganic nitrogen ignores the energy needs of soil organisms.

Producing organic matter. The largest producers of organic residues in turf grounds are the root systems. The roots of turf plants are essentially annual; every year a new root system emanates from the crown of the plant. It is estimated that 0.5 to 3 tons (dry basis) of organic matter can be added to an acre of soil every year from old roots systems, depending on how much mass accumulated from the previous year of growth.

Changing mowing height can have a profound effect on root growth and, consequently, on the production of organic matter. Roots are not fed directly by soil nutrients. Those nutrients promote top growth which, in turn, photosynthesizes energy for the roots. Obviously, the more leaf surface area exposed to the sun, the more energy will be synthesized by the tops for root production. According to Eliot Roberts, past director of The Lawn Institute, for every eighth of an inch the mowing height is raised there is a 30 percent increase in leaf surface area exposed to the sun. Other research from the institute shows root mass and soil penetration to increase exponentially as the mowing height is increased.

Excess nitrogen can increase bacterial activity and deplete soil oxygen, resulting in slower root growth.

Bagged turf clippings can amount to another 0.5 to 3 tons per acre per year of organic matter on a dry basis. Recent research from the University of Connecticut suggests that leaving the clippings where they fall can improve the quality of turf and even suppress certain turf diseases.

Removing clippings every time turf is mowed diminishes the soil's ability to maintain a proper level of organic matter. This practice can also remove as much as 80 pounds of nitrogen, 20 pounds of phosphate and 60 pounds of potash from every acre of soil annually. A significant amount of secondary and trace elements are removed as well.

Organic matter content can be measured by most soil testing labs using the same samples submitting for nutrient analysis. The results of the test are usually expressed as a percent of soil content. Five percent is an ideal level but is not always practical to obtain. Under certain conditions, building organic matter levels to 5 percent might be impossible (e.g., in tropical soils).

Figure 2 shows that as the average annual temperature increases, the average level of soil organic matter decreases. This is not a maximum value that can exist in any given environment, but suggests that maintaining organic matter will become more difficult (not impossible) as we move closer to the equator.

Any attempts towards improving organic matter levels will usually cause an improvement in overall soil conditions and a significant reduction in the number of problems a land manager might encounter.

*Paul Sachs is founder and president of North Country Organics, a Vermont-based manufacturer and supplier of natural fertilizers, soil amendments and environmentally compatible pest controls since 1983. His book, Edaphos:*

*Dynamics of a Natural Soil System, examines ways in which Sachs believes human beings are linked to the ecosystem, and how that link determines the future of civilization. To order Edaphos, call (802) 222-4277.*



## Nematodes work against mole crickets at Florida resort town

PALM COAST, Fla.—Parasitic nematodes are being used in the fight against mole crickets at the Florida community of Palm Coast.

According to BioControl, Inc., mole crickets are the worst of the pests plaguing Florida turf professionals. The mole cricket causes an estimated \$60 million in damages each year.

BioControl says it is the exclusive distributor of the nematodesolution. The spray consists of water and nematodes. The microscopic worms live at least 13 weeks in search of a host mole cricket.

Researchers say the nematodes will live at least 13 weeks as they search for mole crickets.

"We are pleased to be a part of a very active movement toward environmentally integrated pest management," says Brigid Braun, superintendent at Matanzas Woods Golf Course in Palm Coast, where the nematode application was made on April 20. "We'll probably never be completely free of pesticides, but biological control holds a lot of promise."

University of Florida entomologist Dr. Grover Smart developed and successfully field-tested the new species of insect parasites over a seven year time span. The University of Florida received a patent on the species in November of 1992.

BioControl, which has done work in nematode science since 1991, is the exclusive licensee of the University's nematode patent.

Callum Macgregor, president of BioControl, says the company has treated 65 golf courses and a dozen cattle pastures and several county school systems

"We expect to complete around 200 applications by the end of 1993," says Macgregor.

*Bioturf News* reported in July of the fight against the mole cricket. At the time, about five percent of Florida's 1200 golf

courses were experimenting with nematode control. It is predicted that as many as 60 percent of the state's golf courses will be using some form of biological control in 10 years.

### Nema-whats?

Nematodes are tiny roundworms that live in moist habitats.

Nematodes have diverse habits. Many are scavengers; some feed on fungus. Many are plant-parasitic and others parasitize various types of animals. Approximately 20 families of nematodes have insect-parasitic species. Nematodes can attack species within most orders of insects.

These nematodes search out insects, parasitize them, and then reproduce, resulting in more parasitic nematodes that will kill any additional insects they encounter.

Most insect-parasitic nematodes are harmless to other animals and do not attack plants.

Because of their small size and hidden nature, the benefits of naturally occurring insect-parasitic nematodes are not always well understood.

Their benefit in the natural control of plant pests is greatest in areas of continuous moisture rather than in more arid areas.

Even in moist situations, however, they may not be abundant enough to provide significant pest suppression without other control augmentation.

## EVENTS

### December

**12-15: American Entomological Society of America** annual meeting, in the Indianapolis convention center.

Program includes information on advances in monitoring turf insects; using pheromones to manage turf insects; the host-plant resistance tactic, genetics and endophytes; and a look at the efficacy of milky spore.

New ways to use IPM technology will also be explained.

# Predator warfare in Calif.: Wasps gain ground in fight against eucalyptus borer, psyllid pest

**RIVERSIDE, Calif., SAN DIEGO—** Researchers here are making progress in their battle against the eugenia psyllid and eucalyptus borer; two hearty pests in landscape plants.

University of California Riverside entomologists report that arsenals of tiny, stingless wasps are effective against the eucalyptus longhorned borer, a pest which has the potential to destroy one of the state's favorite landscape trees.

The combination of biological predator control and tree selection should reduce the beetle borer population.

In San Diego, New Way Landscape Services Company has successfully colonized the eugenia psyllid wasp. The psyllid has been a chronic problem for about three years in San Diego. It stunts the foliage of eugenias, and leaves thousands of ugly bumps on the leaves.

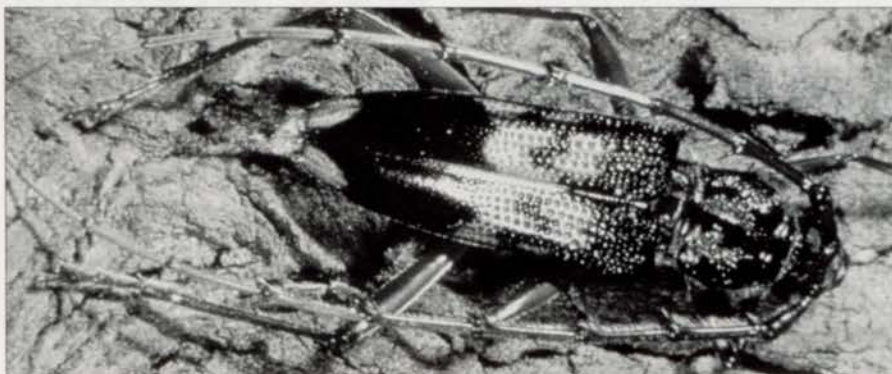
UCR entomologists released the Australian wasps this year at six sites in Southern California and one site in Northern California, with much success.

The inch-long rust brown and yellow beetle is killing eucalyptus trees as far north as San Francisco.

The predator wasps—*Avetianella* and *Syngaster*—are the size of a grain of pepper. *Avetianella* lays its eggs inside those of the beetle, underneath the loose bark of eucalyptus trees. The newborn wasps feed on the eggs of the beetle, interrupting the breeding cycle. *Syngaster* lays its eggs inside the beetle larvae, the immature form of the beetle which is responsible for the tree damage.

Three other stingless wasps are being studied in the UCR lab for their potential against the borer.

**They're spreading.** "At all of the sites, we found eggs laid by beetles that were parasitized by the wasp," says Larry Hanks, a postdoctoral scientist at UCR working on the project with faculty members Timothy Paine and Jocelyn Millar.



The eucalyptus borer must be stopped in the larval stage.

Photo by Max Badgley

"They also appear to be parasitizing a high percentage of the eggs, in some cases up to 90 percent."

The Southern California release sites are in San Diego, Rancho Santa Fe, Fontana, Pacific Palisades and Riverside, where there are two sites on the UCR campus. The seventh release site is in Palo Alto on the campus of Stanford University.

The *Avetianella* wasp has been found 10 miles from the initial release sites. An estimated 45,000 of the egg-parasitizing

wasps have been released at the seven sites since July 1, with perhaps another 30,000 to be released by the end of the beetle's breeding season in early fall.

The experiments are being conducted in urban forests, where the large number of trees over large areas will improve the wasp's chances of reproducing and dispersing to other areas.

The eucalyptus longhorned borer is the

*continued on next page*

## Cultural control includes keeping trees healthy, better waste management

University of California Riverside entomologists Timothy Paine and Jocelyn Millar say a number of preventive measures will help protect eucalyptus trees from the borer pest.

Once an infestation is discovered, it is often too late to save a tree, say Millar and Paine, adding that the recently ended six-year drought provided ideal conditions for the beetle population to grow. Drought-stressed trees are especially vulnerable to beetle attacks.

Some eucalyptus varieties are less attractive to the borer. UCR research has shown that the swamp mahogany, red ironbark, red gum, lemon-scented gum and sugar gum varieties of eucalyptus are somewhat resistant to the beetle, while the Sydney blue gum, dwarf blue gum and manna gum are highly susceptible to the beetle.

- Healthy trees that receive adequate irrigation and proper pruning are better able to fend off a beetle attack. Healthy trees maintain a high moisture content in the outer bark; this drowns the newly hatched larvae as they try to mine into it.

- Prune between November and March, times when the beetles are not active. Egg-laying beetles are attracted to the smell of freshly cut trees and logs.

- Store beneath black plastic. This prevents beetles from reaching the freshly cut logs, and kills any larvae already beneath the bark. Chip the prunings for mulch.

- Remove all dead eucalyptus trees. Wood infested with beetles should be burned, buried, chipped or covered to destroy the germinating beetles.

first major pest of California's eucalyptus trees, first planted about a century ago for use as windbreaks, telephone poles, lumber, paper pulp and fuel. The evergreen tree has since become a popular urban



The *Syngaster* wasp lays its eggs inside beetle larvae.

Photo by Max Badgley

landscape feature because it grows fast and needs little maintenance.

The borer was first discovered in 1984 near El Toro in Orange County, throughout the state, in both coastal and valley areas, as far north as the Bay Area and the Sacramento valley.

The adult borers eat pollen and nectar, and do not damage trees. The larvae do all the damage, as they bore into the inner bark to feed on it and on the underlying cambium tissues.

The beetle has become a pest in part because it was brought here from Australia without its natural enemies. In Australia, a variety of natural enemies help keep the beetle population in check, according to University of California Riverside entomologists, who are studying five of those natural enemies.

In San Diego, Stan Rys, pest management director for New Way Professional Landscape Services, has been colonizing the eugenia psyllid wasp at 12 different breeding grounds, including North Park, Golden Hills and Mission Hills. The wasps were recently released in various parts of Southern San Diego.

New Way specializes in landscape maintenance for commercial properties, home owners associations and apartments. Its pest department specializes in biological alternatives to combat pest problems.

For more information about New Way's approach to predator research, contact Stan Rys or Randy Newhard, at (619) 566-1400.

## Considering IPM? First learn crew strengths, weaknesses

■ In an Integrated Pest Management program, pesticides are only placed where pests are causing a problem in the landscape.

If you want to begin an IPM program, you must train your people to be able to identify pests and diagnose problems.

Dr. Cliff Sadof, entomologist at Purdue University, offers these suggestions for proper IPM implementation:

● **What are your appearance standards?** Prioritize management so the plants you want to look their best do look their best.

● **Map your inventory.** Assess plant condition, and record the occurrence of pest, disease and cultural problems directly on the maps. This will simplify how you track plant quality during the season.

**F**ind out who knows what about IPM, and train those who need to know more. Ask your extension agent for tips on training and certification.

● **Monitor and keep records.** Use a rating system for plant condition, and record the cause of any decline, on a new map, at least twice a month. This helps you accurately communicate where and when to apply products.

● **Put scouts to work.** As used here, scouting refers to plant inspection and observation. A well-coordinated scouting program can reduce the time used for monitoring.

● **Choose treatments.** Know when a pest is most destructive. Spider mites, for example, cause leaves to lose color; the mites thrive in hot, dry weather. Therefore, they'd be a bigger threat in July than in September.

Look for trends that might hint at a rush of pest activity.

● **Treatment.** Apply chemical control products to small areas if possible. Use alternatives to long-lasting products. Natural predators should be preserved whenever possible.

Learn about insecticidal soaps and oils.

Some basics are listed below.

● **Evaluate.** Use your plant quality records to determine success. Have complaints or comments about pesticide use increased or decreased.

Summarize your IPM records to help you focus your future pest management efforts. Focus your attention on the handful of pests doing most of the damage.

### Soaps, oils favorite IPM weapons

**Insecticidal soaps**, like other soaps, are made from the salts of fatty acids. They are used to control soft-bodied pests such as aphids, thrips, scales in crawler stage, whiteflies, leafhopper nymphs and mites. The common insecticidal soaps now available commercially contain potassium oleate—the potassium salt of oleic acid—as the active ingredient.

Some soap products contain pyrethrins or citrus oil derivatives. Some insecticidal products contain soaps or shampoos in combination with organophosphates or other kinds of insecticides (such as pet shampoos).

The toxic action of the soap disrupts the insect's outer body covering, and may enter the respiratory system.

**Oils.** Essential oils are volatile (disperse as a gas), odorous oils from plant sources. Many are generally considered to be safe, however they can irritate skin and mucous membranes at high concentrations.

The most common oils used as repellants are cedar, lavender, eucalyptus, pennyroyal and citronella.

**Neem** products are derived from the Indian neem tree. Neem acts as a feeding deterrent in insects. In various forms it also serves as a repellent, growth regulator, suppressant, sterilant or toxin.

Susceptibility to neem differs by species.



## PRODUCT-OF-THE-MONTH

### Bioinoculant adds N to soil

TurfTech II, from Soil Technologies Corp., is a nonburning, odorless soil bioinoculant for managing soil fertility.

TurfTech II consists of dormant microorganisms in a wettable powder.

TurfTech II can be used on any turfgrass species. When applied to the soil, the legume-like microbes in TurfTech II come to life and begin producing organic compounds, including nitrogen from nitrogen fixation, polysaccharides and plant growth hormones.

According to the company, The chemistries delivered by TurfTech II produce the effect of a true biofertilizer. In research around the world, the cyanobacteria in TurfTech II have been shown to

add up to 1/2 to one lb. of nitrogen per 1000 sq. ft. per application.

"It does what it's supposed to do," says Bob Cohen, president of The Green Scene in Sun Valley, Calif.

For years, Cohen struggled to keep clients' lawns lush in spite of drought and heat stress. He thought just plain water would do the trick. He thought wrong, he realizes.

Cohen then tried TurfTech II in May 1992. "We loaded our 100-gallon tanks with 1-1/2 teaspoons of dechlorinator and two ounces of TurfTech II; we cut back the urea (the low-biuret type) from 40 lbs. per half-acre down to 10 lbs."

Cohen adds a half-pound of iron sul-

phate and a half-pound of 13 percent iron chelate for deeper color and quicker response.

"In the spring and fall," says Cohen, "we add some soluble P and K as well."

"...the material seems as safe as can be," reports Cohen. "Since we gave up wetting agents and humus extracts, the complaints of 'burn' have dropped to nil. In fact, nearly all of our 'poor color' complaints turn out to be dry areas caused by poor irrigation coverage."

Cohen reports that TurfTech II brings moderate green-up upon application (partly to the credit of the urea). "But instead of tailing off after a month or so, the green keeps on going. We service every eight weeks, and we haven't had a complaint about our lawns not staying green through the service period," says Cohen.

Cohen says ornamentals also respond well to the product.

"Seems that any planting that keeps the soil surface covered will respond well to TurfTech II treatment," says Cohen. "Without that typical N-surge of chemical fertilizers, the plants seem to seek out the 'right' combination of N-P-K to perform seasonally. And I believe we are also bringing the pH of our alkaline soils down with the built-in humic acids."

Soil Technologies Corp. is headquartered in Fairfield, Iowa.

Circle No. 203 on Reader Inquiry Card



The test plot on the left shows initial green-up after TurfTech II application. No fertilizer was applied to the plot.

## PRODUCT SHOWCASE

### Compost bio-excelerator speeds humus production

Espoma Compost Bio-Excellerator makes composting easy, and helps speed the production of rich, fertile humus.

The bio-organic formula in Espoma Bio-Excellerator contains billions of microbes cultured for composting, as well as an energy source. The microbes in Espoma are especially cultured to thrive in moderate and high heat environments.

Natural organic compounds are included to neutralize the organic acids produced during composting.

The organic compost produced with Compost Bio-Excellerator can be used in flower beds, vegetable gardens, lawns and

potted plants.

Detailed instructions as well as additional suggestions for successful composting are contained on the bag.

Circle No. 204 on Reader Inquiry Card

### Fertilizer company specializes in municipal, utility clients

MBT Fertilizers, Inc. is a contract service company that specializes in providing its Hou-Actinite natural organic fertilizer to municipal, utility and corporate clients. The Milwaukee, Wisc.-based company provides material handling, transportation and packing services.

Hou-Actinite has a guaranteed analysis

of 5-2-0, with two percent iron content.

The product is available as tiny pellets about the size of a pin head. The company says Hou-Actinite is non-burning and slow-release.

The company's new operating system guarantees the product particle size to be less than #6 mesh and greater than #35 mesh.

Plans include providing a product size of smaller than #6 and greater than #16 mesh for special industrial use.

Hou-Actinite meets or exceeds all EPA #503 regulatory requirements for Exceptional Quality Sludge.

Circle No. 205 on Reader Inquiry Card

# BIOTURF NEWS

## Bio-Turf News: For the latest in organic, biological and natural landscape care

**B**io-Turf News is our bi-monthly department on current research and development in biological, organic and natural turf care.

Response to *Bioturf News* has been overwhelmingly positive. Those who are using biological or organic products—even experimentally—are glad we've taken the lead in keeping you abreast of the latest developments.

We've told you about lawn care operators, landscapers and golf course superintendents who have successfully integrated organic or biological products into their synthetic control arsenals.

You've read about what's happening at the leading manufacturing facilities, and in the state-of-the-science university research labs.

Some say biological and organic products and procedures are too expensive and take too long

to show results. Others believe customers should have a choice. And still others are probably wondering what all the excitement's about.

Our job, as an industry information source, is to pass the most current information along to you—as soon as we can and in the best way possible—and let you take it from there.

To receive your complimentary copy of *Bio-Turf News*, complete the form below and mail to the **LANDSCAPE MANAGEMENT** offices in Cleveland, Ohio.

We want to hear from you. Let us know what you think of all the change in the green industry, or what you'd like to see in *Bio-Turf News*.



**Jon Miducki**  
Publisher,  
LANDSCAPE  
MANAGEMENT



**Terry McIver**  
Managing editor,  
LANDSCAPE  
MANAGEMENT



*Bio-Turf News is a bi-monthly department containing news on biological, organic and natural products and practices for the specialty turf market. To receive your complimentary copy for one-year, please return the coupon below to:*

**Jon Miducki, publisher**  
**LANDSCAPE MANAGEMENT**  
7500 Old Oak Blvd.  
Cleveland, OH 44130

**ORDER TODAY!**

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

should be two weeks prior to overseeding. Multiple applications provide the best control, but require appropriate timing, multiple passes and careful planning.

Post-emergence annual bluegrass control is limited in overseeded situations, since Prograss is the only available material. To prevent undesirable turfgrass injury, Prograss should be used 30-45 days after overseeding when the bermudagrass is completely dormant. A subsequent application may be made—but not after January, or green-up may be delayed. Prograss is not recommended in subtropical areas like Florida where bermuda does not normally go completely dormant.

Post-emergence broadleaf weed control is also available with 2,4-D alone or combined with 2,4-DP, MCPP or dicamba. These should not be applied until the ryegrass has become fully established—generally, not until it has been mowed at least three times. Only the lowest recommended rate should be used on overseeded rye, and usually must be repeated in 10-14 days. Use these controls when temperatures are more than 40° F.

Basagran T/O can also be used to control selective annual winter broadleaf weeds, but generally is less effective on biennial or perennial weeds. Repeat applications may be required three weeks apart for complete control. Basagran T/O

is not available for golf greens or collars.

A serious weed adjacent to many overseeded areas is the off-site movement of overseeded ryegrass seeds. If a pre-emergent is not used, either Kerb or DMC Weed Control may be used post-emergence. These must be applied early (December), or control efficacy is reduced and time required for control significantly increases.

Do not use Kerb, simazine, atrazine or DMC Weed Control on or up-slope of desirable overseeded ryegrass.

—The author is turf specialist at the University of Florida in Gainesville.

(table on page 38)

**Table 1 Southern turfgrass tolerance to post-emergence herbicides**

Herbicide	Bahiagrass	Bermudagrass	Carpetgrass	Centipedegrass	St. Augustine	Zoysiagrass	Overseeded rye
atrazine (Aatrex +others)	NR	I <sup>2</sup>	I	S-I	S-I	I	D
Basagran T/O	S	S	S	S	S	S	S-I
2,4-D	S	S	I	S-I	S	S	S-I
2,4-D+dicamba	S	S	I	S-I	I	S	S-I
2,4-D +dichlor- prop(2,4-DP)	S	S	I	S-I	I	S	I-D
2,4-D +MCPP	S	S	I	S-I	I	S	I-D
2,4-D + MCPP+ dicamba	S	S	I	S-I	I	S	I-D
2,4-D+MCPP+ 2,4-DP	S	S	I	S-I	I	S	I-D
dicamba (Banvel + others)	S	S	I	S-I	I	S	I
MCPA+MCPP+ 2,4-DP	S	S	I	S-I	I	I	I-D
MCPP	S	S	I	S-I	I	S	I
DMC weed control	D	S	NR	S-I	S-I	S	D
Kerb	NR	S	NR	NR	NR	NR	D
simazine (Princep+others)	NR	I <sup>2</sup>	I	S-I	S-I	I	D

S=safe at labeled rates; I=intermediate safety, use at reduced rates; D=damaging, do not use; NR=not registered for use on this turfgrass.

<sup>1</sup> Atrazine and simazine should be used on bermudagrass only during fall and early winter. Do not use during spring green-up.



**The Newest Tiltmaster.  
A Gas To Work With.**



## Introducing Tiltmaster W4 Gas

*Here's a low cab forward you'll not only be comfortable working with, but filling up at the pump, too. Just go straight for the unleaded regular, because that's what the new Tiltmaster W4 Gas runs on. It has the strongest engine available in a Class 3 low cab forward, GM's electronically fuel-injected 5.7L V8. It'll put out 190 HP, 300 lb-ft of torque. A perfect tool for day-in, day-out economic power on the job. Call 1-800-TO CHEVY for a catalog and the name of your nearest dealer. Chevy. The trucks that last.*

t's

**Chevy Trucks  
LIKE A ROCK**



Circle No. 103 on Reader Inquiry Card

Table 2  
Susceptibility of broadleaf weeds to turf herbicides

Weed	Atrazine/ Simazine	2,4-D	Mecoprop (or MCPP)	Dicamba	2,4-D+ MCPP	2,4-D+ 2,4-DP	2,4-D+MCPP +dicamba	2,4-D+ triclopyr	DMC Weed Control
Florida betony	S-I	I	I	I-S	I	I	I-S	I	I
Hairy bittercress	-	S	I	S	S	S	S	I	I
Black medic	-	R	I	S	I	S	S	I	I
Burclover	-	I-R	S	S	S-I	S	S	I	I
Buttercups	I	S-I	I	I-R	S	S	S	I	I
Wild carrot	-	I	I	S	I	S-I	S	I	S
Common chickweed	S	R	S-I	S	S	S	S	S	S
Chicory	-	S	S	S	S	S	S	I	I
Cinquefoil	-	S-I	S-I	S-I	S-I	S-I	S-I	I	I
Hop clover	S	I	S	S	S	S	S	S-I	S
White clover	S	I	S	S	S	S	S	S-I	S
Dandelion	I-R	S	S	S	S	S	S	I-S	S
Wild garlic	-	S-I	R	S-I	S-I	S-I	S-I	I	S-I
Carolina geranium	-	S	S-I	S	S	S	S	I	S-I
Healall	-	S	R	S-I	S	S	S	I	I
Henbit	S	I-R	I	S	I	S-I	S	S	S-I
Ground ivy	-	I-R	I	S-I	I	I-S	S-I	I	I
Knawel	-	R	I	S	S-I	S-I	S	I	I
Wild mustard	S	S	I	S	S	S-I	S	I	S-I
Wild onion	-	I	R	S-I	I	I	S	I	I
Parsley-piert	S	R	S-I	S-I	S-I	R	S-I	S	I
Lawn pennywort	S	S-I	S-I	S-I	S-I	S-I	S-I	I	I
Pepperweed	-	S	S-I	S	S-I	S	S	I	I
Shepherd's-purse	-	S	S-I	S	S-I	S	S	I	I
Corn speedwell	S	I-R	I-R	I-R	I-R	I-R	I-R	S	I
Spurweed	S-I	I	S-I	S	S-I	I	S	I	I
India mock strawberry	-	R	S-I	I	R	S-I	I	I	I
Thistles	-	S-I	I	S	S-I	S-I	S	I	I
Violet, johnny jumpup	-	I-R	I-R	S-I	I-R	I	I-R	I	I
Yellow rocket	-	S-I	I	S-I	S-I	S-I	S	I	I

S=Susceptible; I=intermediately susceptible, good control sometimes with high rates; however a repeat treatment three to four weeks later each at the standard or reduced rate is usually more effective; R=resistant in most cases. Not all weeds have been tested for susceptibility to each herbicide listed.



**KNOWLEDGE IS POWER.** Every day, Advanstar opens up a world of knowledge, becoming the prime source of information that you need for success — through leading publications serving diverse business and professional markets...productive expositions that deliver quality audiences...and sharply focused marketing services. Look at your world in a whole new light. *Advanstar. Serving business' need to know.*

  
**ADVANSTAR**  
COMMUNICATIONS

PUBLICATIONS • EXPOSITIONS • MARKETING SERVICES  
7500 Old Oak Boulevard, Cleveland, Ohio 44130 216-243-8100 800-949-9049

# GOLF

## 'SCAPING

# Multi-course management tricks

**If you've got more than one golf course to maintain, you'll want to know these 'tricks' to avoid getting pelted with tomatoes from your audience: the players and members.**

■ You, as a golf course superintendent, are a juggler. You try to keep all the plates spinning at one time: equipment, personnel, greens committees, budgets, members.

Now imagine that someone just tossed more plates at you. Now you've got to juggle the management of six golf courses.

That's what John Betts faces when he gets up every morning. And, by all accounts, he's not managed to break any plates yet.

Betts oversees five high-profile courses in Hilton Head, S.C., where he's one of a very few Certified Golf Course Superintendents. He has another course in Charleston. Each of the courses has its own super, though, making the juggling act a little easier to pull off.

"We try to manage our operation by staff consensus," Betts says, "but at the same time realizing that time comes when somebody has to make a decision.

"I try to involve as many qualified people in the decision-making. I didn't write a book on this stuff, but we've been successful doing things this way. That's not to say that I haven't made some wrong decisions, though, and I will in the future."

**People power**—The courses and their superintendents are: Robert Bagonzi at the Robert Trent-Jones- and George

**John Betts:** says it's not easy to fool Mother Nature. 'But we're dense. We don't learn very quickly.'



Fazio-designed courses at Palmetto Dunes; Rich Maxfield at Palmetto Dunes's Art Hills course; Tom Metzger at the Robert Cupp and Hills courses at Palmetto Hall; and Tom Arneman at Coosaw Creek in Charleston.

"I consider myself the fireman," Betts observes. "I can tour the courses and see things that don't come out and grab my superintendents like they do me. There are enough fires that there's always something to be addressed. But I try to stay out of their hair on a day-to-day basis."

The key to keeping things spinning is keeping employees—beyond the individual superintendents—happy.

"It's hard, when you have 60 or 75 employees, to treat everybody as individuals," says Betts. "But we do a darned good job of being fair and con-

sistent. That's not to say that we don't have our problems, but when you have that many individuals, the potential for problems is greater.

"Our employees all basically get along, and they're all treated well. They work hard, and I would give a lot of them the shirt off my back."

**Tweaking Mom**—Because of the inherent problems with running resorts in a high-profile area like Hilton Head, the golfing season is getting longer. So Betts is finding that he's having to "tweak" Mother Nature.

"The season gets a week longer each year," notes Betts. "February 15th is now a little earlier. And we're busy until Thanksgiving."

"The toughest thing in this business is

*continued on page 42*



LOOKING FOR A COMPACT THAT CAN MOW LIKE NO OTHER? LOOK TO EXCEL AND THE ALL NEW MODEL 2500. THIS ERGONOMICALLY-DESIGNED 22 HP MID-MOUNT DELIVERS A CUT SO REFINED YOU WON'T BELIEVE YOUR EYES.

EQUIPPED WITH YOUR CHOICE OF 52, 60, OR 72-INCH HIGH-FLOTATION, SIDE-DISCHARGE DECKS, **THE MODEL 2500 COMPACT GIVES YOU A SUPERIOR CUT EVERY TIME, NO MATTER WHAT SIZE AREA YOU HAVE TO MOW. CALL NOW TO SCHEDULE**



**A FREE DEMONSTRATION AND EXPERIENCE FOR YOURSELF, THE 2500'S SUPERIOR CAPABILITIES ON YOUR OWN TURF!**

*With the introduction of lever steering to the lawn mower thirty years ago, Excel revolutionized mowing productivity. Now Trim Steering™ revolutionizes lever steering. Once you've tried it, everything else will be a disappointment.*

FOR MORE INFORMATION, CALL NOW:

**1-316-327-4911**

*Think Fast! Think Excel*



EXCEL INDUSTRIES, INC. • HESSTON, KANSAS  
*Manufacturer of the Hustler, Compact, and UTR™ brands of Turf & Grounds Equipment*



*The Model 2500's low profile design and centrally located seat provide a clear view of the work area.*

that a lot of times we think we're going to manipulate Mother Nature and try to force things to happen.

"In a resort area, the time of season when you're getting your peak dollar may not necessarily coincide with your peak maintenance. So you try and finagle, and a lot of times it hurts you. We'll try to push the bermudagrass out, stimulate it mechanically or with fertilizer. But it will come out when Mother Nature says it's ready to come out, not any time before. It's going to sit there until it gets the green light from her to move.

"What's funny is that you'd think you'd realize this is frivolous, but we keep hitting that brick wall because we're dense. We don't learn very quickly."

**Fresh paint**—Many of the decisions Betts must make on a regular basis are forced by the competitive situation on the island.

"In the last four years, it's gotten a hell of a lot tougher," Betts says. "Hilton Head has six new resorts, and you put the older courses up against 'fresh paint' and it's not apples to apples. That's why we're always looking at renovations."

The Cupp course, just opened last February, is the most interesting architecturally. It features a straight-line design that can only be appreciated by seeing it and playing it in person.

The Fazio course, on the other hand, was built in 1974, and will probably be renovated soon.

"When it was first built, it was one of the top 100 courses in the U.S.," notes Betts. "We don't really want to change that. But the problem is the age of the greens and the age of the grasses on the greens. I may have a half-dozen strains of bermudagrass out there now. They mow differently, take fertilizer differently, transition differently.

"In 1974, they may have been getting 23,000 rounds on its small putting surfaces and it probably handled that just fine. But now we're getting 45,000 to 47,000 rounds on that same confined area and we've got to struggle.

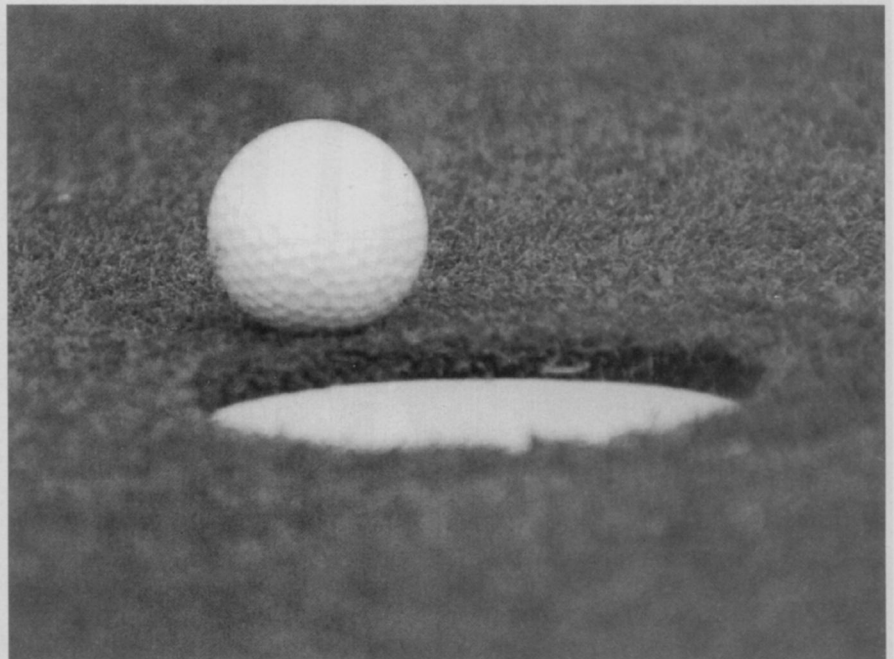
"So we're not going to change the look of the course, just expand it out a little bit. Playability will improve dramatically."

Despite the fact that Betts admits he could've used more business training at Michigan State University where he got his turf degree in 1981, he's still having fun.

"What's been fun and fast-paced is that we've maintained, renovated, and built—all at the same time."

—Jerry Roche

# How to have white golf holes, without the paint



by Scott Niven, CGCS

■ Golf courses today are designed and maintained in a way that maximizes aesthetic qualities by creating near-perfect definition of all features. A lot of time, effort and money goes into producing this manicured look, which is characterized by such things as:

- perfectly outlined bentgrass greens, tees and fairways with eye-catching patterns of stripes and a dark blue-grass border;

- bunkers with sharp edges and bright white sand to improve visibility and appeal;

- tees flanked by signs with handsome graphics depicting the layout of each hole;

- bright colored flags embroidered with attractive logos and painted flagsticks marked to indicate exact locations; and

- all sorts of plaques and yardage markers on sprinklers to aid players in choosing the correct club.

All of these things give the golf course a professional, appealing look and the sharp definition shows the golfer exactly where to play his shots.

Until now, we have stopped just short of doing everything possible in providing the ultimate in visual definition. The one location where we can still

A lip-out study demonstrated that the difference with the Hole Target is statistically insignificant.

improve—which, ironically, is the most important in all of golf—is in highlighting the hole itself.

Even if we frequently apply white paint to the metal cup, the one inch of exposed brownish soil just below the surface is still difficult to see from most areas of any golf green. So much so, the USGA and the PGA Tour will attempt to paint this exposed soil white for their tournaments so that TV viewers can see the hole better while watching at home.

Of course, those lucky participants get the benefits of a more visible hole as well, but most amateur golfers do not get to experience this luxury. Instead, they must putt to a soil-edged hole that they can't see very well. Unfortunately, regular painting of the soil edge is not practical because it's very difficult and time-consuming.

But thanks to a clever inventor from

Texas, we now have a patented device called the U.S. Golf Hole Target that simulates white paint on the edge of the hole. This white plastic collar covers the exposed soil above the metal cup to a level of 1/4-inch below the green's surface and creates a clean, bright, white and highly visible "target."

Some other less obvious benefits of this collar, besides a reduced need to tend the pin, are:

- 1) Preservation of the perfect 4 1/4-inch diameter of the hole, which can expand and contract during dry or wet weather.
- 2) Elimination of soil particles flaking off on high sand-based greens.
- 3) And a reduction in desiccation around the top of the hole.

The U.S. Golf Hole Targets are very easy to install and, since they are reusable, need only to be replaced at approximate two-week intervals. The cost averages less than two cents per golfer-round.

The biggest criticism I've heard of this new invention is one of fear that it might cause the ball to lip-out of the hole. This scenario has been looked into in great detail through a lip-out study that simu-

lated more than 4,000 putts under all types of weather conditions. It demonstrated, without a doubt, that the difference in lip-outs with or without the device is statistically insignificant.

The position of the Target, at 1/4-inch below the green's surface, was not chosen arbitrarily. The laws of physics were used to prove that once the centroid of an object, with the mass and weight of a golf ball, falls 1/4-inch into the hole, only gravity can then affect it to fall to the bottom of the hole.

The USGA has not yet approved of, or declared, the Target in conflict with the Rules of Golf. That decision will have to wait until 1996, when the rules can more accurately define what constitutes a metal cup liner versus a plastic collar. Until then, the definition of "hole" says:

"If a lining is used, it shall be sunk at least one inch below the surface of the putting surface unless the soil condition makes it impracticable to do so." (Surely, the exposed earth, subject to dehydration, erosion and instability, is impracticable, which by definition is "hard to manage; difficult to maintain." With this interpreta-

tion, using the Target for regular play at any golf club is perfectly legal.)

We've used the Target successfully every day at our club for more than a year, as have many other golf courses. I'd predict that it is only a matter of time until the USGA and the PGA Tour will make the Target standard equipment for their special events, as well as on all golf courses everywhere.

For more information on the patented U.S. Golf Hole Target, with headquarters in The Woodlands, Texas, phone (800) 256-7400.



—Scott E. Niven, CGCS, has been property manager of The Stanwich Club in Greenwich, Conn., since 1983. This prestigious club is ranked by "Golf Digest" as one of the top 100 courses.

## The Andersons: Committed To Serve Your Weed Control Needs With Product Choices And Proven Results

### Product

### Description

### Benefit

#### Barricade

"The choice for all seasons, the herbicide for all reasons." -Sandoz

Proven herbicide is expertly incorporated into a selection of results-getting fertilizer formulas to provide great, one-step combination products.

#### DIMENSION

"The toughest thing to emerge since crabgrass." -Monsanto

Powerful herbicide, in combination with one of The Andersons proven fertilizer formulations, provides product range that gets two jobs done with a single application.

#### GALLERY

"The herbicide for people interested in not applying herbicides." -DowElanco

A proven performer in combination with The Andersons famous fertilizer formulation. A single application provides long-term, weed-free results.

Come see us at the OTF show in Columbus, OH: Dec. 7-9, Booths #415-417. And visit us at the GCSAA Show in Dallas, TX, Feb. 4-7, Booths 1945-1947.

the professional's partner®

The Andersons

1-800-225-ANDY (2639)



PLCAA  
Professional Lawn Care Association of America

©BARRICADE Herbicide is a trademark of Sandoz Ltd. DIMENSION is a trademark of Monsanto Company. ©GALLERY is a trademark of DowElanco. ©1993 The Andersons

Circle No. 101 on Reader Inquiry Card

# LAWN CARE INDUSTRY

## Russell J. Frith, 1993 'Person of the Year'



Russell J. Frith

Lawn Doctor's president and CEO is in the forefront of efforts to promote the industry's image and message on the political front.

■ Twenty-two men and women sat around tables arranged in a square dominating a first-floor meeting room in an Alexandria, Va., hotel. This was an unlikely group, the only common thread among the participants being some expertise or agenda concerning pesticides. Some objected to their use. Others defended their use.

One of the 22 is a big man with a round ruddy face, blondish-gray hair, and a loud, clear voice. His name is Russell J. Frith, and guess which side of the fight he is on.

Frith, 50, president and chief executive officer of Lawn Doctor, Inc., is LANDSCAPE MANAGEMENT's 1993 lawn care "Person of the Year."

The meeting we refer to took place last February and dealt with U.S. Environmental Protection Agency (EPA)

efforts to develop "guidelines" for individual states on pesticide-related issues such as pre-notification, the establishment of chemical registries, etc. (As it turned out, the EPA had pretty much settled on guidelines already—a fact that Frith firmly took issue with at the time.)

While EPA representatives guided the meeting from the north end of the huge table, Frith and several other pro-lawn care spokespeople formed a loose coalition to their left, facing, about 15 feet away, several of the industry's harshest critics.

A strong voice—Actually, this was the second, and final, meeting of the so-called EPA Lawn Care Pesticide Advisory Council. The first had been in Annapolis, Md., in May 1992. Frith had been at that one too, and just as vocal.

At both meetings, his rational defense of lawn care issues (he certainly wasn't alone) visibly altered the agenda of industry critics who, it seemed, had come to the table viewing the lawn care industry as an easy target. They discovered—after going

face-to-face with Frith, other lawn care proponents and several product manufacturers—that the industry is both proactive and, for the most

part, united.

They also learned that it isn't easily intimidated. Pro-industry spectators at both hearings considered this to be the bigger victory.

Frith's involvement on this committee isn't the sole reason why we've chosen him as "Person of the Year." It is, though, one of many telling episodes in his 16-year involvement with the lawn care industry.

In fact, lawn care is an industry that Frith, through his company, has helped grow. Many small business owners (about 300) wouldn't be in lawn care today if it weren't for Lawn Doctor and its remarkable dealer retention record. Lawn Doctor is the industry's leader in franchised lawn care.

What's lawn care?—Frith admits that as a youngster in a working-class Philadelphia neighborhood he never dreamed of directing a lawn care company. In fact, if there was a lawn care industry, it was microscopic. Lawn Doctor itself didn't exist until 1964 when the late Tony Giordano, owner of a hardware store, and

friend Robert Magda opened a lawn care operation. The company was called Auto-Lawn then; it became Lawn Doctor in 1967. Giordano died in 1984. Magda is a vice president with, and remains active in, Lawn Doctor.

Frith joined Lawn Doctor in 1978 as director of franchise sales. In 1979 he became vice president of marketing, and in 1980 executive vice president. He's been company president and CEO for the past 12 years.

Frith probably would have been successful without any further involvement in industry-wide issues. But that appears to go against his out-going, sometimes-ebul-

lient, sometimes-challenging nature.

Not only is he a past president of the Professional Lawn Care Association of America, but he also served as president of PLCAA's Educational Foundation and remains active on its Government Relations Committee.

**Enjoying his role**—As the president of the nation's leader in franchised lawn care (locations in over 30 states), Frith has made it a point to maintain a high profile in Washington D.C. affairs as they relate to the industry. Actually, he seems to enjoy it.

He also regularly commits Lawn Doctor staff and resources to support industry causes, while he urges the com-

pany's independent franchisees to become involved in local, state and regional political and regulatory actions too.

Frith is married, and he and his wife Margaret have two sons, both in college. Frith attended LaSalle University where he earned a B.S. in Accounting and Marketing.

Previous "Person of the Year" award winners: Jerry Faulring (1984), Richard Lee Duke (1985), Ron Giffen (1986), Bill Fischer (1987), Jim Marria (1988), James Fitzgibbon (1989), James Brooks (1990), Marty Erbaugh (1991), and Patrick J. Norton (1992).

—Ron Hall

## Wierichs, big man for big job

### New PLCAA president to remain active in GIE negotiations, wants association to reach out to members

■ Lou Wierichs brought the cigars. They were good ones, from Tampa.

This could only mean one thing. The out-going president of the Professional Lawn Care Association of America, in this case John Robinson of Calgary, Canada, gets to light up, prop his feet on a table and relax. PLCAA's incoming-president, in this case Wierichs of Appleton, Wis., gets to lazily contemplate the coming year through the lingering blue smoke of a fine stogie. One last time.

This ritual marks what is sure to be a hectic year in the life of Wierichs who describes himself as a practical person. A nuts-and-bolts kind of guy. A commonsensical man ("If there is such a word.").

But associates describes this mountain of a man (6-foot-5 and about 280 pounds) as out-going and hard working. He can be all business, or fun loving. It just depends on the situation. "But, you always know when he's around," jokes one peer.

"I know being president of PLCAA will take a lot of my time. But when you have something that's worthwhile, you find the time," says Wierichs, operator/majority owner of Pro-X System Lawn Care, a company he and two partners founded in 1986 as a ServiceMaster franchise.

After all, Wierichs points out he's successfully managed to grow his business while maintaining perfect attendance as PLCAA board member the past two years, and as an officer in the Grounds Management Association of Wisconsin. When Terry Kurth, Barefoot Grass of Madison, initiated the idea for the pro-industry Wisconsin Industry for Sound Environment (WISE), Wierichs joined in too.

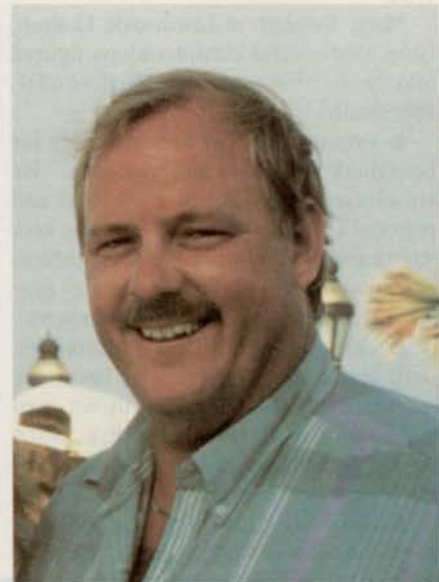
Wierichs says one of his main goals as PLCAA president will be to help in Green Industry Expo negotiations. Representatives from PLCAA, the Associated Landscape Contractors of America (ALCA), and the Professional Grounds Management Society (PGMS) have until June 30, 1994 to hammer management of future GIEs. Presently, PLCAA manages the Expo.

"I was going to go off the (GIE) board, but the PLCAA board felt I should stay on as one of its three representatives during the negotiations with ALCA and PGMS," says Wierichs. "I feel very comfortable with what's going on."

Wierichs insists he's pro-GIE. "I understand the importance of staying together."

In an unrelated matter, Wierichs says he wants to see PLCAA more aggressive in reaching out to members again. That's because so there are so many small companies in PLCAA. Lou says about 70 percent of PLCAA membership reports gross sales of \$600,000 or less. ("Hey, I'm one of these guys," he points out.)

"A lot of those members need the how-to's," says Wierichs. "This year I think we're going to implement six educational road shows. PLCAA was at its strongest when it reached out to its membership."



**Wierichs: believes in information network between companies.**

Along these lines, Wierichs says he would like to see a PLCAA help line set up so that when a member has a question concerning a specific problem, that member can dial an 800 number and talk to somebody who has dealt with and resolved similar problems.

For his own part, Wierichs says PLCAA has allowed him to build up an information-sharing network of non-competing lawn care company owners, both in Wisconsin and across the country. "That's the number one benefit of participating in any professional association," says Wierichs.

Former restaurant manager, interstate truck driver, loan officer and, for the last eight years, small business owner. Lou Wierichs is certainly big enough to guide PLCAA for the coming year.

—Ron Hall

# HOT TOPICS

## Barefoot to buy more of Lawnmark

■ Barefoot Inc., Worthington, Ohio, says it's going to buy the Lawnmark lawn care businesses in New York, Vermont and Maine. The eight locations, all described as leaders in their particular markets, should finish 1993 with \$8.4 million in revenues.

The sale is expected to close on April 1, 1994.

Marty Erbaugh of Lawnmark, Hudson, Ohio, said several considerations figured into the decision to accept a Barefoot offer. Specifically:

- Improved career opportunities for Lawnmark employees and managers. "We are blessed with a lot of good local and regional management. Barefoot has very strong systems and will provide opportunities for upward mobility for our key people" Erbaugh told LANDSCAPE MANAGEMENT.

- Comparable business philosophies. Both companies offer granular lawn care service. Both favor targeted direct mail marketing over telemarketing. Both strongly emphasize customer service and retention, said Erbaugh.

- Barefoot continues to grow, and shows no signs of slowing down. "Barefoot

has got it together. They've got a lot of fine things going on and I see it continuing," says Erbaugh.

Actually, this isn't the first time Barefoot and Lawnmark have dealt.

In January 1992 Barefoot bought Lawnmark operations in Cleveland, Wooster, Akron and Canton.

Through its wholly owned subsidiary Barefoot Grass Lawn Service, Inc., it is now the nation's second largest professional lawn care service company with 1993 sales of about \$90 million, says a company spokesman.

Chief Financial Officer Michael R. Goodrich said Barefoot grew from 315,000 to 432,000 customers system-wide during fiscal 1994. This figure includes the acqui-



Erbaugh: Barefoot, Lawnmark share business philosophies.

sition of Ever-Green Lawns Corporation in January 1993.

"The Ever-Green acquisition has made a significant contribution to 1994's growth," said Goodrich. "However, we continue to address Ever-Green's operating margin as an area for improvement.

"Likewise, the acquisition of Lawnmark should have a positive impact on earnings per share for fiscal 1995. It expands our customer base profitably to an area where Barefoot

currently does not have operations."

Barefoot now operates in 75 metropolitan markets, primarily in the central and eastern U.S. Of these markets, 30 are served by company-owned "branchises," 36 by franchises and 9 by the company.

—Ron Hall

## Homeowners place value on their lawns, study says

INDIANAPOLIS—Homeowners place a high value on the personal values of a lawn, according to a recent study. They place less importance on environmental benefits, however, the study says.

The study, commissioned by DowElanco Specialty Products and conducted by Mar-Quest Research, examined homeowner perceptions and attitudes.

Homeowners identified aesthetics, "curb appeal," resale value and a personal sense of accomplishment or pride as the main benefits derived from maintaining a healthy and weed-free lawn. They said lawns allow them to spend "quality time" with their family, friends and pets.

After further questioning, the homeowners mentioned environmental benefits such as dust control and providing oxygen.

"Lawns are an important part of their lives," says DowElanco director of public affairs Bill Culpepper. "They're willing to devote time and money to ensure their lawns are meticulous, flawless pieces of art."

Most respondents said pesticides were vital to maintaining a thick and healthy lawn. Generally, they accept pesticides and fertilizers, providing they are used properly.

Also, homeowners in the study consider posting a courtesy, but not a necessity.

Culpepper indicates that homeowners who either purchase a lawn care service or apply the products themselves are not overly concerned about posting. On the other hand, consumers who do not purchase these services and products tend to have a greater anxiety about them.

"We need to educate this group on the wide margins of safety that our products provide," Culpepper says. "The average homeowner views posting as the 'friendly, neighborly' thing to do, not as a cause for alarm."

Data was gathered in Columbus, Ohio; Atlanta; Salt Lake City, Utah and Philadelphia.

### ELSEWHERE

Internships for college kids, page 49

This month's key dates, page 49

Publications to watch for, page 50

# GREEN INDUSTRY EVENTS

## DECEMBER

**15: Lawn Care Assoc. of Pa. Winter Educational Meeting**, Carlisle, Pa. Phone: LCAP, (717) 236-2050.

**15-16: Oregon Turf & Grounds Maintenance Exhibit**, Oregon Convention Center, Portland. Phone: D.L. Tom Miller, (503) 635-6867.

**17: Pesticide Safety for Landscape Contractors**, New Brunswick, N.J. Phone: Rutgers University, (908) 932-9271.

## JANUARY

**2-7: Advanced Landscape Plant IPM Short Course**, Univ. of Maryland. Phone: David Laughlin, (301) 405-7665.

**3-5: Wisconsin Turfgrass & Green Industry Expo**, Madison, Wis. Phone: (608) 845-6536.

**3-5: Maryland Turfgrass '94**, Baltimore. Phone: Cheryl Gaultney, (410) 335-3700.

**4: Ohio State Perennial School**, Avon, Ohio. Phone: Charles Behnke, (216) 322-0127.

**4-6: Kentucky Landscape Industries Winter Conference & Trade Show**, Lexington Center. Phone: (502) 429-6171 or (812) 284-1042.

**5-7: Turf Management /Park Maintenance Training School**, Albany, N.Y. Phone: Beth Seme, (518) 783-1229.

**7-8: Louisiana Arborist Annual Meeting**, Baton Rouge. Phone: Robert Souvestre, (504) 389-3055.

**8-11: GrowerExpo**, Rosemont, Ill. Phone: (708) 208-9080.

**10-12: Great Lakes Trade Expo**, Grand Rapids, Mich. Phone: Michigan Nursery & Landscape Assn., (517) 487-1282.

**10-12: Eastern Pa. Conference & Trade Show**, Valley Forge. Phone: Scott Guiser, (215) 345-3283.

**10-12: Nebraska Turfgrass Conference**, Omaha. Phone: NTF, (402) 463-5418.

**10-13: Advanced Turfgrass IPM Short Course**, Univ. of Maryland. Phone: Lee Hellman, (301) 405-3920.

**11-13: Eastern Regional Nurserymen's Assn. Annual Conference**, Kiamesha Lake, N.Y. Phone: ERNA, (203) 872-2095.

**11-13: Indiana Arborist Winter Meeting**, Indianapolis. Phone: Lee Huss, (812) 331-6497.

**12-14: Utah Green Conference & Trade Show**, Salt Lake City. Phone: George Hoar, (801) 288-8858.

**12: Sacramento Valley Landscape & Nursery Expo**, Sacramento. Phone: Kenny Kakutani, (916) 442-4470.

**16-18: Empire State Tree Conference**, Suffern, N.Y. Phone: Ray Smith, (518) 783-1322.

**17-18: Arkansas Turfgrass Assn. Trade Show & Conference**, Little Rock. Phone: Angie McSwain, (501) 663-8810.

**17-21: Ohio State Golf Course Maintenance Short Course**, Columbus. Phone: Barbara Bloetscher, (614) 292-7457.

**18-20: Mid-America Green Industry Convention**, Kansas City, Mo. Phone: Olivia Golden, (816) 765-7616.

**19: Professional Turf & Landscape Conference**, White Plains, N.Y. Phone: (914) 636-2875.

## College intern program allied with businesses, looks to future

**PALATINE, Ill.**— The faculty and physical plant department of William Rainey Harper College and local business owners have begun a "Partnership in Education" intern program for Parks and Grounds Management students.

Patricia Bourke, dean of life science and human service, and Robert Getz, director of physical plant at Harper College, say the intern program is a joining of "the academic and practical aspects of grounds management."

Randy Illg is coordinator of the Park and Grounds Management program, and Chuck Gura, supervisor of the Roads and Grounds workforce, established the internship program last summer for current students at the college.

This summer, local firms and services provided more than enough intership positions for interested students as another step forward in the program.

Gura then widened membership in the program to include graduating high

school seniors as a way to learn about both the campus itself, and the Park and Grounds Management program.

The Roads and Grounds/Park and Grounds Management partnership has lately joined with the Biology and Physical Education and Athletics and Recreation departments to form a task force to develop a 20-year campus grounds management program.

Getz leads the task force. Its goal is to evaluate and inventory present land use and recommend a 20-year, ecologically balanced plan.

Getz says the grounds team is looking ahead so that they can provide a healthy environment in the years to come.

"We believe this land may be used without its being destroyed," says Getz.

"We hope, through our partnership, to establish a lasting commitment to the future use of our grounds' resources and continue to be an example for others to emulate."

With Formulating Plants located in Florida and Wisconsin **KOOS • SHORE** can fill all your needs:

1

**Fertilizer Blends featuring Nutralene, sulfate of potash and minor elements.**

2

**Fertilizer Blends formulated with pesticides from an extended list of turf labels.**

Plus...

3

**Mini Size homogeneous fertilizer products for the golf course.**

When your grass is on the line call:

**KOOS**  **SHORE**

Midwest  
1-800-558-5667

Southeast  
1-800-329-2203

**DOT REGULATIONS...**DowElanco offers a free comprehensive guide to help professional applicators comply with the new federal Department of Transportation regulations which took effect Oct. 1st. The guide outlines compliance with HM-181. Another booklet helps comply with HM-126F on training those who work with hazardous materials. For more information, see your DowElanco field rep or phone (800) 352-6776.

**WORKER PROTECTION...**The Florida Nurserymen & Growers Association is now distributing the official 1994 EPA Worker Protection Standard Reference Guide, which outlines the new rules and regulations concerning applying agricultural pesticides. The Standard goes into effect in April, 1994. Guides are \$1.35 each for members, \$1.95 for non-members. Also, "This Water Not For Drinking" tags and chemical re-entry signs are available. Both follow strict EPA guidelines. Water tags are \$5 for 10, 30 cents each additional; re-entry signs are each \$1 for members, \$1.25 for non-members (minimum order is 10). Send your check to: FNGA, 5401 Kirkman

## INFO CENTER

**Useful literature and videos for LM readers**

Rd., Suite 650, Orlando, FL 32819; or phone (407) 345-8137.

**SAFETY TRAINING...**A safety training video on the use of wheel loaders has been released by Video Information System Training Associates (VISTA). The video includes facilitator's manual, participants' manuals and a post-viewing test on the material. For more information, call (800) 942-2886 or write VISTA, P.O. Box 247, Burlington, WI 53105.

**NEW FOR TGIF...**TGIF (Turfgrass Information File), the industry's largest single source of turfgrass information, has added a new listing of members of the American Society of Golf Course Architects. Information from TGIF is available in hard copy or via a modem, and can be searched by author, subject, etc. For

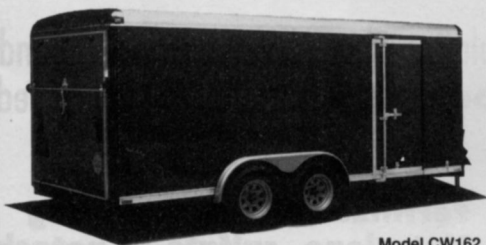
additional information about TGIF, contact Nancy Donati, Medinah Country Club, Medinah Rd., Medinah, IL 60157-9653; (708) 773-1700, ext. 254.

**APPRAISING PLANT WORTH...**The International Society of Arboriculture has released its "Workbook for the Guide for Plant Appraisal," which accompanies the eighth edition of the "Guide for Plant Appraisal." The workbook explains the factors which affect plant value, and gives hints to determine the appropriate ratings. Cost is 50 cents per book. Order from ISA, P.O. Box GG, Savoy, IL 61874.

**FOR HOME LANDSCAPES...**The "Home Landscape Companion," by Edith Henderson, shows how to create a landscape design plan. She explains the principles of landscape design and how to apply them to your particular site. Also offered: valuable information and assistance on subjects ranging from color and texture to fragrance and focal points. With illustrations; 155 pp. Write Peachtree Publishers, 494 Armour Circle NE, Atlanta, GA 30324; or phone (404) 876-8761.

**WELLS CARGO**

### A NEW "MACHINE"...



Model CW162

#### ...JUST FOR LAWN & LANDSCAPE MACHINES

Transport and store all your equipment with complete security. Protected from the weather. Great Options like: FLOW-THRU VENTILATION eliminates fuel fumes. WOLMANIZED 1 1/2" floors and 3/4" interior side walls for "guts". WIDE BODY, too. Hundreds of Models, Sizes and other Customizing Options. All backed by an EXCLUSIVE 3 YR. WARRANTY PROGRAM. Give us a call, today.

#### Tell Us You Saw It In LANDSCAPE MANAGEMENT

1-800-348-7553 for Catalogs-Prices  
Factory Service points: GA, IN, TX, UT.  
Nationwide Dealer Network.

P.O. Box 728-1069, Elkhart, IN 46515-0728

With a Wells Cargo Behind... You Never Look Back!



*The Future . . .  
Can't Grow  
without  
You!*

## The 32<sup>nd</sup> Annual North Carolina Turfgrass Conference & Trade Show

January 5-6-7, 1994

Benton Convention Center  
Winston-Salem, North Carolina

### The Mid-South's Largest Trade Show

Special  
Seminars by



Mind Expanding  
Programs for Turf Pros

- Lawn Care
- Landscaping
- Sports Turf
- Golf Turf
- Sod Production
- Grounds Maintenance
- Legislative Issues
- Environmental Issues

For complete information write or fax: Turfgrass Council of North Carolina P.O. Box 289, Southern Pines, NC 28388 FAX only: (919) 695-1222

Name \_\_\_\_\_ Phone \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Check one:  Conference information  Exhibitor information

Circle No. 111 on Reader Inquiry Card



# PRODUCT SHOWCASE

## Workbench designed for use by green industry experts

The Uni-Lift Model 384 Lift/Workbench is a fast and safe way for one person to service all kinds of turf grooming equipment.

One person can service a 30-inch ground driven reel mower, adjust bed knife clearance and perform backlapping on a greens mower.

The Uni-Lift has a 300-lb. capacity.

An additional support hanger lets you suspend 30-inch reel mowers by the axles. Simply raise the mower, secure it to the support hanger with the adjustable locking clamp, and lower the lifting platform for total access.

The basic unit costs \$1295. Accessories are extra.

**Circle No. 191 on Reader Inquiry Card**

## Track frost conditions with new protection software

Automata, Inc. has introduced its new "Field Vision—Coldspot" frost protection software which monitors real-time frost condition in the fields. It sounds alarms and sends a message to a pager indicating sensor and current readings.

Alarms can be set using temperature, wet bulb temperature and/or dewpoint.

The software includes all of the data acquisition and data analysis features of Automata's Field Vision Base Station Software. In conjunction with Automata's Field Stations and Telemetry System, the software continuously monitors fields in real-time around the clock.

**Circle No. 192 on Reader Inquiry Card**

## New deicer is low-corrosion, thanks to CMA content

Cryotech Deicing Technology of Fort Madison, Iowa, has developed and is now selling its inhibited salt deicer.

The new deicer is called CMA-20, and is a low-corrosion deicer. It combines the well-known chemical CMA with a highquality grade of salt. It is specially developed for use on concrete with embedded rebar.

CMA-20 is a 20 percent CMA and 80 percent salt blend, developed after years of research by Michigan and Minnesota transportation departments.

In those studies, CMA was found to be a natural corrosion inhibitor. Tests showed that the presence of CMA in salt brine reduced corrosion rates by more than half. Minnesota testing showed similar favorable results in reducing corrosion with the addition of just 20 percent CMA in salt mixtures.

**Circle No. 193 on Reader Inquiry Card**

## Pitching mounds always perfect with measure device

The Mound Meter, from Field Specialties, Chardon, Ohio, lets you check the height and slope of pitching mounds to match league specifications.

The meter stands about three feet high, and is equipped with a calibrated telescope.

The meter is calibrated to measure mound height, slope, construction and field construction.

**Circle No. 194 on Reader Inquiry Card**

## Fungicide tests well in '93 trials at very low rates

Golf course superintendents using Sandoz Agro's new Sentinel 40WG fungicide in tests during 1993 says the product is making a difference in their disease prevention and control efforts.

"We ended up with a minimum of 30 days of control using a very low rate," says Don Cross, superintendent at Skokie Country Club in Glencoe, Ill.

Cross applied Sentinel to his fairways in 1993 at a rate of 0.25 oz. per 1000 sq. ft.

"We originally tried Sentinel on some fairways that are normally disease-prone, and had excellent results," says Cross. "I don't think I saw any disease at all on those areas."

Cross also noticed good residual control.

**Circle No. 195 on Reader Inquiry Card**

## New annual ryegrass is now available to green industry

Rivard's Quality Seeds has a top-quality lawn seed that is 100 percent annual ryegrass.

Green Grass lawn seed is a versatile variety, that can be used to enhance lawn density. The seed competes well with

weeds and helps create an environment where slower emerging grasses can flourish.

**Circle No. 196 on Reader Inquiry Card**

## NTEP trials rank perennial ryegrass first against red thread

Recent NTEP trials ranked Zajac Performace Seed's Prizm perennial ryegrass first in red thread resistance and second in overall quality. It consistently ranked among the leaders in color, texture, disease resistance and summer density, and performed especially well in the Northeast and Midwest.

According to the company, Prizm also demonstrated superior overseeding performance in areas of bermudagrass dormancy.

Prizm has a bright, rich, dark green color, without any dull blackness. This allows it to blend well with and actually disguise the presence of *Poa annua*. It maintains this appearance from spring through fall, exhibiting exceptional resistance to drought and winter kill.

**Circle No. 197 on Reader Inquiry Card**

## Electric chain saw is quiet, complies with noise laws

A powerful new electric chain saw from Husqvarna—the Electric 16—is the company's first electric model to be released in the U.S.

The Electric 16 is well-suited for residential neighborhoods or areas enforcing a strict noise ordinance.

Since it does not require fuel for operation, the electric saw is also an excellent choice for indoor use—in mills, at construction sites or for home remodeling projects.

The saw weighs 8.2 lbs. with bar and chain. The double-insulated motor is UL and CSA approved. The Electric 16 has a rated power of 1,600 watts, 13 amps and 2.1 hp.

The Electric 16 has a standard "half-wrap curved front handle. Rounded and running from the top of the unit down one side of the chain saw, the handle gives the saw a versatility and maneuverability generally lacking in conventional "stub-handle" saws.

**Circle No. 198 on Reader Inquiry Card**

# PRODUCT REVIEW



## Diesel power options are offered on chipper/chip box

Bandit Industries has re-designed its popular CB-90 chipper/chip box combo to accommodate a number of new diesel power options.

The new CB-90 will feature a heavy-duty turntable for the following diesel engines:

- Deutz Model F3L-1011, 41 hp, air-cooled
- Perkins Model 104-19, 42.5 hp, water-cooled
- Perkins Model 104-22, 50 hp, water-cooled.

The CB-90's chip box has an 8 cu. yd. capacity and provides six different feed positions.

Circle No. 199 on Reader Inquiry Card

## Liquid compound removes ice, prevents ice build-up

Ready-to-use Ice-Lick from Garon Products is specially designed for ice removal and ice prevention. It provides



ice control for hard-to-reach places; just pour it or spray with Garon's special spray bottle.

Ice-Lick leaves no white film, and will not harm concrete. The liquid seeps into ice, loosens it from underneath and melts it away.

It can be used for parking lots, pedestrian walks and anywhere ice build-up is a problem.

Circle No. 200 on Reader Inquiry Card

## 'Your Yard' newsletter great for giving to entire lawn/landscape customer base

This informative, four-page newsletter is designed to reinforce your relationship with current customers. It can also be used to help market your service to prospects.

Each page contains informative articles about lawn maintenance practices, including aeration, overseeding, mulching, watering, fertilizing, renovation and weed control.

Articles are designed to give readers a better appreciation and understanding of

the services you provide.

Also from Waller Research & Publishing Co. are informative "About..." fact sheets you can give your customers. Topics include aeration, grass clippings, composting, thatch, pruning, weeds, insects, watering, mulch, overseeding, IPM, fertilizers, wildflowers and grass varieties.

For more information on all of Waller's products...

Circle No. 201 on Reader Inquiry Card



## Basamid soil fumigant now available in new package

The benefits of non-restricted-use Basamid granular soil fumigant now come in a smaller package: a 7.5-lb. shaker container.

The smaller container allows users to purchase the right amount of product for small areas. It will treat from 600 to 1,500 sq. ft., depending on target pests.

"The new Basamid shaker jug is another step we're taking to provide our customers with effective products in the size and formulation that meets their needs," says Willie Pennington, BASF market manager.

When worked into the soil, Basamid controls many nematodes, soil-borne diseases and weeds. It is labeled for use in ornamental, turf and forestry tree seedbeds. It is also labeled for horticultural nurseries, lawn renovation and potting soil.

Basamid will continue to be available in 50-lb. bags for treating larger areas.

Circle No. 203 on Reader Inquiry Card

## Pre-measured lake dye can be used in fountains, too

In response to customer requests, Otterbine/Barebo introduces Ottershade pre-measured lake dye in affordably-priced water soluble packages.

Designed with all sizes of ponds and lakes in mind, Ottershade can treat many types of waterways, including fixed fountains and small ponds, too.

Ottershade, which adds a healthy blue hue to your water features, is available from more than 83 Otterbine distributors worldwide.

Circle No. 202 on Reader Inquiry Card

## Maneuverable steering helps new compact mower

Excel introduces the new Model 2500 Compact, which features Excel's Trim-Steering for the most maneuverable, most productive and easiest to operate compact mower on the market, the company says.

Size of compatible rotary decks are 52-, 60- or 72-inch.

Circle No. 204 on Reader Inquiry Card



# MARKET SHOWCASE

**Rates:** \$226 per column inch for 1x insertion; \$215 for 3x insertion; \$204 for 6x insertion; \$194 for 9x insertion; \$183 for 12x insertion (one inch minimum.) Frequency based on calendar year. For ads using a Reader Inquiry Number, add \$30 to the total cost of the ad per issue. For ads using a second color standard red, blue, green or yellow only, add \$65 to the total cost of the ad per issue.  
**Send ad copy with payment to:** Brian Kanaba, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, Ohio 44130, or call (800) 225-4569 ext. 155 outside Ohio; (216) 891-2665 inside Ohio; FAX (216) 826-2865. VISA, MASTERCARD and AMERICAN EXPRESS accepted.

## EQUIPMENT FOR SALE

Get a step ahead of your competition with a

### TURBO TURF HYDRO SEEDING SYSTEM

#### SEED FASTER, BETTER, AT LESS COST



- Seed-mulch-fertilize in one fast step.
- Also repair & renovate fast and better.
- No messy straw.
- Great results and faster germination.
- Very attractive green appearance.

150 Gal. Systems (2000 sq. ft.)	\$ 2795.00
300 Gal. Systems (4000 sq. ft.)	\$ 3995.00
500 Gal. Systems (6600 sq. ft.)	\$ 4795.00
750 Gal. Systems (1/4 acre)	\$ 7995.00
1000 Gal. Systems (1/3 acre)	\$ 9995.00

**BADGER ASSOCIATES 1-800-822-3437**  
1108 Third Ave. New Brighton, PA 15066

Circle No. 304 on Reader Inquiry Card

## TRUCKCRAFT



**PICKUP INSERT DUMPER**  
For FREE brochure, call toll free 24 hr.  
**1-800-755-3867**  
WE SHIP NATIONWIDE

## BUSINESS OPPORTUNITIES

### LAWNCARE BUSINESSES:

Thinking about selling your Lawncare Business? We'd like to talk about the possibilities. If you are doing business in: Cincinnati, Indianapolis, Columbus, Dayton, Chicago, St. Louis, Atlanta, Cleveland, Detroit or Ft. Wayne, we are interested. All communication is confidential. Reply to LM Box 500, c/o LANDSCAPE MANAGEMENT, 131 W. 1st St., Duluth, MN 55802-2065.

## FOR SALE

### Gobee® Protective Spray Legs



\*Patent Pending

\*Reg. Trademark E.I. Dupont

Protecting your employees from pesticide contamination is no longer just a moral obligation...it's the law!

- Costs just pennies per day
- Weighs less than 4oz. per pair
- Cool, ventilate heat well
- Easy-on, Easy-off
- No need for high heavy boots
- One-size-fits-all design
- Made in USA
- Manufactured from Tyvek QC\*
- Saves wear, prevents stains on uniforms
- Pesticide resistant and waterproof
- Comfortable, look and feel great

Distributed Exclusively by:  
**Turf Chemicals Plus, Inc.**

Orders • Information  
**1-800-441-3573**

"... the most comprehensive groundskeeping video ever produced..." Lou Pavlovich, Jr.,  
Editor/Collegiate Baseball



**Vol. I- Softball Fields (40 min.)**  
**Vol. II- Baseball Fields (60 min.)**  
**Only \$39.95/each or \$59.95/pair**  
plus \$5.99 per tape for Shipping & Handling  
Florida residents add 6% Tax • 30 Day Money Back Guarantee  
**1-800-886-2006**

Send Check or Purchase Order to: **GM VIDEO**  
P.O. Box 617018 Orlando, FL 32861

Circle No. 303 on Reader Inquiry Card

## COMMERCIAL INSURANCE FOR LAWN CARE FIRMS "GREEN INDUSTRY SPECIALISTS"

M.F.P. Insurance Agency is dedicated to providing comprehensive insurance programs to the Green Industry at competitive prices. We back up this dedication with a staff of professionals who understand every facet of your business, from marketing to customer service. We know how to properly insure your company whether you're a sole proprietor or a multi-state operation.

Just as your customers look to you for lawn care advice, people come to us for insurance advice because they do not want to become insurance experts themselves. If you want good advice, the right coverage, and competitive rates, please contact:

Richard P. Bersnak, President

Jill A. Leonard, V.P.

**1-800-886-2398**  
**FAX: 614-221-2203**

**M.F.P. Insurance Agency, Inc.**  
50 West Broad Street, Suite 3200  
Columbus, OH 43215-5917

Circle No. 301 on Reader Inquiry Card

### LANDSCAPE DESIGN KIT 3

48 rubber stamp symbols: trees, shrubs, rocks, step stones, vine, & more. 1/4-1 3/4 in. dia

\$74.95 + \$4.50 s/h FREE 26 PAGE BROCHURE

CA orders add 7.34% tax.

**AMERICAN STAMP CO.**  
12290 Rising Rd., Dept. 493  
WILSON, CA 95693  
VISA MasterCard Phone (916) 687-7102

ALL STAMPS NOT SHOWN

## SOFTWARE

### Building blocks for your company



It takes the right tools to build a successful landscape company: good people, equipment, time and money. It takes a good management software program to pull these tools together to **stay** successful. SuperScape for Windows and Macintosh--the management tool for building a successful company. Call for more information and a free demo.

### SuperScape™

Landscape Management Software

A division of SoftQuest, Inc.

800-299-9991 or 512-452-4500

Circle No. 302 on Reader Inquiry Card

### LAWN ASSISTANT

# 1 # 1



To get a FREE 90 page information booklet on the #1 software for the lawn and tree care industry

Call Toll Free:  
1-800-422-7478

Real Green Computers  
1970 Winner Street, Walled Lake, MI 48390

Circle No. 300 on Reader Inquiry Card

### Special Offer On-CLIP

125 User Package Original Price \$695 Your Special Price <b>\$595</b>	3 1/2" Disks	Unlimited User Package Original Price \$1195 Your Special Price <b>\$1095</b>
--	--------------	--

Order Today Call **1-800-THE-LAWN**  
SAVE \$100! VISA AND MASTERCARD ACCEPTED

Place Your  
Classified Ad in LM with  
Brian Kanaba  
216-891-3155

## SERVICES

- Ignite sales growth
- Boost profits
- Beat the competition

Let us help you make these goals come true.

Call

**Wandtke & Associates**  
**800-966-3546**

15 years of guiding owners toward the secrets of business success

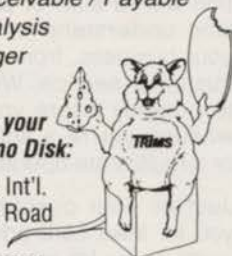
### TRIMS

Business Management  
Software for Landscape  
and Lawn Care Contractors

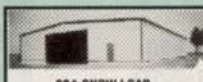
- Customer Billing
- Accounts Receivable / Payable
- Job Cost Analysis
- General Ledger
- Payroll

Call or write for your  
free TRIMS Demo Disk:

TRIMS Software Int'l.  
6220 E. Thomas Road  
Suite 303  
Scottsdale, AZ 85251  
(692) 481-9710



## COMMERCIAL EQUIPMENT



50'x90'x14'  
**\$13,199**

30# SNOW LOAD  
BUILD IT YOURSELF AND SAVE MONEY. 5,000 SIZES, ALL  
STEEL. CALL TODAY FOR BROCHURE AND PRICE QUOTE.  
**HERITAGE BUILDING SYSTEMS**  
**800-643-5555**

⚡ **RATES:** \$1.45 per word (minimum charge, \$46). Bold face words or words in all capital letters charged at \$1.75 per word. Boxed or display ads: \$226 per column inch-1x (one inch minimum); \$215-3x; \$204-6x; \$194-9x; \$183-12x. (Frequencies based on a calendar year).

Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add \$23 to total cost of ad per issue.

Send ad copy with payment to:

Brian Kanaba,  
LANDSCAPE MANAGEMENT,  
7500 Old Oak Blvd., Cleveland, OH 44130  
or call 216-891-3155. Fax Number 216- 826-2865.

VISA MASTERCARD and AMERICAN EXPRESS accepted.

⚡ **BOX NUMBER REPLIES:** Mail box number replies to:  
**LANDSCAPE MANAGEMENT**, Classified Ad Department,  
131 W. 1st St., Duluth, MN 55802-2065.  
Please include box in address.

**RATES:** \$1.45 per word (minimum charge, \$46). Bold face words or words in all capital letters charged at \$1.75 per word. Boxed or display ads: \$226 per column inch-1x (one inch minimum); \$215-3x; \$204-6x; \$194-9x; \$183-12x. (Frequencies based on a calendar year.) Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add \$23 to total cost of ad per issue. Send ad copy with payment to **Brian Kanaba, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130** or call **216-891-3155**. Fax Number 216-826-2865. VISA MASTERCARD and AMERICAN EXPRESS accepted.

**BOX NUMBER REPLIES:** Mail box number replies to: LANDSCAPE MANAGEMENT, Classified Ad Department, 131 W. 1st St., Duluth, MN 55802-2065. Please include box in address.

## POSITIONS WANTED FREE CLASSIFIED AD

To all "**POSITION WANTED**" Classified Advertisers!

- Maximum 40 words
- Maximum 2 issues

Offered as an industry service - Let LANDSCAPE MANAGEMENT help you with your employment needs. For more information contact:

**Brian Kanaba**  
**LANDSCAPE MANAGEMENT**  
7500 Old Oak Blvd., Cleveland, OH 44130  
**216-891-3155-Phone 216-826-2865-Fax**

Northeast Region: Desire a position as Assistant Superintendent of Golf Course. B.S. in Agronomy, A.S. in Turfgrass Management. Over five years of Golf Course experience including development of 27 holes. Contact: John Rickard, 239 Strickland St., Glastonbury, CT 06033, 203-633-4204. 12/93

Self-employed landscape designer/manager A.A.S. Plant Science, A.A.S. Park Management seeking position with industry leader along East Coast. 20 years experience. 607-724-8733, 2975 NY RT 7, Harpursville, NY 13787. 12/93

## HELP WANTED

**Maintenance Managers & Supervisors:** One of the nation's largest and fastest growing full service landscape companies has an immediate need for experienced maintenance managers and superintendents, as well as entry level maintenance supervisors in the Midwest, Southwest, Mid-Atlantic, Northeast and Southeast states. The company seeks energetic, team oriented college graduates with proven leadership, communication and interpersonal skills. The company offers full-time positions, excellent advancement opportunities and exceptional compensation and benefits with an industry leader celebrating 54 years of uncompromising customer service. For immediate confidential consideration, please send or fax your resume to: The Brickman Group, Ltd., Corporate Office, 375 S. Flowers Mill Road, Langhorne, PA 19047, 215-757-9630, EOE 12/93

**KT ENTERPRISES, INC.,** a commercial landscape management firm servicing the Washington, DC Metropolitan market, is now accepting applications for employment in their landscape maintenance department for the 1994 season and beyond. All positions offer excellent salary, health benefits, retirement and, most importantly, an incomparable opportunity to work in a quality organization that will continue to offer professional satisfaction. Please send resume to: Mr. Doug Sevachko, KT Enterprises, Inc., 4001 Westfax Drive, Chantilly, VA 22021 if you are interested in any of the following positions: Pruning Department Supervisor, Maintenance Department Supervisor, Maintenance Department Foreman, Pruning Department Foreman, Floral Installation Foreman, Turf and Ornamental Plant Specialist. 12/93

## HELP WANTED

**Landscape Management and Construction/Sales:** New Jersey's largest Corporate Services Company seeks highly motivated individual to assist in the continued growth of its Landscape Management Company. Areas of responsibilities include: prospecting, estimating, and sales. Must have strong background in Professional Landscape Management Field together with proven sales experience. Please send complete resume and work history in confidence to: Control Environmental Services, 737 New Durham Road, Edison, NJ, 08817. Attention Mr. Stewart. 12/93

**LANDSCAPE SUPERINTENDENT:** Rapidly growing, progressive Chicago firm seeks aggressive self-motivated individual for a maintenance superintendent position. Must have experience in scheduling, purchasing, quality control, customer relations, training, and personnel policies. A strong horticultural background and a familiarity with corporate and commercial sites a must. Send resume to: Tandem Landscape Company, Attn: James DeRoche, 33W480 Fabyan Parkway, West Chicago, IL 60185. 12/93

Bozzuto Landscaping Company, An expanding firm in the Washington, DC, Maryland and Virginia markets is currently looking for qualified, career oriented professionals. Opportunities are available in our commercial grounds maintenance division for foreman and managers, assistant foreman, pesticide foreman, and mechanical positions. Benefits include vacation and sick leave, health care package, disability and retirement. Send resumes to: Thomas W. Davis, 15127 Marlboro Pike, Upper Marlboro, MD 20772 or fax to 301-627-7611. 1/94

Landscape operations manager: Multi-apartment company is actively seeking an experienced, confident, self-motivated professional. Selected candidates MUST have proven track-record in all facets of grounds maintenance, landscaping care, and employee training and development. We offer good starting salary and excellent benefits. Please forward confidential resume and salary history to: Landscape Operations Manager, Suite 102, 1727 Barnesdale Way NE, Atlanta, 30309. 12/93

## HELP WANTED

**HORTICULTURE-CORNELL COOPERATIVE .EXTENSION, Rockland County, Thiells, NY.** Commercial hort/related environ. educ. programs. MS, 3 yrs. exp. Send letter of intent, resume and transcripts by January 31, 1994 to: Box 26, Kennedy Hall, Cornell University, Ithaca, NY 14853. EOE. 12/93

Hands-on landscape and horticulture manager to oversee all aspects of executive estate in beautiful west central Ohio. Needs to be knowledgeable of lawn care, roses, indoor/outdoor plant care, formal gardens, ponds, pool maintenance and related activities. Send resume, references, salary history to LM Box 504. 12/93

**LANDSCAPE MAINTENANCE MANAGER** Design/Build and Maintenance firm seeks person to manage maintenance operations and IPM/PHC programs. Candidate must possess B.S. degree in Horticulture, 3-5 years experience, commercial applicators license and strong organizational skills. Send Resume to: **ARCHITERRA**, 25975 N. Diamond Lake Rd., Ste. 108, Mundelein, IL 60060. 12/93

**Searching for the right employee? Time for a new position?** Contact **Florapersonnel, Inc.**, international search and placement firm for the landscape, irrigation industries and allied trades. **Confidential. Fee paid by employer.** Florapersonnel, Inc., 2180 W. 434, Suite 6152, Longwood, FL 32779-5008. Phone: (407)682-5151 Fax: (407)682-2318. TF

**Landscape Manager:** Quality and growth oriented company servicing the Chicago land area needs individual to become part of management team. Outstanding opportunity that includes year-round employment, benefits, and great advancement possibility. Send letter or resume to: Ground Pros Inc., PO Box 28, Elmhurst, IL 60126. 12/93

Irrigation Professional needed for large full service landscape construction company in northern New Jersey. Motivated individual with proven background and technical skills needed. Growth potential. Salary and benefits commensurate with experience. Send resume and salary history to: Jacobsen Landscape Design and Construction, 41 Birch Street, Midland Park, New Jersey 07432. 12/93

**LANDSCAPE MAINTENANCE & GENERAL SUPERINTENDENT:** Largest landscape maintenance company in the nation seeking individuals with 3-4 years experience. Must be able to make decisions, be creative, self-motivated, organized with strong supervisory skills. San Francisco Bay Area location. EOE. Please send resume to: Environmental Care, Inc., 825 Mabury Road, San Jose, CA 95133. Fax 408-437-1817. 12/93

**LANDSCAPE MAINTENANCE SUPERVISOR:** Rapidly expanding landscape maintenance firm is seeking experienced, quality individuals to be field/working supervisors. Tremendous opportunity to grow. Full benefits. Contact: Tandem Landscape Company, Attn: Greg Wright, 33W480 Fabyan Parkway, Suite 101, West Chicago, IL 60185. 12/93

## BUSINESS FOR SALE

Boston based Tree and Landscape Firm for sale. Established 1981, Executive clientele, commercial and residential. Grosses 2-300,000. Will sacrifice for \$100,000 including equipment and leased land plus building. Contact Carney Tree & Landscape, Inc. (617)361-7376. 12/93

**FOR SALE: ESTABLISHED GARDEN CENTER & LANDSCAPING BUSINESS** in Marquette, Michigan. Owners retiring. Extensive perpetual inventory. Contact **TIMBERCREST** 1460 M-28 East, Marquette, MI 49855. Phone: (906)249-3984 days: 249-3411 eve. 12/93

## BUSINESS OPPORTUNITIES

**Attention Employers and Job Seekers! Employers** submit current job openings to the quickest, least expensive and most comprehensive job listing publication in landscaping, grounds/golf course maintenance & related horticulture fields. Ad deadlines are the 3rd & 17th of each month. \$14.95 for unlimited detail and nationwide exposure. Call for vacancy notice form. **Job Seekers** subscribe to the freshest source of national job openings in the fields of horticulture, 6 issues (3 mos.) for only \$19.95. MC/Visa. Call 1-800-428-2474, Fax 1-800-884-5198. Ferrell's JOBS IN HORTICULTURE, 154 E. Chapel Ave., Carlisle, PA 17013-3435. 1/94

**EXCELLENT BUSINESS OPPORTUNITY. FOR SALE: APPROXIMATELY 6000 MEXICAN FAN PALMS CERTIFIED FOR USE IN CALIFORNIA. HEIGHTS RANGE FROM 4'-18', AVERAGES APPROXIMATELY 11'. FOR MORE INFORMATION WRITE OR CALL: BMF PARTNERSHIP, PO BOX 1568, SCOTTSDALE, ARIZONA 85252, 602-968-8549. 12/93**

**LANDSCAPE PROFESSIONALS** If you are a landscape design/build or a landscape maintenance contractor and are looking for a way to get ahead in this tough economy, the Associated Landscape Contractors of America has the business information you need. Whether you need technical, management, financial, or marketing information, ALCA is the resource. Call 1-800-395-2522 or fax your request to (703)620-6365 for a complimentary publications catalog and information on how you can become involved in a nationally recognized trade association. 12/93

**NaturaLawn® of America** provides the Green Industry a successful, growth oriented, lawn care program. Discuss the opportunities available to you by calling the leader in **organic-based** lawn care. The franchise opportunity of the 90's. 800-989-5444. 7/93

## EDUCATIONAL OPPORTUNITIES

**IMPROVE PROFITS & expand business** with well-trained, professional employees. Free catalog of over 100 training videos from California Polytechnic State University. Perfect for landscape companies, grounds crews, designers, etc. Call VEP at 1-800-235-4146. 12/93

## SOFTWARE

Route Manager System for scheduling and accounts receivable record keeping. Serving the Lawn Care Industry since 1982. List price \$350. Fortunate Computers, 46 N. 4th Street, Coplay, PA 18037. 800-275-0620. 12/93

## EQUIPMENT FOR SALE

**PIPE LOCATOR INEXPENSIVE!** Locates, traces underground drain, water pipe lines of clay, PVC, ABS, steel, cement. Finds sprinklers, valves, clogs. Bloch Company, Box 18058, Cleveland, Ohio 44118. (216)371-0979. TF

**HYDRO-MULCHERS AND STRAW BLOWERS:** New and used. **JAMES LINCOLN CORPORATION**, 3220 S. Jupiter Rd., Garland, TX 75041. (214)840-2440, (800)551-2304. TF

**NEW/USED EQUIPMENT AND RENTALS—** Asplundh, Hi Ranger, Holan and Lift-All Forestry Bucket Trucks, Chip Trucks and Chippers. Mirk, Inc., (216)669-2000, 7629 Chippewa Road, Orrville, Ohio 44667. TF

**SPYDERS—** New/Used/Rebuilt. Full line of replacement parts and update kits. Kubota, Ruggerini, Kohler and Onan engines and parts. Nichols-Fairfield torque hubs. We repair and rebuild Spyder hydraulic pumps and motors. **FAST SERVICE.** Call or write: Mobile Lift Parts Inc., 5402 Edgewood Rd., Crystal Lake, IL 60012. (815)455-7363, (800)397-7509, (815)455-7364, FAX (815)455-7366. 1/94

**REINCO HYDROGRASSERS** and power mulchers in stock. Opdyke Inc., (Philadelphia Area) 215-721-4444. TF

**BUCKET TRUCKS:** Straight Stick, Corner Mount and Knuckle Boom Cranes. Brush Chippers - New Morbark Disc and Drum Style. New Rayco Stump grinders. Best prices anywhere. Used Chippers - Asplundh, Morbark, etc. 2 to 8 usually in stock. Sprayers, Dumps, Stakes, Log Loaders, Crew Cab Chip Box Dumps, Railroad Trucks, 50 in stock. Sold as-is or reconditioned. We also buy your surplus equipment. Opdyke's, Hatfield (Philadelphia Area). 215-721-4444. TF

**BUCKET TRUCK:** Hi Ranger 65', 57', 50'. Skyworkers with chip boxes. Asplundh bucket trucks with chip boxes. Asplundh brush chippers. Bean 55 gal. sprayers. Pete Mainka Enterprises, 633 Cecilia Drive, Pewaukee, WI 53072. 800-597-8283. TF

**Finn Hydroseeders, Mulch Spreaders, Krimpers, Pit Burners, Fiber Mulch & Tackifiers.** New & Used. **Wolbert & Master, Inc.**, P.O. Box 292, White Marsh, MD 21162. 410-335-9300, 1-800-234-7645. TF

**1986 ISUZU CABOVER MINT CONDITION COMPLETELY STAINLESS 2 TANKS WITH DRY COMPARTMENT. HYDROCELL 10 GPM 2 HOSE REELS WITH HOSE & GUNS. READY FOR PRODUCTION. 30,000 NEW, ASKING 18,500. CALL 201-891-6035. 12/93**

## CLASSIFIED ADVERTISING IS

**\* EASY  
\* EFFECTIVE  
\* ECONOMICAL**

## FOR SALE

New Image design System. 80 mb/16mhz (hard drive) Everex 386 Sx Computer. 387 Sx math coprocessor, Sony 12" color monitor, 12" Digitizing tablet, Super VHS camcorder, VHS VCR, Imaging software (Western and Norther Libraries). CAD compatible \$7,000; (214)265-7667. 12/93

**FOR SALE:** Vermeer TS 84" 6 Blade Tree Spade Mounted on 1979 S2200 International truck. Rebuilt motor, transmission, and rear. Spade and truck in good working condition. Dave Snyder 804-288-2891. 12/93

**BROUWER EQUIPMENT NEW & USED. LARGE INVENTORY OF PARTS. ASK FOR BRIAN. ALSO "VIBRO-NETTERS" IN STOCK. HUBER RANCH POWER EQUIPMENT, SCHNEIDER, INDIANA, 1-800-553-0552. 12/93**

**FOR SALE:** 800/400 Split Tuflex® Tanks w/mechanical agitation-front tank, sparge agitation-back tank. Call TruGreen Chemlawn, 703-550-7177. \$700 or best offer. 12/93

# ADVERTISER INDEX

101	Andersons .....	43
102	Dalen Products(LCO) .....	11
	Excel .....	41
103	General Motors Corp .....	36-37
104	John Deere .....	24-25
105	Knox Fertilizer .....	Cv3
106	Koos Inc .....	49
107	Lofts .....	Cv4
108	Sandoz .....	16-17
112	Sandoz .....	16-17
109	Tee 2 Green .....	Cv2
110	Toro .....	5
111	Wells .....	50

This index is provided as an additional service. The publisher does not assume any liability for errors or omissions.

# Shaw's Shooting Gallery!



If your present supplier isn't providing you with a foolproof pest and weed control formula, call on the SHAW'S TEAM! They're loaded and ready to BLAST your weed and insect problems away!

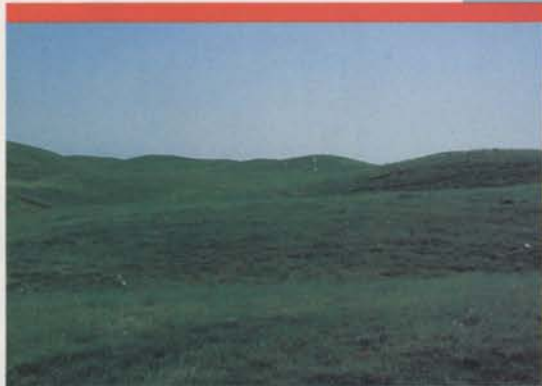
TEAM\*  
DURSBAN\*  
GALLERY\*

**KNOX FERTILIZER COMPANY, INC.**  
P.O. Box 248, Knox, Indiana 46534  
(219)772-6275 / Fax: (219) 772-5878

**Shaw's™**

Circle No. 105 on Reader Inquiry Card

# From Planning Through Completion... Lofts' Service Made a Difference.



Designing and developing a golf course has many aspects. But when it came to the turf for the Atlantic Golf Club, Rees Jones knew he could depend on the service and technical support from Lofts.

How to create the "links land" look. What grasses would do best in different areas. The agronomic techniques for establishing the grasses. And a suggested maintenance program Bob Ranum could consider following for the continued success of the course. All with cost-saving tips included.

Lofts is the world's largest marketer of turfgrass seed. So you can expect the finest varieties available. The professional service and technical support are bonuses. Get it all from Lofts and realize the difference!



Bob Ranum, Golf Course Superintendent, Atlantic Golf Club located in Southampton, Long Island, NY and Dr. Richard Hurley, Director of Research, Lofts Seed Inc.



## Lofts Seed Inc.

World's largest marketer of turfgrass seed  
Bound Brook, NJ 08805  
(908) 356-8700 • (800) 526-3890

**Lofts/Maryland**  
Beltsville, MD  
(301) 937-9292  
(800) 732-3332

**Lofts/Great Western**  
Albany, OR  
(503) 928-3100  
(800) 547-4063

**Sunbelt Seeds, Inc.**  
Norcross, GA  
(404) 448-9932  
(800) 522-7333

**Lofts/NewEngland**  
Arlington, MA  
(617) 648-7550  
(800) 648-7333

**Lofts/Ohio**  
Wilmington, OH  
(513) 382-1127  
(800) 328-1127

To locate the Lofts' distributor nearest you, call  
(800) 526-3890 (Eastern US) • (800) 547-4063 (Western US)

Seeding a new course or doing some renovations.  
Call for **FREE** Guide to Turfgrass Selection for  
Golf Courses (908) 560-1590 or (800) 526-3890.



Over \$100,000 in  
scholarships already presented  
to Rutgers University turfgrass  
students