

**LM REPORTS: LANDSCAPE LIGHTING**

AUGUST 1992 • \$3.00

# LANDSCAPE MANAGEMENT

INCORPORATING *LAWN CARE INDUSTRY*



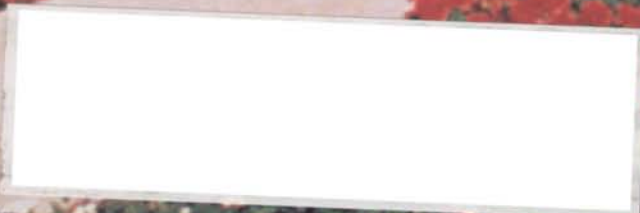
**WHEN THE GOING  
GETS TOUGH...**



**Seed: Get it  
while you can**

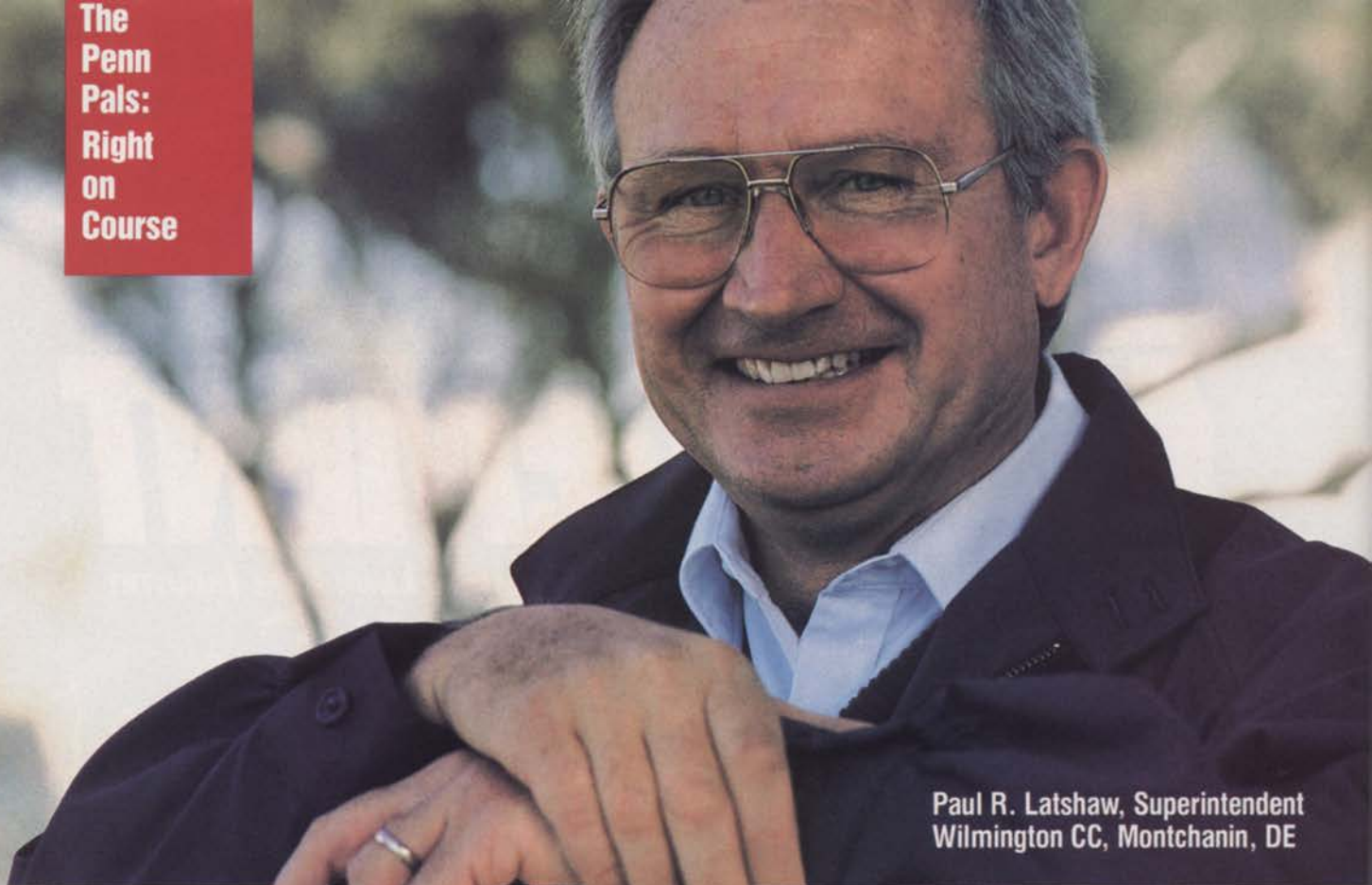
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*Paul Latshaw*



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Turf and Ornamental Communicators Association, 8500 Normandale Lake Blvd., Suite 1200, Bloomington, MN 55437; (612) 831-8515.

# AS WE SEE IT

RON HALL, SENIOR EDITOR



## We'd better take a stand before water-use decisions dry us up

The only sound to compete with the lubbing of the wide-beamed fishing charters is the complaining screech of a displaced gull. "No Wake!" the big square sign on the concrete fishing pier commands.

Who wouldn't take all this freshwater for granted?

*(Literally millions of American homeowners who can't water their lawns or landscapes. Thousands of green industry professionals, always the first—sometimes the only—business people asked to make sacrifices "to help us through the drought, you know.")*

The dredged Portage River channel is a roily congested freeway. Barely 30 yards across and full-bellied from the previous night's storms, it gathers up the astonishing parade of powerboats being disgorged by riverside marinas.

The boats, bow to stern, idle toward the river's mouth. There the captains finally jam their throttles down and fling up trailing fantails of silvery watery coins.

The freshwater here on Lake Erie is seemingly inexhaustible, even for those of us who have always lived on the shores of the Great Lakes. We don't take its quality for granted (we've learned some bitter lessons about runoff and pollution), just its availability.

This is where our drinking water comes from, our cooking water, our shower water, the water for our flowers and for our lawns.

Why even give it a thought?

Turn on the faucet. Use as much as you want. Pay the monthly bill.

The cost of the water? Hey, it's hardly noticeable, compared to other expenses that is.

That's not the case everywhere in the United States.

Water-use restrictions are springing up in the unlikeliest of places: the Pacific Northwest (see related story in this month's "Hot Topics" section), parts of Montana and Idaho, South Florida.

And the first action any water board

takes is the most obvious: stop watering lawns and landscapes.

This is not the answer to an aging, inadequate water/supply system, too much development too soon (i.e. too many acres of concrete parking lots, streets), or a deteriorating aquifer.

Actually, we in the green industry can and should help alleviate some of these drought problems.

We have solid research (hopefully more is coming) showing that green, growing turfgrass, can help recharge water systems, can dramatically reduce runoff.

Some areas recognize this. For example, the state of Maryland, in its efforts to safeguard the Chesapeake Bay, insists that bare-earth construction sites be rapidly covered with turfgrass or landscapes.

We're the professionals. We have the knowledge to teach the public about the water-conserving benefits of greenery. Also, about efficient irrigation systems and practices.

The California green industry several years ago determined that it *must* have a say on water-use boards and authorities. It determined that it *must* continually educate the public to the benefits of living, green lawns and landscapes. These benefits extend far beyond the fraction of one percent of a system's water needed to keep lawns and landscapes green and healthy.

Pacific Northwest green professionals learned the same lesson this summer.

Who gets the water and how it's going to be used—these decisions will be made by those industries that have worked themselves into the water-use decision-making process, before water becomes a crisis, a political issue.

We've got to have a say on our water authorities.



# Some big names have already started arriving for the 1992 PGA

Hosting one of golf's four major championships is a huge job. Just ask Superintendent Tom Van De Walle of St. Louis' Bellerive Country Club—site of the 1992 PGA Championship.

"I came here in 1986 with the major responsibility of getting Bellerive ready for the PGA," says Van De Walle. "Six years sounds like a lot of time, but we've rebuilt greens, tees, bunkers, fairways—even redesigned some holes entirely—and we still have a lot left to do.

"John Deere has played a big role in our success. We mow greens with the John Deere 22s, fairways with a 5-reel 3325 Turf Mower and tees and intermediate rough with a 3-reel 856 Reel Mounted Mower. The condition of the course has improved dramatically since we started using these mowers.

"We've converted almost all our fairways and tees to zoysia—a grass that's great to play on but tough to mow. The John Deere 3325 and 856 are the only mowers we've found that can handle it. Their cutting units stay true and don't let the turf get puffy. Plus, the single lever lift on the 3325 improves our fairways by allowing us to cross-cut more easily. In fact, the 3325 has done so well, we plan to buy another one next year."

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*Tom Van De Walle of St. Louis' Bellerive Country Club is using a fleet of John Deere reel mowers to help him prepare for the 1992 PGA Championship.*



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# LANDSCAPE MANAGEMENT

INCORPORATING LAWN CARE INDUSTRY

AUGUST 1992 VOL. 31, NO. 8

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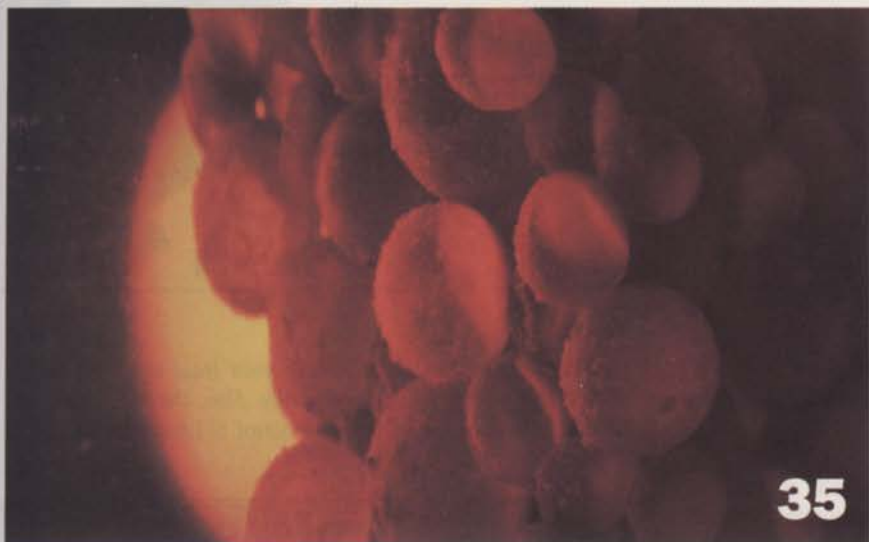
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**VBPA ABP**



# ASK THE EXPERT

DR. BALAKRISHNA RAO



## Borer problems on oaks

**Problem:** What can be applied to control two-lined chestnut borer problems on oak trees? (Georgia)

**Solution:** Two-lined chestnut borers generally invade plants stressed and weakened by drought and/or defoliation from feeding insects (i.e. gypsy moth). Early foliage diseases like anthracnose and/or frost can also damage the first set of leaves produced. These problems affect trees' overall health. Borer insects and canker disease fungi establish on these stressed and weakened plants.

Reports indicate that insecticides such as Lindane or Dursban can be used around middle to late June and again in middle to late July to manage the borer problem. Make sure to provide a thorough coverage.

In recent years, we have seen more and more borer problems on many established plants, including oak. The droughts of 1988 and 1991 have made many plants weak and susceptible to borer insects and canker diseases.

Provide proper watering, mulching and fertilizing, and pest management as needed to help improve plant health.

## Portulaca weeds in beds

**Problem:** What is the best way to manage portulaca weed? We are having some problems in ornamental bed areas. (Ohio)

**Solution:** To manage portulaca weed, use herbicides such as Treflan (trifluralin). It will help manage several other broadleaf and annual grasses as well. Treflan is available in 5% granular and liquid formulations.

Treflan should be incorporated two to three inches into the soil and irrigated immediately after application. It is safe on nearly all landscape plants and is highly recommended by Ohio State University during the first growing season of woody plants in new groundcover and flower garden plantings.

Refer to the label for specific rates of different formulations and directions for use.

## Increasing soil pH with lime

**Problem:** How many pounds of lime per 1,000 square feet is needed to adjust soil pH one unit in a growing season? (Maryland)

**Solution:** From your question, I believe you are dealing with a low pH soil. Application of lime is recommended to increase soil pH. The amount of lime needed to be applied depends on soil testing recommendations. These recommendations, in turn, depend on soil type, soil organic matter composition, and soil cation exchange capacity. For example, a heavy clay soil may require a higher rate of lime to increase a given unit of pH than other types.

The best way to determine the amount of lime needed is to

have a soil test done. Check with your local extension service and/or soil testing laboratory nearby. Also, the following charts should help you determine the amount of lime needed to adjust different pH units to 6.5:

### Amount of lime needed to correct soil acidity<sup>1</sup>

pH	Soil textural class			
	A	B	C	D <sup>2</sup>
4.0-4.5	85	113	158	190
4.6-5.0	75	98	135	165
5.1-5.5	58	75	105	135
5.6-6.0	35	45	68	90

#### KEY:

- A - sand or loamy sand
- B - sandy loam
- C - loam, silt loam or silt
- D - clay loam, silty clay loam, sandy clay loam, clay, sandy clay or silty clay

<sup>1</sup>In pounds of ground agricultural limestone per 1,000 sq. ft. of lawn area to correct pH to 6.5. (NOTE: single applications should not exceed 50 lbs. per 1,000 sq. ft. within a six-month period.)

<sup>2</sup>Class D is commonly used.

### Defining soil acidity, alkalinity

pH 4.0 intensely acid	pH 7.0 neither acid nor alkaline	pH 8.0 slightly alkaline
pH 5.0 moderately acid		pH 9.0 moderately alkaline
pH 6.0 slightly acid		

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.



# Before you buy a fairway mower, have your Toro<sup>®</sup> dealer take this test.

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5. *Can the Toro 450-D mow in wet conditions without footprinting?*  
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\* Toro<sup>®</sup> is a registered trademark of The Toro Company.

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# When the going gets tough...



Storm: Make a strategic plan, set realistic goals.

## ...the tough get going

1. If you haven't yet, adopt a business philosophy or model.
2. Make short- and long-range strategic plans.
3. Increase prices to protect profit margins.
4. Join a professional organization.
5. Keep your work consistent and of high quality.
6. Be wary of growth.
7. Reduce overhead by 3 to 5 percent.
8. Sell equipment that's gathering dust.
9. Maintain adequate staffing levels.
10. Aggressively seek new clients. Prospect!

### Though some experts say the economy's wounds are healing, it's important that company bosses know how to absorb the impact of recession.

■ Brian Storm, president and CEO of Terra-Scaping, believes that success during hard times is a matter of "planning, pricing and politics."

Other businessmen simply refuse to believe that times are slow. Their motto is, "damn the new-housing figures, full speed ahead!"

Jitters over the state of the economy remain in 1992. Those much-anticipated new housing starts are up a bit, but unemployment's passed the seven percent mark, and even though experts say the wounds are healing, it's important that green industry managers know how to absorb the impact of recession.

Storm, who also serves as the 1992 president of the National Landscapers Association, believes a recession is an industry-wide problem, not a situation unique to an individual company.

"If you've never gotten around to it, now is a good time to do some strategic planning," says Storm. After a three-day planning session, Storm says his company decided to concentrate on a

number of realistic goals, and "pursue those in an organized, cohesive manner."

Pricing is a touchy subject in the green industry. Many a company has lost jobs to a low-balling competitor. And the client eventually gets what he pays for. Storm decries such a trend as harmful to commerce.

"We need to create the feeling that our prices need to be coming up instead of going down," insists Storm, "so that we can protect our margins of profit and make sure we stay in business."

Politics is on everyone's mind, thanks to aggressive environmentalists, who fail to realize the positive effects landscaping and lawn care have on society.

"Once a law is made and you suddenly realize it affects you negatively, it takes a lot of work to try to change it," says Storm, who believes association membership can in itself be a recession-fighter. "It is important to belong to an association that stays on top of legislation, employs a lobbyist and keeps you informed—or to stay on top of it yourself."

Greg Bostwick, vice president of Esposito's Garden Center, Tallahassee, Fla., believes that decisions such as whether to cut back on crews or purchase equipment are ones that each business person must decide for him or herself. But he warns that "you can listen so much (to the nay-sayers) that you start to believe it, or you can get out there and get the business."

*continued on page 11*



## Maintain sales, trim overhead

■ "I'm often asked, 'How long do you think this recession will last?'" says industry consultant Charles Vander Kooi. "I have to answer that I think we will see some improvement yet this year simply because it is an election year.



Vander Kooi: Reduce overhead

"However, I feel that any improvement will be temporary and that in 1993 we will slip right back into our present situation. I do not foresee any long-lasting improvement until 1996. That will give enough time for the savings & loan fiasco to become handled, and for many questionable contractors to go broke."

Vander Kooi lists the following recession-fighting tips he finds at work in the best green industry companies:

● **Maintain current sales or reduce sales intentionally.** "Growth anytime is usually non-profitable and even dangerous." According to VanderKooi, as a company grows, it makes a profit on the volume it did the year before and just trades dollars on the additional growth dollars. "During a recession," says Vander Kooi, "they lose money on those growth dollars."

● **Reduce overhead by 3 to 5 percent in relation to sales.** "Since almost half of some contractors overhead is salaries, some of them asked everyone to take 5 to 10 percent cuts in their salaries and wages. Others found places where, during the good times, they had taken on additional and unnecessary expenses."

● **Use equipment more effectively, and sell what's gathering dust.** "During good times, we tend to amass equipment through 'good deals' or 'limited need' and justify its cost," admits Vander Kooi. "During a recession, a contractor who wants to be a survivor will reduce his equipment."

—T.M.

## Tough from page 8

Other than experimenting with different advertising techniques, the company's basic philosophy has been to provide quality service, says Bostwick. "Quality and consistency pull you through the lulls."

"We're aggressively seeking new clients," says Robert Mann of Hunt & Hulteen, Brockton, Mass. "And," continues Mann, "we realize where our strengths as a company lie, and focus in on that." Hunt & Hulteen's primary markets are in commercial properties and tree and shrub sales.

"We may not have installed as much mulch or done a lot of the extras," says Mann, "but the basic maintenance workforce remained stable."

Mann says Massachusetts continues to exhibit a reluctance to expand. "The construction market is slow, though there is a feeling of a resurgence in the economy. We notice that the economy here is retooling." According to Mann, the growth-oriented industries of the '80s are less aggressive, and new industry is growing, especially in the technology sector. And, of course, with every new industrial park, there has to be a service contract.

James Huston, landscape and irrigation management consultant, writes that a business philosophy is essential to success:

"During periods of economic stress and downturns, this model (or set of guiding principles) can become increasingly important," says Huston. "The overriding theme is to minimize costs while maximizing revenues and productivity, to do so as quickly as possible throughout the company, and to continuously reinforce this process throughout the lifespan of your business."

Long-range planning combined with customer contact and prospecting is one of the tenets to the business philosophy of Rod Bailey, Evergreen Services, Bellevue, Wash.

"That's fundamental to surviving in a down market," says Bailey. "You are already in touch and maintaining your relationship with the people you would like to be doing business with."

—Terry McIver

*The overriding theme is to minimize costs while maximizing revenues and productivity, as quickly as possible.*

## Keep business active

■ Small businesses may be the hardest hit during an economic slowdown, such as the situation in the United States the past two years. Why? Because of tight credit and the inability to buy in quantity, according to the National Association for the Self-Employed (NASE).

For the small business owner, the NASE has this advice:

● **Don't skimp on service and quality** by being understaffed. Your options include part-timers and consultants. Check the "Opportunities Wanted" ads in local newspapers or turn to local schools and universities.

● **Cut personal spending.** Simple solutions can make a difference.

● **Meet with your staff weekly** to exchange ideas on increasing productivity and reducing costs.

● **Be prepared to "pull out the stops" during peak times.** Don't be afraid to work more hours during springtime when sell-

ing and service-rendering is at its maximum, or even around special holidays.

● **Remain close to existing clientele.** Telephone or visit your contacts and find out about developments in their business that could lead to new opportunities. These visits could also help you avoid unpleasant surprises.

● **Carve out more time for pursuing new business.** With spending slowing down, new business referrals are harder to get. It's time to go after new business aggressively by networking with industry and community groups.

The NASE, based in Hurst, Texas, has a national membership of more than 275,000 small business owners, and provides services and benefits to help its members be more competitive. For more information, call toll-free (800) 232-6273 or write: NASE, 2121 Precinct Line Rd., Hurst, TX 76054.





## Landscape lighting: classy and profitable

**Landscape lighting is a sure-fire profit center which will add a finishing touch of class to the customer's property.**

By Murray Morrow

■ Landscape lighting, a \$120 million wholesale business, is projected to grow by 10 to 15 percent per year over the next five years.

As more contractors take advantage of this landscape service, they seek the best landscape lighting plans and designs.

Good landscape lighting is as much an art as it is a science. There are few hard and fast rules, but there *are* certain fundamentals that will make the job easier, minimize callbacks and satisfy customers.

For instance, keep the number of fixtures and the amount of light to a minimum. Emphasize what's being lit, not the

light or fixture. More isn't necessarily better. At night it doesn't take much light to create glare.

Ask the customer these questions:

**1)** What is their primary lighting objective—security, safety, beauty or recreation?

**2)** What is outstanding about the property—specimen plants; interesting trees, shrubs, statuary? Remember, when you emphasize everything, you emphasize nothing.

**3)** Will it be necessary to match fixture style to a particular style of architecture?

**4)** What tone or feeling do you want to achieve—reserved, dramatic or soft?

Use ground spikes and extension cords to temporarily position fixtures. Place fixtures in varying positions until you feel you have found the most aesthetically pleasing arrangement from all possible viewing angles.

**Fixture selection**—When selecting fixtures, keep in mind:

● **Economics:** Is your customer on a limited budget or does he or she want to

upscale? Obviously, inexpensive \$5 lampholders fit better in a budget job than do \$50 bullet lights.

● **Positioning:** If the fixture is to be aimed above the horizontal, use enclosed and gasketed bullets for the most secure above-horizontal placement. The low-end lampholders are not UL approved for this type of aiming.

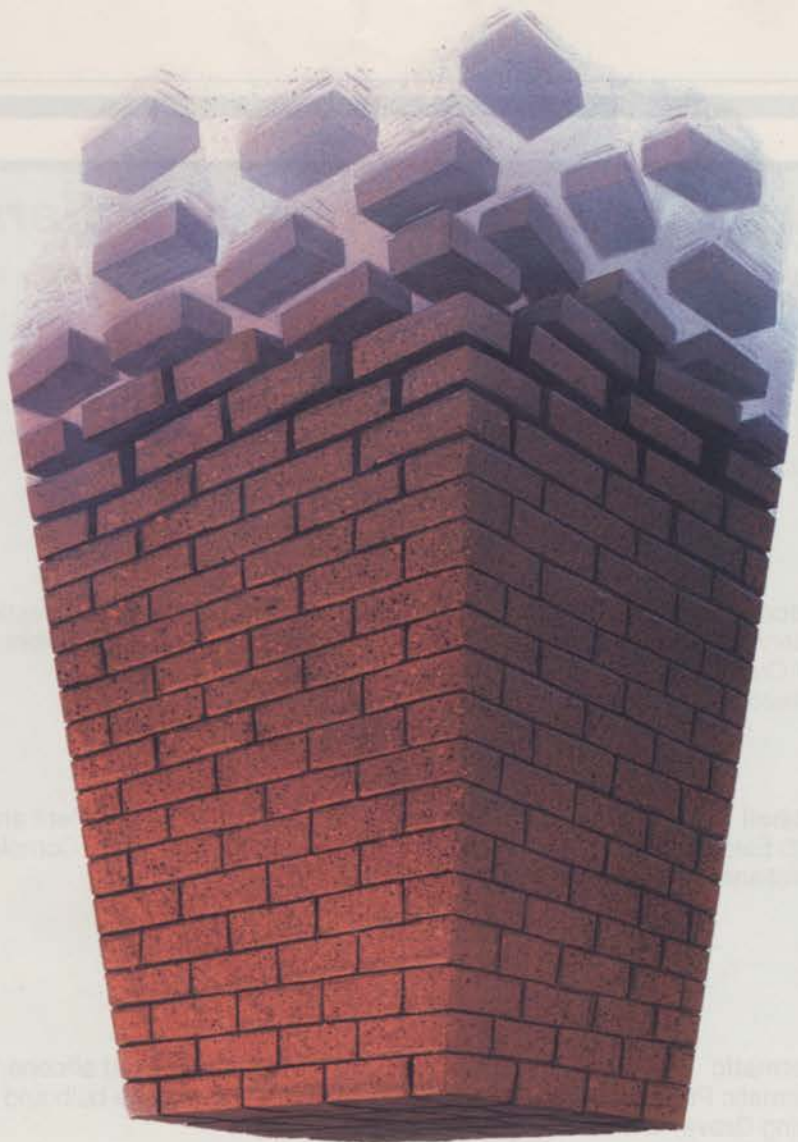
● **Shielding:** Whenever possible, use natural shielding such as shrubs and rocks rather than a shield on the fixture. If this is not possible, long-cone bullet fixtures or shielding attachments will serve the purpose.

● **Dayform:** Will fixtures be seen during the daylight hours? If budget is no problem, select fixtures, shapes and colors according to your customer's taste. Usually, more expensive bullets are the most attractive fixtures for projected landscape lighting. If fixtures are not seen, you can use less expensive fixtures.

**Types of lighting**—Keep in mind what all the viewing angles will be and the effect

*continued on page 15*





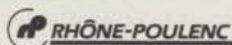
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webworms and billbugs. And, applied at the nematicide rate, CHIPCO® MOCAP® is one of the most effective nematicides you can buy. Best of all, you now get all this time-proven turf pest control in an easier-handling, low-dust formulation. CHIPCO® MOCAP® brand 10G pesticide. Available from your turfcare chemicals supplier today.

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## Lighting accessories suppliers

Here are just some of the companies that carry lighting supplies. Products pictured are just one of the many lighting accessories available from each.

Company	Product/description	Circle No.
	<b>Elliptipar, Inc.</b> 145 Orange Ave. West Haven, CT 06516	131
	<b>Hadco</b> A Genlyte Company 100 Craftway Littlestown, PA 17340	132
	<b>Hubbell</b> 2000 Electric Way Christiansburg, VA 24073	133
	<b>Intermatic</b> Intermatic Plaza Spring Grove, IL 60081	134
	<b>McPhilben Outdoor Lighting</b> 2661 Alvarado St. San Leandro, CA 94577	135
	<b>Stonco Lighting</b> A Genlyte Company 2345 Vauxhall Rd. Union, NJ 07083	136

## 'Light up your landscape'

■ The American Lighting Association is a non-profit trade organization representing members of the residential and commercial lighting industry in the U.S. and Canada. It publishes "Light Up Your Landscape," a 16-page booklet describing the benefits and types of outdoor lighting available to landscapers.

For a copy, send \$2 to American Lighting Association, 435 N. Michigan Ave., Chicago, IL 60611-4067.

"Handbook for Outdoor Lighting," for the professional 12-volt outdoor lighting requirement, is available from Nightscaping, of Redlands, California. Send \$3 to Loran, Inc.,



## Placement techniques

● **Single light source**, placed directly in front of the object. If it is a plant and somewhat open, allowing light to pass through and project shadows on a surface behind it, the effect can be sensational.

● **To either side of the object**. This will create distorted shadows that are very often dramatic and intensely interesting because of the extremely high contrast created.

● **Multiple point sources**. Two or more light sources from different sides of an object—sides and front; front and back—can create interesting highlights and shadows.

● **Downlighting**. This positioning tends to smooth and soften the lighting's

tone. It is desirable in security lighting where it is essential to minimize contrasts. But in landscape lighting, its effect is often bland and boring.

● **Uplighting** produces the starkest, most dramatic effect, described as mysterious, intriguing or exotic.

● **Backlighting**. Lighting the backside of a tree or shrub will make the object seem to "jump out" of its setting.

● **Silhouetting**. Lighting a surface from behind will help to emphasize the shape and dis-

tinctive character of a particular shrub or tree in the landscape.

—M.M.



Uplighting produces dramatic effects.

## Lighting from page 12

of the beam after it projects beyond the lighted object.

Guard against light shining into a neighbor's window or into oncoming traffic.

● **Area or spread lighting**. This is ideal for safety lighting of paths and walkways. It is also excellent for flower beds and low level shrubbery. It is generally provided by low level fixtures that are often shielded by a top louver or cover.

● **Accent lighting**. Highlighting statues, exotic shrubbery and a specimen plant will often add a dramatic and interesting tone to a landscape lighting job.

● **Facade lighting**. Textured house surfaces like brick, weathered wood, split shakes, barn siding, when effectively lighted add character, depth and dimension.

● **Grazing**. Mounting the fixture just inches from the surface and aiming up at a very close angle can produce intense, highly provocative effects.

—The author is a lighting consultant with Stonco, a Genlyte company, headquartered in Union, N.J.

## Buried utilities hidden, hazardous

### Installers/excavators are always just 'one call' away from learning the whereabouts of below-ground utilities.

■ When Ken and his partner contracted to landscape the elderly woman's front yard, they also agreed to replace a paved walkway with a decorative stone walkway.

The winding stone entrance would be the finishing touch to an otherwise routine landscape installation. But, because they gave too little thought to what lay *under* the old, root-buckled walkway, they lost the profits from this job. It also required one extra day to complete the work.

They didn't call before they starting digging. Here's how they goofed:

They had agreed to remove from the front of her house, one sprawling, but rarely blooming lilac, and three scruffy boxwoods. These they replaced with two flowering crabs, a weeping cherry, ivy ground cover, and mulch. Small job, easily done.

But in attempting to slice through the

roots of a 60-year-old silver maple—to lay the paving stones of the new walkway—they cut into the natural gas line to the woman's house.

Typically, this isn't the way most underground utilities are damaged. More commonly, they're punctured with a backhoe.

To prevent this sometimes dangerous but always expensive confrontation between machinery and below-ground utility, the 25,000-member American Public Works Association (APWA), through its Utility Location and Coordination Council, promotes *One-Call*, a communication link between excavators and owners/operators of buried utilities.

Most states now have laws requiring public utilities with underground facilities to participate in a One-Call excavation protection service. Only three states—Hawaii, North Dakota and South Dakota—don't have One-Call system coverage.

For instance, had Ken dialed (800) 362-2764, the One-Call operation manned by the Ohio Utilities Protection Service, someone from Columbia Gas would have marked the location of the gas line with yellow paint—prior to any digging.

Had there been any other underground facilities at the digging site, the respective

operators would have also marked them with these standard colors:

- Electric—red
- Gas, oil—yellow
- Communication—orange
- Water—blue
- Sewer—green
- Proposed construction—white

Most One-Call systems, including Ohio's, require at least two working days' notice prior to digging. This is just one of several One-Call requirements that may be slightly different from state to state.

"In the landscape business, there should definitely be awareness of these One-Call systems," says Jim Thorne, director of research of APWA. In the case of a business that operates locally, employees may have to be aware of just the single One-Call number. For companies working in several states, there are separate numbers for each state.

Each year the APWA publishes its Excavator's Damage Prevention Guide and One-Call Systems Directory International. It contains listings and requirements for all One-Call systems. Cost is \$3. Contact: APWA, 1313 East 60th St., Chicago, IL 60637-2881.

—Ron Hall



# Turfseed: get it while you can

## Talk of boosting prices 'won't scare people,' says Pickseed's Pepin.

■ The hot, dry spring weather did a number on this year's seed crop, resulting in one of the lightest harvests in recent memory. The surplus of the past two years will be gone after this season, due to lower yields from the 1992-93 seed crop. Experts tell LANDSCAPE MANAGEMENT that higher prices will be the rule for '92.

### Pepin: Price hikes won't panic buyers.

The truth of the matter is that the seed industry needs this fiscal shot in the arm to help it recover from recent low prices. Fortunately, seed customers can absorb most price increases without much effect on the bottom line. "The increases won't scare people," says Dr. Jerry Pepin of Pickseed West. "By the time it reaches the end user, a 5 or 10 cent price hike will mean a 20 cent cost to a landscaper or superintendent."

## The truth of the matter is that the seed industry needs this fiscal shot in the arm to help it recover from recent low prices.

Here's the seed supply picture, based on comments from seed producers interviewed during LANDSCAPE MANAGEMENT'S visit to seed county:

● **Perennial rye:** Some yields are "not even adequate." There was not enough moisture to nourish the seedheads, so the seeds are smaller; the count is up, but the weight's down.

● **Fine fescue** yields are down. "We have fields we probably won't even harvest, reports one source. "They're 1/2 to 3/4 of

average yields."

● **Common Kentucky bluegrass** supply is way down; prices should double or even triple.

● **Tall fescue** acreage is off by 15 to 20 percent. The KY-31 fescue crop will be high priced, which will bring the price of other fescues up with it. The crop yield is predicted to be half of last year's.

● **Creeping bentgrass:** No problem there; companies report plenty of inventory.

● **Proprietary bluegrasses** are in short supply. In some fields, the crop was ready three weeks early. "Proprietary bluegrass is the great leveler," says Keith Laxton, operations manager for Seed Research of Oregon. "Specific varieties will be up by 20 to 40 cents."

—Terry McIver



Seed buyers converged on parts of Idaho, Washington and Oregon in mid-June for the annual field days.

Photo courtesy Jacklin Seed Co.

## New seed products

**Kentucky bluegrasses**—Jacklin Seed Co. recently gained name approval for **NuBlue**. Jacklin reports the variety has shown outstanding resistance to leaf rust, leaf spot, melting out, and pink snow mold. It has medium-dark green color, good early spring green-up.

International Seeds, Inc. also reports trade name approval for **Banjo**. The company reports good shade tolerance and brown patch resistance.

From Fine Lawn Research comes **Chateau**. Fine Lawn reports the variety ranked fifth out of 67 bluegrasses. Good shade performance, wear tolerance and disease resistance, says Fine Lawn.

Pickseed West, Inc. announces that **Bronco** has been granted a plant variety protection number by the U.S. Dept. of Agriculture. According to Dr. Jerry Pepin, Bronco is a unique bluegrass variety developed with the improved heat and drought tolerance, disease resistance and rapid establishment necessary for survival in the transition zone.

**Fescues**—**Rebel II**, from Lofts Seed, Inc., is the second generation of Rebel turf-type tall fescue that grows denser and darker than the original. Lofts reports improved drought and heat tolerance, and better resistance to heavy traffic.

Pennington Seed now offers **EnviroBlend**, a semi-dwarf tall fescue blend. The

company says Enviro's best feature is lower growth for less clippings, and superior drought survival.

Seed Research of Oregon has a new hard fescue, **SR3100**, and **SR 5100** chewings fescue. Both are dark green varieties, of the low growing, dwarf-type.

**Confederate** tall fescue is Turf-Seed's "summer survivor in the hot, humid South." Good brown patch resistance. It's a blend of Apache, Safari, Olympic II and Monarch. **Mowless** is a Turf-Seed dwarf tall fescue. It has a reduced rate of vertical growth and a very dark green color. "Mowless forms a fine, dense dark green turf," says Tom Stanley, marketing director, "and it has very good resistance to brown patch and leaf spot." The blend: Silverado, Eldorado, Tomahawk, and Monarch or 59D.

**Perennial ryegrass**—**Nomad** is new from Turf Merchants. Developed for use in golf course overseeding, Nomad maintains a lush green color at shorter heights.

**Creeping bentgrass**—International Seeds and Jacklin have released **C.E.O.**, a custom blend. It is composed of Cobra, Putter and Emerald. Formulations depend on climate conditions. It's recommended for bentgrass fairways and winter overseeding of dormant bermudagrass greens and tees.

—T.M.



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- James Rhoden, Superintendent,  
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- Patricia Ann McCurry  
Owner, The Lawn Dr  
Lawton, OK

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- Rusty Holt, Owner, Property  
Management Services, Greensboro, NC

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- Slade Strickland, Director of Parks Recreation and  
Landscape Development, Addison, TX



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# Some native plants for golf courses are low maintenance eye-catchers

## Planning, design, site choice and planting procedures are keys to better native plant survival.

by Randy Cave,  
Atlanta Athletic Club

■ One of the most challenging tasks of golf course management is "pleasing the customer."

Not only does the potential member have to be enticed into the club by curb appeal, but the environment inside must be appealing, pleasant and natural. Many courses have the exotic appeal, but end up being a maintenance headache. Little do the superintendents realize that many native plants can create the same environment with little or no overall maintenance.

From what I have learned, observed and experienced in the landscape industry, people want to see more natural, less chemically treated, less heavily pruned plants. With the move in this nation leaning towards an environmentally safe world, naturalizing

any area could be the answer to many problems. Many native plants can tolerate drought, have little or no need for any chemicals, and—if used correctly—will require minimal maintenance.

The Atlanta Athletic Club, situated northeast of Atlanta on the Chattahoochee River, is surrounded predominantly by native hardwood forest. However, the golf course is mainly composed of loblolly pines. Because a monoculture species dominates the course, we are at high risk of losing all or part of it to any given pest or disease of these pines. Therefore, by incorporating native species around the course, we will minimize tree and plant losses due to any one disease or pest.

Attending Lake City Community College Landscape Division in Florida, I learned the importance of integrated pest management. The other portion of my studies concentrated on the significance of using native plants in a landscape. With many of the problems that face golf course and landscape industries today, such as restrictions and regulations on water and chemicals, it seems only natural to turn to more drought tolerant and immune species of plant material. The key to using this type of plant material is to be found in the planning stage.



This perennial rock garden showcases a variety of native plants: wax myrtles, silverbell (tree), sedum, rudbeckia and bright-yellow yarrow.

## Where to find native plants

■ Native plants are not abundant in the landscaping industry, but this is bound to change. I believe that over the next decade, native plants will become more popular due to the change in world opinion toward water and chemicals. For now, though, they are not easy to find, but certainly not impossible.

There are several guides to help you choose the right native plant for your site. Regional botanical gardens and horticulture schools are good sources. One guide I recommend is *Identification, Selection and Use of Southern Plants* (Claitors Publishing); and *Manual of Woody Landscape Plants*, (Stipes Publishing).

Books like these would be used to decide what plants will grow best in certain areas.

—R.C.

What are your needs? Membership input is important, but not critical. There are other things to consider that members may never realize.

For instance, native landscapes can screen undesirable areas without looking like a fence or a hedge. Small patches strategically placed between two points can block one view from another. Areas we considered disguising included restrooms, ditches, culverts, unused open areas, drains, retention areas, and areas between adjacent tees and greens. One of the most important points to remember is to keep the native appeal in mind.

The times when one can do any major planting are limited. Golf play, availability of plants and planting requirements can narrow your scheduling. Late fall and early winter are good times because many of these plants are dormant. This also decreases loss due to heat stress and shock.

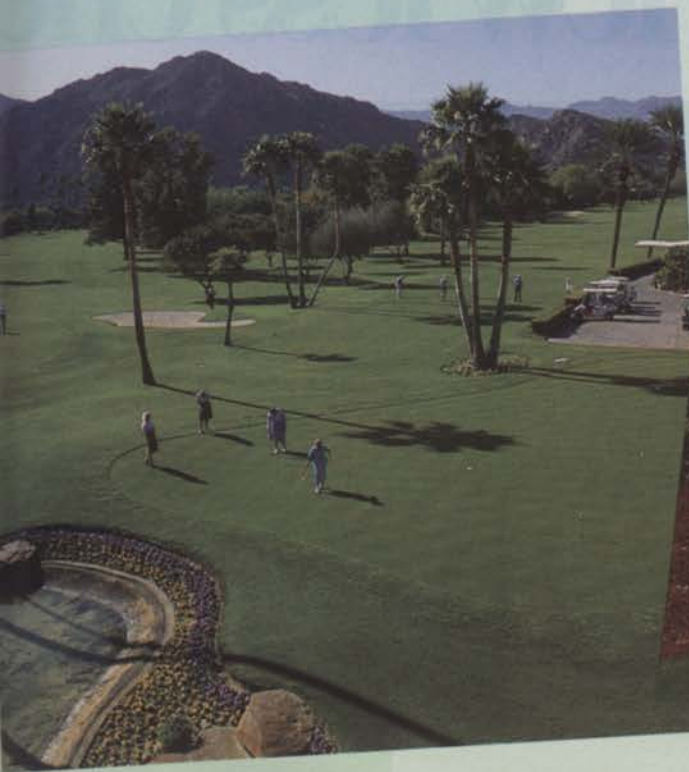
Many of these plants can be accommodated to most sites, as long as the bed is sufficiently prepared.

*continued on page 22*



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Perennial performs like an annual in the South and fades on arrival of summer.

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# Why live with a few to live with a few less che

So, if you make your turfgrass thicker and healthier, you won't need as much herbicide.

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And because your thicker, healthier turf will be more resistant to damage





tolerant. Reduces mowing by about a third. Cuts clippings by about two thirds. And makes



greens faster and fairways more playable.

Plus, Cutless can help you gradually convert *Poa*

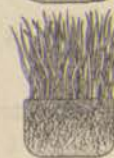
80 percent *Poa* on his fairways to 90 percent bentgrass over a five-year period.

There are many things you can do to grow thicker, healthier

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## NATIVE PLANTS FOR GOLF LANDSCAPES

Trees	Zone	Comments
American beech	3-8	Sensitive to compaction
Black gum	4	Tolerant of most conditions
Sassafras	4	Tolerant, long taproot
Sugar maple	4-7	Vigorous; many cultivars
Florida maple	7-10	Use in place of sugar maple
Dahoon holly	7	Heavy fruiting, tolerant
White oak	4	Long-lived, drought tolerant
Sourwood	5	Outstanding color, tolerant
Redbud	4	Many cultivars
Mountain laurel	4	Streams/banks, partial shady areas
May hawthorne	7	Understory, edible fruit
Parsley hawthorne	7	Tolerant; best in medium shade areas
Wash. hawthorne	5	Large thorn; very tolerant
Witchalder	6	Understory, does well in acid soil
Wax myrtle	7	Likes partial/full sun; salt tolerant
Paw paw	5	Pest free, shade tolerant
River birch	4	Adaptable, acid soils
Musclewood	2	Transplant when small
Greybeard	4	Fragrant; drought tolerant
Silverbell	7	Substitute for dogwood
Witchhazel	4	Autumn and winter flower
Myrtleleaf holly	7	Evergreen; heavy fruiting
Red bay	8	Evergreen and aromatic
Willow oak	6	High-branching; does well in wet soil
Shumard oak	5	Mammoth shade tree
Bald cypress	4	Good soil stabilizer
Winged elm	7	Shallow root system
Silver maple	4	Several cultivars available; vigorous

Shrubs	Zone	Comments
Bottlebrush buckeye	6	Showy white flowers
Serviceberry	4	Understory; adaptable
Red chokeberry	4	Moist conditions
American beautyberry	7	Best in poor soil
Sweetshrub	7	Spring, autumn flowers
Cliftonia	7	Fragrant flowers
Leatherwood	6	Grows well in low, wet soil
Huckleberry	7	Understory; edible fruit
Rose mallow	6	Perennial flower from May to October
Spiderwort	5	Perennial; prefers shade
Georgia holly	7	Late autumn performance
Iris spp.	6	Use for riverbanks, streams, lakeside
Leucothoe	7	Shade tolerant
Fetter bush	7	Understory; slope coverage
Native azalea	6	Many native species listed
Buddleia	5	Attracts butterflies
Oak hydrangea	5	Large shrub; understory
Anise	8	Fragrant, hedge-type plant

Source: Randy Cave

### Native plants from page 18

On the whole, plants that are field grown (bagged or balled and burlapped) transplant well as long as most of the roots are intact.

If the plants are container grown in a potting type mixture, there are two possible approaches. One is to amend the entire eventual rootzone with a similar mixture; the other is to shake a majority of the potting soil away and assimilate it to a new soil. Either way, a hole large enough for a sizable amount of roots should be dug and loosened up for the plant. Use enough balanced fertilizer on each plant and water it in thoroughly. Common planting practices, such as planting shallow-rooted plants slightly raised and staking trees, still apply. However, native plants are usually sensitive to any drastic changes in environment, so planning, handling and first-year care are essential.

### Once native plants take to an area, there is little care needed, other than corrective pruning.

Once native plants take to an area, there is little care needed, other than possible corrective pruning to strengthen a certain plant. It is advisable to fertilize occasionally. Most native plants prefer late winter fertilization.

Whatever your needs are for plant material in any given area, native plants can usually satisfy them. Each golf course has its sensitive spots that need attention, and native plants can usually tolerate these harsh environments with little care. Planning, designing, site choice and planting procedures are keys to better native plant survival.

Since winter is usually a slack period for crews it is a good time to work on this kind of project. I feel that native plants are the plants of the future. Mostly pest free and drought tolerant, there are a host of usable and adaptable native plants for almost any area.

—Randy Cave wrote this article as landscaping superintendent for the Atlanta Athletic Club. He is now a horticulture and landscape design student at the University of Georgia. This article is reprinted by permission of the Georgia Golf Course Superintendents' "Thru the Green."



# No-fuss pansies for long winter color, minimum care



**This easy-care plant makes a strong impact in landscapes across the country in fall, winter and early spring.**

■ Pansies, *Viola x Wittrockiana*, are perennials that are treated as annuals. The plants have a small, rounded habit with rich green foliage. They can be massed in large or small beds; planted as borders or groundcovers; and potted in planters or tubs (Table 1).

Pansies offer a long bloom period, are disease- and insect-tolerant, and need little care. Breeders have been developing plants that are heat- and cold-tolerant and blossoms that come in a wide range of colors and sizes.

Depending on location, they will bloom for two to three months in the fall and again in the spring. They can take a light frost and continue blooming.

"They're coming on again (in spring) before landscape crews can get out and work the beds for other plants," says Doug Badgero, greenhouse and gardens manager

at Michigan State University.

In the South and West, pansies are planted for fall-through-spring blooming. Summers are too hot for the plants to survive.

In the North and Midwest, pansies are hardy in the fall and can be planted as soon as holes can be dug in the springtime.

In northern locations, pansies planted in spring may "rest" (not bloom) during

TABLE 1.

## WAYS TO USE PANSIES

- \* In fall plantings to provide: a cover crop on bulb beds through winter
- \* spots of color to accent the established shrubs and trees
- \* continuous color through the winter in mild climates
- \* In mass plantings for large areas.
- \* In borders with other winter crops.
- \* In long, narrow planting strips along roadways, driveways and building entries.
- \* In rock gardens or as a groundcover.
- \* In containers, whether alone or as an accent with other plants.

◀ The universal series of hybrid multiflora pansies provide good fall, winter and spring color.

(Photo by Kurt Reynolds, Goldsmith Seeds)

the heat of summer and then re-bloom in the fall.

Trials at MSU have shown how fall-planted pansies can be overwintered in the landscape to be one of the first spring blooming plants, Badgero says.

**Fall planting**—Pansies planted at the right time will provide long-lasting plants and blossoms (Table 2). The general rule is to plant at least four to six weeks before the first frost, Badgero says.

Landscape professionals should be sure the pansies planted have been acclimated to the outside temperatures in their part of the country.

Daily temperature extremes are hard on pansies. Avoid planting them in locations that get warm temperatures and long sun exposure during the day and extreme cold temperatures and frost during the night.

Pansies bloom best when planted in full sun, but many do well in light shade, too.

They prefer rich, moist organic soils, as most annuals do; however, Joe Seals of Ball Seed Co. says he has seen pansies grow in heavy clay Texas soils. Clay or sandy soils should be amended with compost and/or peat. "They are not fussy plants, but remember that the lighter the soil, the more water and fertilizer they will need," he said.

The soil for pansies should offer good drainage. "They (pansies) don't like it (soil) real wet," Badgero said. Long periods of moisture can cause root rot.

TABLE 2.

## FALL PLANTING TIMES

- \* North - September 15
- \* Midwest - October 1
- \* South - not before October 1
- \* Southwest - October 1 to October 15
- \* Southeast - October 1 to October 15
- \* Florida - December 1
- \* California - anytime



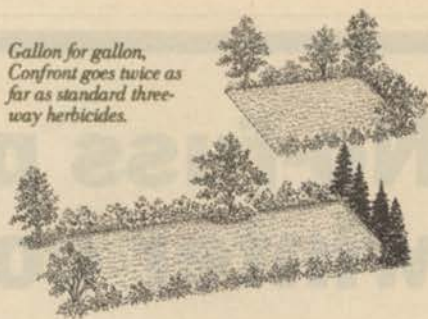
The thing we're trying to help you avoid is overkill. Because if you can control weeds, isn't that enough?

So here's a less

aggressive approach to managing weeds. A few things you can do to use less postemergence herbicide to get the weed control you need.

Also, calibrate your equipment frequently, and use the correct

Gallon for gallon, Confront goes twice as far as standard three-way herbicides.



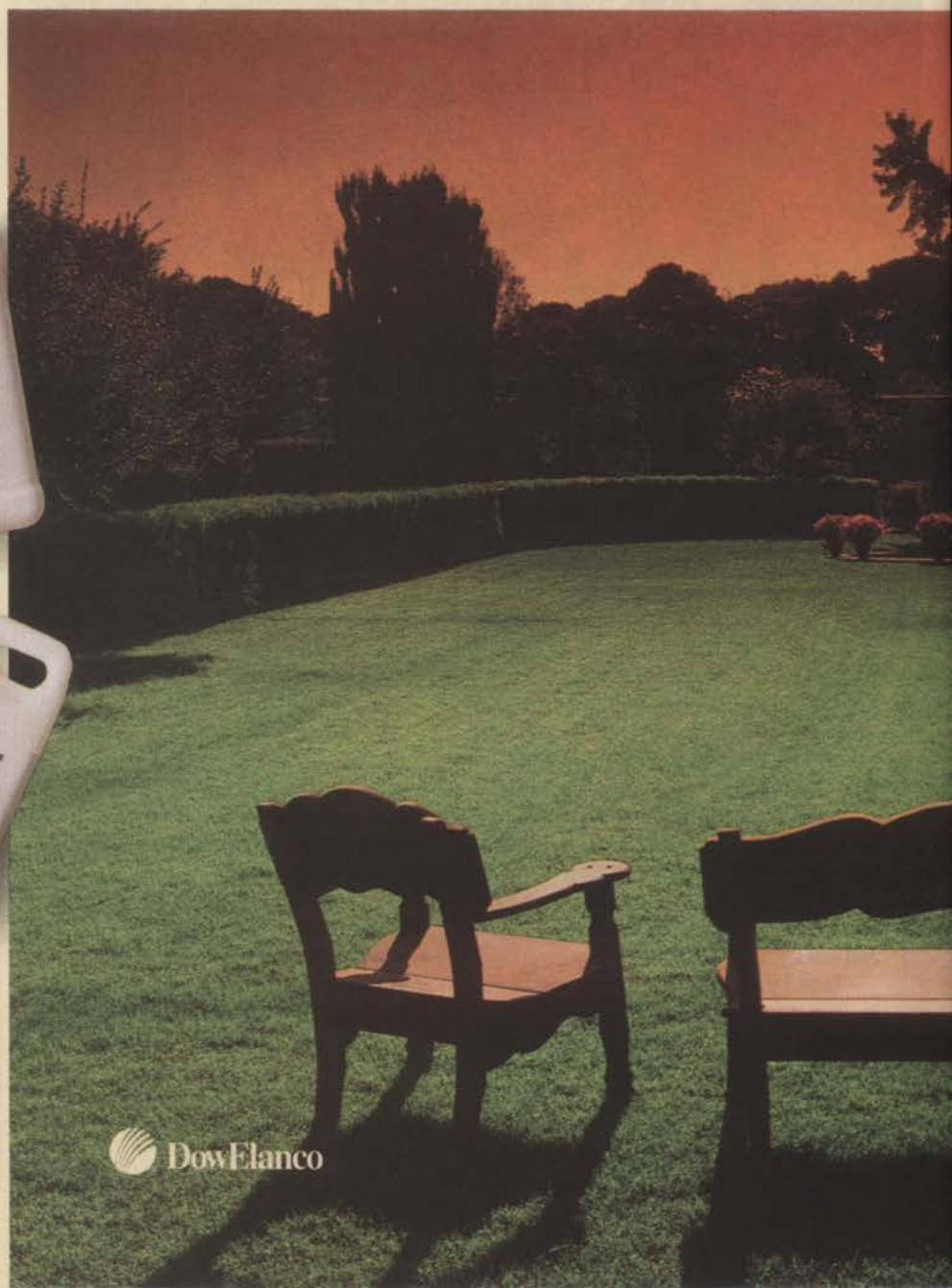
# At last. A herbicide that can eradicate, eliminate

aggressive approach to managing weeds. A few things you can do to use less postemergence herbicide to get the weed control you need.

First, look for weedy areas

A Young Weed Is A Vulnerable Weed.

The best time to apply your postemergence herbicide is early —when you first see weeds emerge. This is when weeds are the most vulnerable to herbicides. You'll get better results from your application, and you'll reduce the need for treating hardened weeds later.



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rate of herbicide for the weed you want to control. You'll get better results from your application, and reduce the chances you'll have to re-apply.

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For instant color, use pansies grown in four-inch containers. For smaller jobs, cell packs may be used; however, remember that root systems typically are less developed and may take longer to become established in the landscape.

A guideline for spacing plants is 9 to 12 inches. For instant mass color, plant 6 inches apart. Spacing more than 15 inches apart is not recommended because plants generally do not grow large enough to fill the space.

In the North where the before-freeze growing period is short, Smith recommends planting "good and tight for best show." He grows in 3 1/2- and 4-inch containers, and plants them pot-to-pot for mass color.

Dig planting holes slightly larger than the rootball. Pansies should be planted at the same depth as they are growing when purchased. After planting, gently firm the soil around the base of the plant and water thoroughly.

**Selection and care**—Pansies are simple to care for. Natural moisture is usually enough, and they shouldn't need fertilization. Mulching, however, is recommended.

To encourage more blooming of pansies growing in small beds, maintenance crews could deadhead the flowers manually.

TABLE 3.

### SIZES OF PANSIES

**Miniatures:** Pansies with the smallest size blossoms are called violas or johnny-jump-ups. The tiny-faced, fragrant blossoms are used mostly in residential landscapes and in container plantings.

**Small-flowered:** With a flower size of approximately 2 inches in diameter, these pansies produce a continuous flush of color with multiple blooms. Mass plant in beds, 6 to 8 inches apart, for best show of color.

**Mid-size:** These pansies provide a good flush of color with a slightly larger flower, approximately 3 inches in diameter. The flowers are held above the foliage for best color show. They are good for fall and spring color. Many also are bred to flower under the short days of winter in mind climates. Space plants 8 to 10 inches apart.

**Large-flowered:** While these pansies have flowers 4 inches and larger in diameter, they are not as floriferous as many smaller varieties. They require more dead-heading for maximum flush of color.

In some southern sites where overnight temperatures can drastically change, polypropylene covers can protect the plants. In the North, some landscapers cover plants with hay.

Landscapers have many choices as to size, color and with or without faces. The selection of colors in recent years has shifted toward solid colors as mass plantings.

Regardless of the variety selected, landscape professionals across the country can count on this easy-care annual to provide long-lasting color in fall and spring.

—This article was written by Sherry Harlass, a communications specialist with J&S Creative Group, Arlington, Texas. It was funded and reviewed by the Professional Plant Growers Association, P.O. Box 27517, Lansing, MI 48909; (517) 694-7700.

TABLE 4.

### PLANTING TIPS

**Soil:**

well-draining, rich, organic mixture

**Light:**

mostly sunny to part shade sites

**Fall planting:**

4 to 6 weeks before first frost

**Spacing:**

6- to 12-inch centers

TABLE 5.

### OPTIONAL MAINTENANCE

**Water:**

supplemental irrigation during dry spells or in dry climates

**Fertilizer:**

one-time application during growing season

**Grooming:**

manually remove (deadhead) spent blossoms

**Overwintering:**

cover with landscape fabric when temperatures plummet

## Factors to consider when choosing wood

Outdoor structures, which landscape managers must by necessity deal with, have to be weather- and insect-resistant. So only certain woods are suitable for this environment.

Cedar, redwood and pressure-treated woods are the three types of durable woods most often recommended. Georgia-Pacific lists the attributes for these landscape woods:

### **Cedar**

*Used for decks, walks, fences.*

- Noted for its beauty, durability and resistance to decay.
- Ranges in color from a light cream tone to a deep cinnamon red and in texture from knotty to clear.
- Resists shrinking, swelling, warping.
- Easy to work with.
- Weathers well without applying a protective finish, but exterior finishes such as water repellents, stains and bleaching oils will enhance its resistance to decay.

### **Redwood**

*Used for decks, fences, furniture.*

- Can range in color from a tawny tone to a deep cinnamon red, and in texture from knotty to clear.
- Highly favored as decking material because of its classic color and grain, as well as its resistance to decay.
- Easy to work with.
- Weathers well without applying a protective finish. Exterior finishes such as water repellents, stains and bleaching oils will enhance its resistance to decay.

### **Pressure-treated Southern pine**

*Used for decks and fencing.*

- Pressure treatment forces a preservative into lumber, making it resistant to insects and decay.
- The lumber has a distinctive pale green tint which, if left unstained, will weather to a rustic gray.
- Finishes well. While staining or painting is not necessary, it is often desired for cosmetic purposes. Applying a water-repellent sealer over the wood is recommended.
- Because it contains chemicals, pressure-treated wood requires special care in handling.
- Considerably less expensive than cedar and redwood.



# 'The best' golf course superintendents

by James G. Prusa,  
Ridgemark Golf & C.C.

■ By the nature of the game, golf course superintendents artificially produce the playing field. Like a test pilot, the best superintendents push "the envelope" of tolerances. They take pride in their artistic nature and use scientific technology to fulfill it. And, like in any other human enterprise or sport, under similar conditions and restrictions, some are more talented and do it much better than others.

The best superintendents can consistently perform, while others simply crash and burn. In the end, after all, the human factor influences success or failure in managing golf courses—not the living plant, technology, governmental regulation or environment.

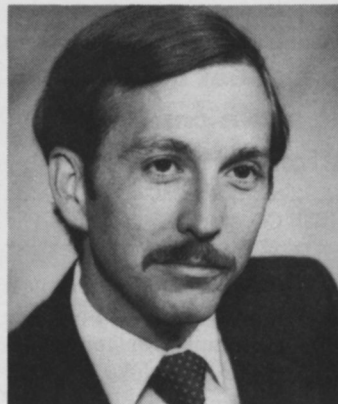
Competition is what separates mediocrity from those who attain near-perfect playing conditions on golf courses. We can concede that available capital, environmental conditions, volume of play, *ad infinitum*, are all factors that influence how well our course managers can produce the playing

fields of golf. But what makes the best "The Best?"

Ask Bill Spence or Steve Cadenelli (quoted in the original column), why some superintendents can consistently achieve near perfect playing conditions while—under the same types of conditions—others fail miserably. Bill and Steve will have to respond that the best superintendents overcome all factors because they are aggressively competitive.

The successful Best pursue perfection, undaunted by the standard complaints about occasional blemishes or failures they constantly hear from golfers. They doggedly have pursued their careers, preparing themselves with solid education, training and more training—just as any champion. (This is the foundation of the GCSAA.) They keep a positive attitude, are confident and persistent. They do not constantly look for excuses. They keep a "can-do" outlook.

The best superintendents set very high standards for themselves and demand the same from those around them. They know full well that they can't attain perfection, but they still set "the best" as their standard and they are satisfied by nothing less.



James Prusa: The "Best" supers want it perfect.

Let's stop searching for ways to lower our standards. Instead let's recommit ourselves to demanding standards. Let's avoid setting our standards low enough to assure our failure. Rather than complaining about the expectations of our customers, let's remember the saying:

"Be thankful if your job is a little harder than you like. A razor can't be sharpened on a piece of velvet."

—The author wrote this as a response to the editor's column in the May issue titled "Does the public expect too much from its golf courses?"

## Landscaping with sneezeless plants

■ About one out of every five persons suffers from allergies, many of which are plant-related.

The American Lung Association of California has published a brochure "Sneezeless Landscaping," which lists the plants that are least likely to cause allergies.

Since the plants were chosen using data counts of airborne pollens, clinical observations and allergy skin testing, the plant list below can be an excellent reference for you to communicate with your allergy-prone clients:

### Trees

Chinese tallow tree (*Sapium sebiferum*)  
tulip tree (*Liriodendron tulipifera*)  
silk tree (*Albezia julibrissin*)  
strawberry tree (*Arbutus unedo*)  
common catalpa (*Catalpa bignonioides*)  
Western catalpa (*Catalpa speciosa*)  
pine (*Pinus spp.*)  
pear (*Pyrus spp.*)  
podocarpus (*Podocarpus spp.*)

dogwood (*Cornus spp.*)  
fir (*Abies spp.*)  
palms (*Palmae spp.*)  
Coast redwood (*Sequoia sempervirens*)  
fig (*Ficus spp.*)  
jacaranda (*Jacaranda mimosifolia*)  
plum (*Prunus spp.*)  
crepe myrtle (*Lagerstroemia indica*)  
silk oak (*Grevillia robusta*)  
coral tree (*Erythrina spp.*)  
orchid tree (*Bauhinia spp.*)  
red bud (*Cercis spp.*)  
maidenhair tree (*Ginkgo biloba*)  
magnolia (*Magnolia spp.*)  
floss silk tree (*Chlorisia insignis, C. speciosa*)

### Shrubs

azalea (*Rhododendron spp.*)  
bougainvillea (*Bougainvillea spp.*)  
camellia (*Camellia spp.*)  
heavenly bamboo (*Nandina domestica*)  
oleander (*Neurium oleander*)  
yucca (*Yucca spp.*)  
firethorn (*Pycnantha spp.*)

viburnum (*Viburnum spp.*)  
grevillea (*Grevillea spp.*)  
pittosporum (*Pittosporum spp.*)  
hibiscus (*Hibiscus spp.*)  
boxwood (*Buxus spp.*)  
verbena (*Verbena spp.*)  
solanum (*Solanum spp.*)  
**Groundcovers**  
cinquefoil (*Potentilla spp.*)  
tradescantia (*Tradescantia spp.*)  
sedum (*Sedum spp.*)  
dichondra (*Dichondra micrantha*)  
bunchgrasses: rey, blue, fescue, etc. (*Sagina subulata*)  
hippocrepis (*Hippocrepis comosa*)  
mazu (*Mazu reptans*)  
**Ornamental flowers**  
poppy (*Papaver spp.*)  
cymbidium (*Cymbidium spp.*)  
begonia (*Begonia spp.*)  
pansy orchid (*Miltonia*)  
bulbs (*Tulip, Ranunculus, Iris*)  
daffodil (*Narcissus spp.*)



# Aerate for safe athletic fields

## For the highest quality results, use a combination of aeration options.

by W. R. (Bill) Chestnut

■ Sports turf managers' number one goal is to provide athletes with safe, playable surfaces. While operating with limited budgets within tight time schedules. This not only requires constant monitoring of turf conditions and evaluation of plant needs, but also selecting the best combination of treatments and timing to produce and maintain vigorous turf.

**Why aerate?**—Compaction reduces the soil's ability to absorb oxygen and exhale carbon dioxide. Water penetration and drainage are slowed, affecting the turf's moisture supply. Root growth becomes stunted, resulting in weaker plants which are more susceptible to insects, diseases, temperature extremes and other stresses. Dying plants add to the thatch layer, further impeding the movement of oxygen, water and nutrients.

Soils may also exhibit sub-surface or deep compaction, similar to the hardpan condition found in agricultural soils. This condition may be the result of frequent shallow aeration to the same depth, of layering different textured soil media, or of a combination of these factors.

Since turf roots can't penetrate the deep compaction zone, root growth becomes concentrated in the top few inches of soil. Weaker plants die, further adding to the thatch layer.

Chemical applications, may escape as runoff or become trapped in the thatch layer.

Individual fields and sections of fields react differently due to their soil profile, the amount of activity they have sustained, the conditions under which activity occurred, and the maintenance they have received.

Symptoms of compaction may appear as hard soil; thinning or dying turf; slow water absorption, water runoff, or standing water; poor or shallow root growth; or specific areas quickly showing the effects of stress.

After observing field conditions, pull deep plugs of soil from scattered sections

to check the thatch layer, depth and pattern of root growth, and soil layering. A more precise reading of compaction can be taken with a penetrometer, a device that measures the resistance of an object to movement through the soil.

**Options available**—*Hollow-tine* or *core-type* aerators pull out plugs of soil which are deposited

on the soil surface. Plug diameters vary from 1/4 inch with quadra-tines to 3/4 inch with closed spoons. Plug length ranges from 1/2 to 3 inches. Cores must be removed or dragged back into the soil. Micro-organisms contained in the core soil help break down thatch.

With deep-tine aerators, soil cores of 6 to 16 inches can be pulled.

Because of the openings created by core-type aerators, it's possible to amend the soil profile with topdressing. Since different textured soils absorb water and nutrients at varying rates, choose topdressing materials compatible with the existing soil.

Core aeration should be scheduled according to play and practice needs. Since it severs turf roots and stolons, it should take place during periods of active growth for most rapid rejuvenation.

*Spoon-type* aerators, which open up the soil by lateral prying, cause slight disturbances at the point of exit. Open spoon-type aerators may pull soil to the surface.

*Spike* aerators also have lateral prying. They punch holes in the soil, but remove no soil core. These aerators offer a wide range of spike diameters and lengths.

*Slice* aerators use star-shaped blades, 4 to 6 inches in length. They cut into the turf, creating narrow openings.

The tines of the *shatter* aerator reach as deeply as 6-1/2 inches into the soil.

Use shatter aeration to penetrate hardpan barriers. Locate underground lines and

## TYPES OF AERATION

Type	Disruption	When to schedule
spoon	slight	no parameters specified
core	heaviest	during active turf growth
slice	slight	overseeding; short time
lines	spike	varied when core is impractical
shatter	slight	for hardpan situations
water	none	for deep aeration

## BENEFITS OF AERATION

- opens up the soil for air movement
- "softer" soil
- increased water capacity
- longer, stronger turf roots
- more vigorous top growth
- reduced thatch layer
- fewer, lesser amounts of herbicides and pesticides needed

cables to prevent damage.

Short-term relief of compaction can be achieved with a 12- to 20-inch high-pressure *water injection*. This method also works to treat hydrophobic conditions (inability to absorb water).

Avoid aeration when the soil is overly wet or dry, or when hot, windy days would expose grass roots to drying.

Many types of aeration equipment offer options in the size and spacing of tines. The speed at which equipment can be operated, as well as the number of passes needed to achieve the desired results, must be considered.

**Not without problems**—Weed seeds and disease organisms may be brought to the soil surface. Openings may allow increased insect activity. Herbicide treatments may be disrupted. Repeated aeration to the same depth may increase sub-surface compaction.

For best results, use a combination of aeration options throughout the year, adjusting treatments to match turf problems, growth cycles and field use. Since equipment and labor hours are limited, extend aeration benefits by selective use. For example, aerate clay areas more frequently than sand-based sections, and heavily used portions of a field more frequently than the entire field.

—Bill Chestnut is marketing coordinator for the Golf & Turf Products Division, John Deere Horicon Works, and a member of the Sports Turf Managers Association.



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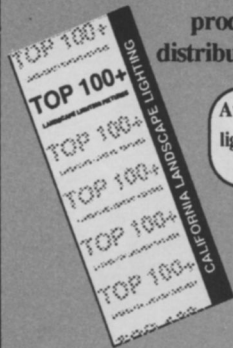




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## Managers wanted?

by E.T. Wandtke

■ Over this past winter, I was shocked by the number of companies I found are without a system for employee evaluations. Why can't a growing company find managers from within? Does your company have this problem? Do you have an effective employee evaluation system in place?

**Who to promote?**—To develop an effective employee evaluation system, remember three things:

**1) Make sure the system is two-sided.** If a manager is going to evaluate one of his employees, he too must be evaluated by the employee. The reason for this is that you can more effectively identify what areas in the company need work.

Suppose the branch manager says in an evaluation that a crew member doesn't meet the standards for acceptable work. Typically, this could be the result of not properly explaining what the standards are, or the crew member could be a poor worker. With a two-sided evaluation system in place, the crew member would have the opportunity to explain that perhaps he needs more training.

**2) Set measurable written goals for your employees.** If you don't convert your goals into measurable terms, you will never know when you have actually achieved them.

Often, I hear from employees that their manager has told them they will be evaluated on their work. But what does this mean? Is it based on how many days you don't show up for work? What exactly is a "good job"? What are you looking for when you evaluate the employee? Not telling your employees what you want, in specific terms, often results in mediocre performance.

**3) Provide employees with feedback.** How will someone know if they are not meeting goals unless you, the manager, provide some form of feedback? Set up regular meetings to discuss an employee's performance.

The sign of a poor manager is someone who fires an employee without ever telling him/her that he/she is not performing up to the desired level.

**Developing managers**—Once areas for development are identified for employees, companies often fail to develop a comprehensive plan of training to meet the employee's needs. Educational programs for potential managers in the green industry can be found at state or national conventions, in independent training programs, and through customized programs developed by industry consultants.

A formal development system for potential key managers can provide for the continued growth of your company and assure the owner that he or she will be able to fill future needs with responsible individuals. Failure to develop managers can strain the future growth of a company and result in lower profits, lower morale, and possible turnover of your best employees.

Now is the time to set up an effective employee evaluation system. It can benefit your employees short-term and your company long-term. Profits, efficiency, morale can all be improved.

—The author is a principle in Wandtke & Associates, a management and marketing consulting firm. Write 2586 Oakstone Dr., Columbus, OH 43231 or phone (614) 891-3111 for more information.

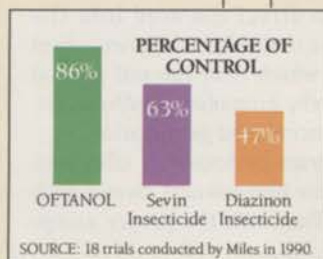


# OFTANOL USERS KNOW THE BEST WAY TO OUTSMART GRUBS IS WITH A LITTLE EXTRA HOMEWORK.

Getting rid of grubs that attack your customers' lawns can be pretty tricky sometimes. Unfortunately, simply treating against these destructive pests doesn't always guarantee success.

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The right time to apply it? That will vary from region to region. But a good rule of thumb is



to treat with OFTANOL when grubs are at or near the surface. An easy way to check is by just pulling back a bit of sod and looking for an infestation. Or call your local Extension office to determine peak periods of grub feeding in your area.

These are, of course, just the basics of effective grub control. If you'd like to learn more about OFTANOL and its proper usage, contact your local Miles representative. Or just give us a call at (800) 842-8020. One of our trained pro-

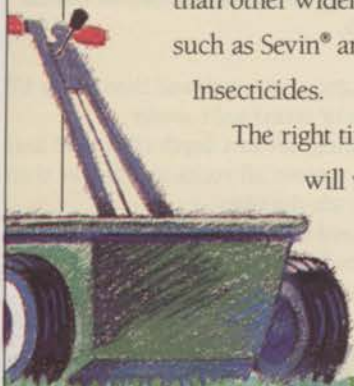
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## Tips on whether to reseed or renovate a client's lawn

by Bill Pound, Ph.D.  
The Ohio State Univ.

■ The lawn care operator/landscaper must decide whether a home lawn can be restored solely by applying seed and fertilizer, or whether complete renovation will give better results.

**Reseeding**—Drought damage alone seldom results in complete turfgrass loss, but it can cause a significant loss in turf density.

Seeding into established turfgrass can restore turfgrass density when it's been lost to adverse conditions. If at least 50 percent of the established turf survives, late summer/early fall reseeding is a viable option.

Kentucky bluegrass produces rhizomes and fills in voids. Generally, if the voids are the size of a softball or smaller, reseeding into Kentucky bluegrass turf isn't necessary. Reseeding will, however, help fill the voids faster if that's important.

If the primary turf species is perennial ryegrass or tall fescue, reseeding is usually necessary to improve density. The individual plants of these two species can increase in size through tilling, but neither possess the rhizoming capabilities like Kentucky bluegrass.

**Overseeding:** Overseeding with a drop or broadcast spreader is the most popular—and least expensive—way to introduce seed into an established lawn. Results improve after aerating or dethatching. This exposes the underlying soil for better seed/soil contact.

Still, the biggest drawback to overseeding is the low percentage of seeds which germinate and become established. Unless a significant amount of soil is exposed before seeding, the percentage of seed which ultimately establishes is less than with slice seeding, spot seeding or total renovation.

**Slice seeding:** Slice seeding is also per-

formed with only minor disturbance of the established turf.

Slit or slice seeders use vertical blades that cut small grooves in the soil. A disk is then used to direct the seed into the grooves. Some units also have press wheel attachments which firm the soil around the seed, thereby promoting seed/soil contact and enhancing seed germination.

Most turfgrass professionals offer slice seeding because homeowners cannot do it themselves. They lack the proper equipment.

**Spot seeding:** Spot seeding is usually performed on small, selected areas of the lawn where at least 50 percent of the turfgrass has been lost. Rake or otherwise physically remove dead grass and any thatch to expose the underlying soil.

The soil should be slightly raked/tilled before seeding. Then the seed and soil should be gently mixed. Using straw mulch helps preserve soil moisture, especially if irrigation is limited.

If large areas of the lawn have been lost, however, total renovation is probably the best option.

**Total renovation**—Renovation is also the best answer to too much thatch, infestations of perennial grass weeds or if the homeowner wants to upgrade the cultivar selections in the lawn.

Here are the steps in total renovation:

- 1) Conduct a soil test.
- 2) Make any necessary corrective nutrient applications or pH amendments.
- 3) Apply a non-selective, systemic herbicide to control all existing vegetation. (When the areas targeted for renovation contain perennial grass weeds, enough time should be allocated to make, if necessary, a second herbicide application to assure good control.)
- 4) Prepare the area for seeding/sodding after waiting seven days following the last application of herbicide. If excessive thatch layers (greater than one-half inch) exist, remove them. If not, mow the dead grass



**Total lawn renovation is one of the best ways to defeat excessive thatch buildup.**

to a height of one inch and then either till the area or access a slit-seeder.

If tilling, till to a depth of at least four inches, remove all rocks and debris, then finely grade the site.

5) Seed the desired species using either a drop or broadcast spreader, going in two directions.

6) Lightly mix, incorporating the seed into the soil.

7) Lightly roll the site.

8) Apply mulches such as straw, especially if irrigation is limited or the potential for erosion exists.

9) Starter fertilizer with an analysis ratio of 1-1-1 up to a 1-2-1 should be applied either at seeding or within two weeks after.

10) Irrigate as needed.

11) Begin mowing when grass grows to 2 or 2 1/2 inches.

12) Delay herbicide use until the following spring.

—The author is a turfgrass extension specialist in agronomy with The Ohio State University, Columbus, Ohio.



# Poly fertilizers last longer, give more control

## Manufacturers claim ability to 'dial in' turfgrass fertility prescriptions with polymer-coating science.

■ Let's assume there is an ideal turfgrass fertilizer. Most of us would like it to:

✓Release nutrients at a rate matching the demand of the turfgrass—the precise amounts of nutrients needed by the turfgrass, when they're needed.

✓Provide a rapid green-up but continue to keep turfgrass plants healthy and green without surges in growth. This would reduce mowing frequency, and also reduce the amount of grass clippings.

✓Eliminate (or at least lessen) the possibility of nutrients leaching into groundwater.

✓Provide season-long nutrient release with a single application. This would reduce application costs.

✓Be easy to apply.

It's not likely a single product can ever accomplish this, considering the different species of turfgrass, climatic/geographic variations, and the different demands we place on turfgrass.

Three fertilizer manufacturers, however, claim they're taking a step in this direction by manufacturing and marketing polymer-coated turfgrass fertilizer products. These products have been introduced to the professional turf market within the last 18 months. The three suppliers are:

- Grace-Sierra, Milpitas, Calif.: Once Season Long Turf & Landscape Fertilizers,
- Pursell Industries, Sylacauga, Ala.:

Polygon Polymer Coated Fertilizers, and

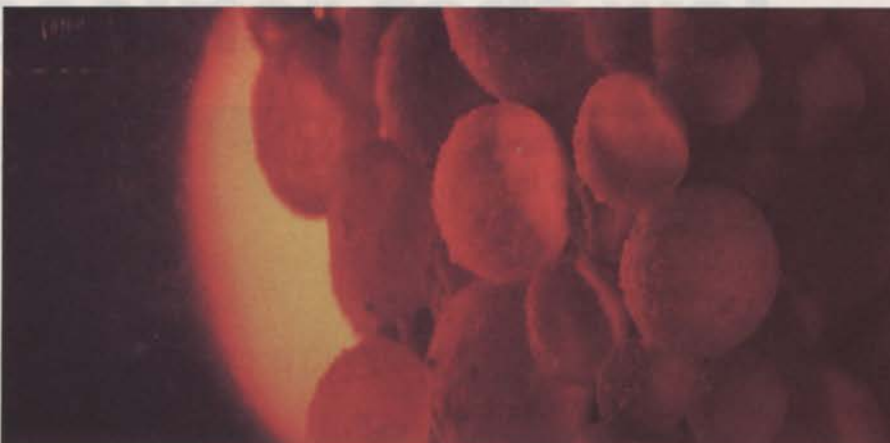
- The O.M. Scott & Sons Company, Marysville, Ohio: ProTurf Fertilizers with Poly-S.

**It's the coating**—Each of these suppliers designed unique features into its coating technology. It's these coating systems that allow them to program in products with an almost unlimited range of nutrient-release capabilities, say these suppliers.

This is mostly done in the manufactur-

erates the relatively impermeable polymer coating, and the nutrients, now in solution, diffuse back through the coating (about half the thickness of a human hair) and into the soil. As the temperature rises (and turfgrass plants are growing), more nutrients are released. Suppliers say these products are not dependent on microbes to release nutrients.

Polymer-coated fertilizer granules can be manufactured in several sizes, typically



**Polymer-covered granules and prills—the future of coated fertilizers?**

*Photo courtesy of Grace-Sierra*

ing process by varying the thickness of the coating. Grace-Sierra touts its Osmocote resin coating system, Pursell its RLC (reactive layers coating) system, and Scotts its two-tier (sulfur and polymer) Poly-S system. That's the big advantage of these coated products, say the three companies. The release of nutrients can be more precisely controlled. The release of nutrients can be lengthened.

There must be moisture, at least initially, to get the process started. Moisture pen-

micro, mini and regular-sized. Also, some now in the marketplace have been blended with prescribed amounts of uncoated fertilizer materials. The uncoated granules release nutrients soon after application for the initial turfgrass response, while the coated granules release nutrients over time.

Polymer-coated turfgrass fertilizers will also be sold to homeowners through mass merchandisers like K-Mart, Wal-Mart and Ace Hardware, as well as independent lawn and garden outlets.

—Ron Hall

## Companies invest big bucks in polymer lines

■ Seen one fertilizer plant, seen 'em all? Not by a long shot.

Late this spring LANDSCAPE MANAGEMENT visited The O.M. Scott & Sons at Marysville, Ohio. Then in early summer we visited Pursell Industries in Sylacauga, Ala.

We weren't allowed to take photographs of any of the production equipment in either plant. Some of this technology is proprietary.

The lines are, from appearances anyway, similarly designed, containing hundreds of feet of duct work and chutes, and large

drums where the coatings are sprayed onto nutrients. There are other similarities. Operations at both plants are computer controlled. These are enclosed systems where product never touches the ground.

The Poly-S production line represents part of the \$15 million Scotts is spending to upgrade its fertilizer manufacturing capabilities. Pursell's Polygon manufacturing plant is brand new. It's to get a second production line later this year. John H. Detrick, who heads Pursell's technical department, half jokingly describes it as a plastic manu-

facturing plant. "The plastic just happens to be going onto fertilizer," he says.

Before investing in these 1/4-mile production lines, both companies built much smaller facilities for test purposes—this after extended agronomic testing of the polymer-coated fertilizer products. Officials at both facilities say their product is regularly sampled for quality and uniformity, even though the most noticeable aspect of both of their operations is the surprisingly few technicians they require for operation.

—R.H.



# LAWN CARE INDUSTRY

## Prince George's revives county pre-notification law that refuses to die

**Most lawn and landscape professionals say the law is unnecessary.**

■ The Prince George's County, Md., pesticide pre-notification law has reared its ugly head again.

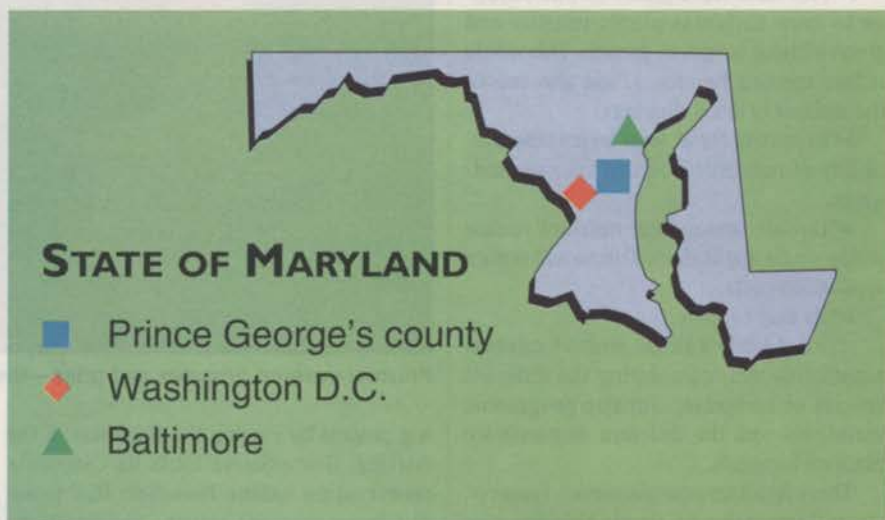
Too bad. It looks like it may not go away this time. Not unless the green industry, under the umbrella of the Maryland Alliance for Responsible Regulation of Pesticides, can change the minds of the nine-member county council. On July 1 the law went into effect. Almost immediately one large application company hired part-time workers to put warning signs in clients' lawns for the start of the season's third treatment round.

Meanwhile, the pro-industry alliance began soliciting support from lawn and landscape customers to oppose the law.

"We would need extra labor for either the phone calls and/or physically making a special trip to the property just to put the



Schlossberg: extra labor now needed



sign out. Then if the sign is not there and we treat anyway, the county will fine us and the customer," says Mark I. Schlossberg, Pro-Lawn-Plus, Reistertown, Maryland.

The county council originally passed the law in 1985, but it was unenforceable until U.S. District Judge J. Frederick Motz in Baltimore lifted the injunction late this spring. He took the action because of the June 1991 ruling by the U.S. Supreme Court that allowed local governments to enact their own pesticide-use laws.

Prince George's County, located just northeast of Washington, D.C., requires that warning signs be posted at least 24 hours in advance by anyone—professionals as well as homeowners—applying pesticides to a property.

Donald A. Nork, county director of environmental health, said citations will be issued only after the county receives a complaint and finds an infraction. The penalty is a \$50 fine. The county only has one employee to police all of Prince George's County.

Most lawn and landscape professionals here say the law is unnecessary. They say the law will substantially increase the cost of doing business for lawn and landscape businesses, an increase that ultimately must be passed on to clients.

Schlossberg, a director of the Maryland Turfgrass Council, said Maryland's 1986 Pesticide Notification Law already requires professional applicators to inform consumers of lawn/landscape pesticide use and to post for 48 hours after a pesticide application.

"Our industry strongly supports reasonable regulation," says Schlossberg. "The responsible companies in our industry will go out of their way to voluntarily pre-notify anyone who would like advance notification." That he claims can be accomplished with an expanded registry for pesticide-sensitive individuals.

"It (county pre-posting law) doesn't address the right-to-know issue," he says.

Schlossberg says industry is committed to getting the law repealed.

—Ron Hall



## Judge: Massachusetts state law is enough regulation for one town

■ Licensed lawn applicators in Mansfield, Mass., *don't* have to put pink warning placards every 50 feet around the properties they treat there.

A superior court judge said they're already covered by regulations of the Massachusetts Pesticide Control Act.

The city reportedly will not appeal the judge's decision, reports the Massachusetts Association of Lawn Care Professionals (MALCP), whose members donated \$3,300 to oppose the regulations. Even so, the four companies involved in the dispute with Mansfield—ChemLawn, The Lawn Co., TruGreen, and Tuckahoe Lawn Care—reportedly spent about \$20,000 defending their right to do business in Mansfield.

In a related matter, MALCP reports it raised \$11,000 through a silent auction to work for passage of pre-emption legislation in the state. Participating contributors: Agriturf, BASF, Ciba-Geigy, DowElanco, Earth Gro, Hoeschst-Roussel, Lebanon Chemical Co., Partner's Quality Lawn Service, ProLawn, Rhone Poulenc, Riverdale Chemical, Sandoz, O. M. Scotts, and Tuckahoe Turf Farm.

## Illinois trio: herbicide use harms civil rights

■ Three residents of Hinsdale, Ill., claim that the village violated their civil rights by applying a herbicide on public properties last fall.

The three complainants, one of whom filed the claim on behalf of her 14-year-old son, are to meet with village officials this summer. The three claim they are "chemically sensitive" and suffered headaches, asthma and nausea after the application of Confront, a herbicide, to parks and grounds at the village hall and library. (Molitor Grounds Maintenance, Glen Ellyn, Ill., performed the work under contract to the village.)

Hinsdale officials deny that they violated anybody's civil rights. They say there's no evidence linking the herbicide with the illnesses.

If the complainants and the village don't reach a conciliation by mid-summer, the matter could end up in the lap of the Illinois Civil Rights Commission, reports the *Chicago Sun*.

# Proper software puts reins back into the LCO's hands

by Bill Wheeler

■ Almost every aspect of your life is touched by computers. Your alarm clock, digital watch, coffee maker, and car—all depend upon some form of computer technology. It has been more than a dozen years since the microcomputer started a virtual information revolution.

Yet, in this day and age, it still astounds me that some businesses refuse the benefits of automation. With scarce resources and increasing competition, the decision to ignore computerization is simply a bad move.

**Computers save time**—It's too easy to say "I don't have time to learn." But computers can save you time, by making certain tasks like payroll, routing and estimating easier and quicker. This means more billable time and, thus, more opportunity for profit.

In the lawn care industry, the use of a computer system is an absolute must if customer service orders are to be processed at optimum efficiency and if inventory is to be controlled at minimum levels. The faster an order is processed, the faster the customer receives his services, and the faster your money comes back.

Can you track and anticipate your customers' needs? The ability to do this will not only help you service your customers better, but keeps your orders coming in. A well-designed system will allow you to check customers' credit and inform you of current stocking level status while updating inventory levels and billing.

**Just-in-time ordering**—"Just-in-time" ordering will allow you to stock just enough turf management materials to keep your customer orders moving without overstocking inventory.

You can track your customers' ordering history, so that you can adjust your reorder demands. The ability to cross-reference similar items may make the difference between servicing a customer and

losing a sale. And, since many customers are discount sensitive, choose a system that can automatically compute discounts based on volume, price, frequency, or other criteria that you need.

Once those orders start moving out, tracking your late receivables makes a difference in lost interest and revenue. Many systems allow you to calculate early payment discounts. A consolidated bill or statement, even for multiple locations, makes it easier for your customers.

Billing will be more efficient and you can keep track of what's owed and how long it's been owed. This way you can easily identify preferred and slow-paying customers. And most software programs will print statements and even address the envelopes for you.

**Information routing**—For this, the system must be fully integrated, so that information entered into the system will be distributed in the entire system without

the need to re-enter the same information a second time. Some of the areas that will need special attention are order entry, inventory control, billing, payroll, and accounts receivable. All of these will have to be integrated with each other, and the final information must be passed on to your general ledger.

For larger operations, the system should be designed to allow for multiple operators and workstations.

With such a system, all data should be routed properly, so information is easily retrieved from the computer.

With the powerful fully-integrated accounting products on the market today, this type of system is available, and there is no need to custom program for a specific business.

With a well-designed system, users should be able to change screen descriptions, and also design custom reports without the assistance of computer experts.

It is also important to note that the basic terms of payroll, billing, or general

In the lawn care industry, the use of a computer system is an absolute must if customer service orders are to be processed at optimum efficiency.



ledger should not be misleading in evaluating a system.

Careful plans and patience will go a long way to set up a good system that will generate what you need.

Some general use software packages are designed exclusively with the green industry in mind.

A budget package may seem like a deal

at first, but will it keep pace with your business' growth? Choosing an expensive package seems to be a difficult choice, but look for features that relate to your specific business. Compare all the features as they relate to your business before you commit to a certain package. You do not have to make a life-long decision at the initial point of purchase.

The system should offer flexibility, so that it can adapt to your business, and also grow with the business.

Remember: this computer system is only a tool or equipment in your business, just like other pieces of equipment. It has a limited life and will most likely have to be replaced in several years.

**Dealers stress service**—In the early 1980s, computer dealers opened their doors and basically took orders for sales with little or no effort.

Experts who deal in the type of systems needed in lawn care have learned to speak the language of lawn care, have learned to solve the problems of lawn care and, in short, think in terms of lawn care.

—At the time this article was written, Bill Wheeler was marketing director for Armor Systems, Inc., of Maitland, Fla.

## PLCAA committee: more franchise, mom/pop shops

■ The number of professional lawn care companies will continue to grow even though it's going to be harder to enter the market. That's what the Strategic Planning Committee of the Professional Lawn Care Association of America (PLCAA) thinks.

The committee predicts that:

- Lawn care franchises will increase in number.
- The number of personalized care and mom-and-pop operations will grow too.
- Companies will offer more add-on services to stabilize cash flow.
- Companies will offer more information to customers.
- The industry will face increasing regulation.
- LCOs will accept regulation, but not at the local level.
- Companies must find ways to keep good personnel.
- Natural (all organic) products will find a solid niche in the industry.
- Customers already expect service and quality. Increasingly they'll expect creativity.

The committee meets about once a year and is made up of application company owners/managers, supplier representatives, and members of the trade press. Although the its objective is to keep PLCAA pointed in the right direction, it also periodically rubs its crystal ball.

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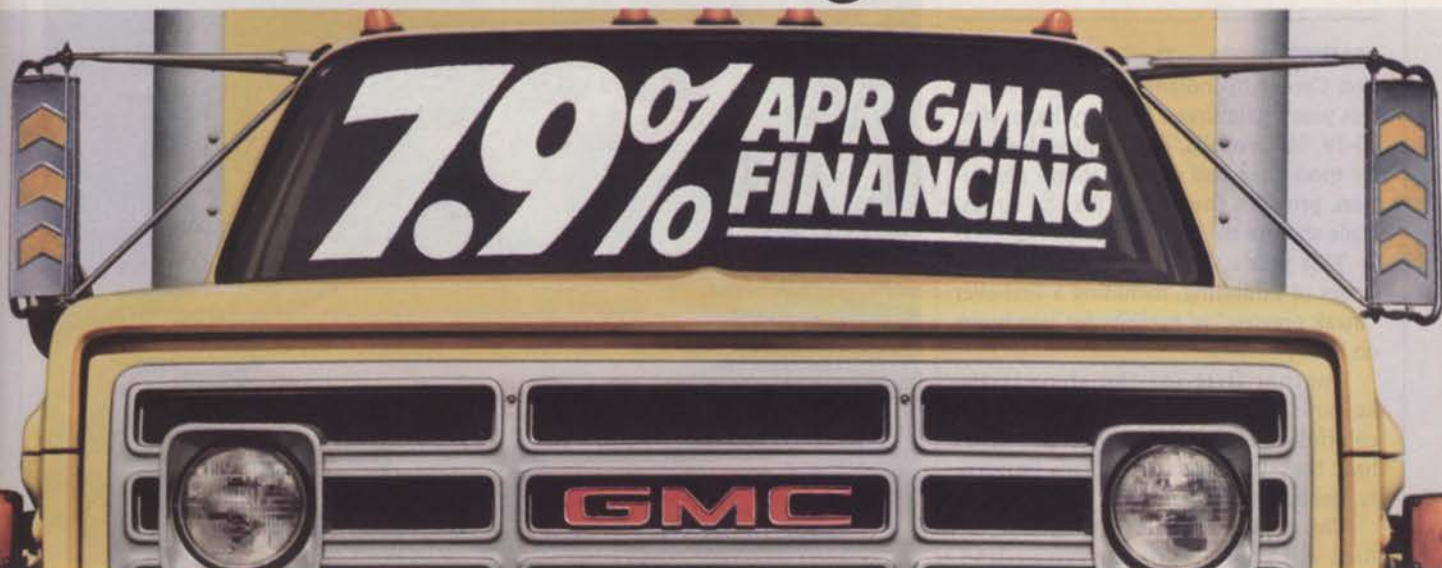
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THE STRENGTH OF EXPERIENCE

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# HOT TOPICS

## Green Industry Expo '92: most comprehensive ever

**Controversial keynoter,  
outdoor demonstrations,  
three separate educational  
programs...GIE has it all.**

**MARIETTA, Ga.**—The Indiana Convention Center in Indianapolis is the site of this year's gala Green Industry Expo, Nov. 15-19. Indianapolis, a day's drive (or less) for more than half of the nation's population, provides the setting for the largest trade show in the lawn/landscape industry.

This year's show will offer five extra hours of exhibiting, including a first-ever "sneak preview" of exhibits for two hours on Nov. 16.

Another first for the show is the keynote address, being delivered by the colorful—and sometimes volatile—men's head basketball coach at Indiana University, Bobby Knight.

The popular Outdoor Demonstration Area will again feature the newest landscape maintenance equipment on display.

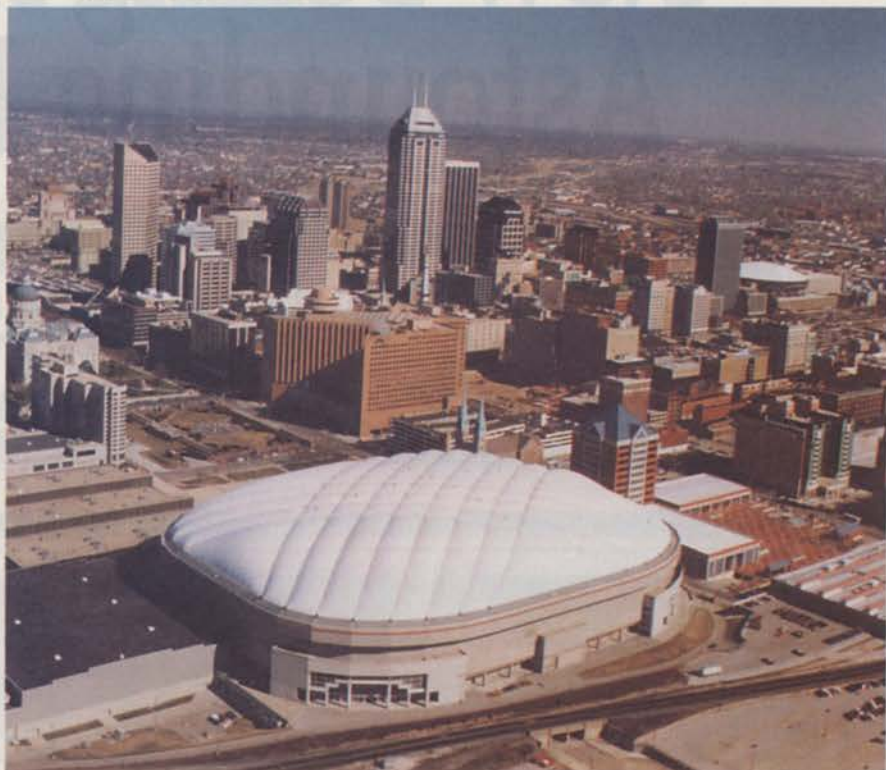
The show is sponsored by the Professional Lawn Care Association of America (PLCAA), Associated Landscape Contractors of America (ALCA) and Professional Grounds Management Society (PGMS). Each will have its own attendant slate of educational sessions.

The PLCAA's 13th annual conference, titled "Race with the Best," will contain several tracks: technology, business, risk communication, legislative and re-certification.

"This conference will offer something for everyone involved in lawn care," says Mike Shaw, conference education chair.

### ELSEWHERE

**Drought surprises  
Pacific Northwest,  
p. 42**



**The Indiana Convention Center (Hoosier Dome in foreground) is site of the largest trade show in the lawn and landscape industry.**

*(Photo courtesy Indiana Convention and Visitors Association)*

"The sessions cover the entire range of issues important to lawn care professionals.

PLCAA attendees who are information gluttons can participate in the "Head Start" roundtables, where LCOs will informally discuss business and technical challenges. A prospective member reception, which includes a contest for a free trip for two to the 1993 conference, is also slated.

Kevin Kehoe is featured speaker at ALCA's Landscape and Grounds Maintenance Conference. During two sessions, he will show attendees how to use Total Quality Management concepts to boost their bottom lines.

More than 15 total ALCA sessions and events are scheduled, focusing on developing new profit centers, maintaining profits

in a competitive market, making sales presentations, building team spirit, and more.

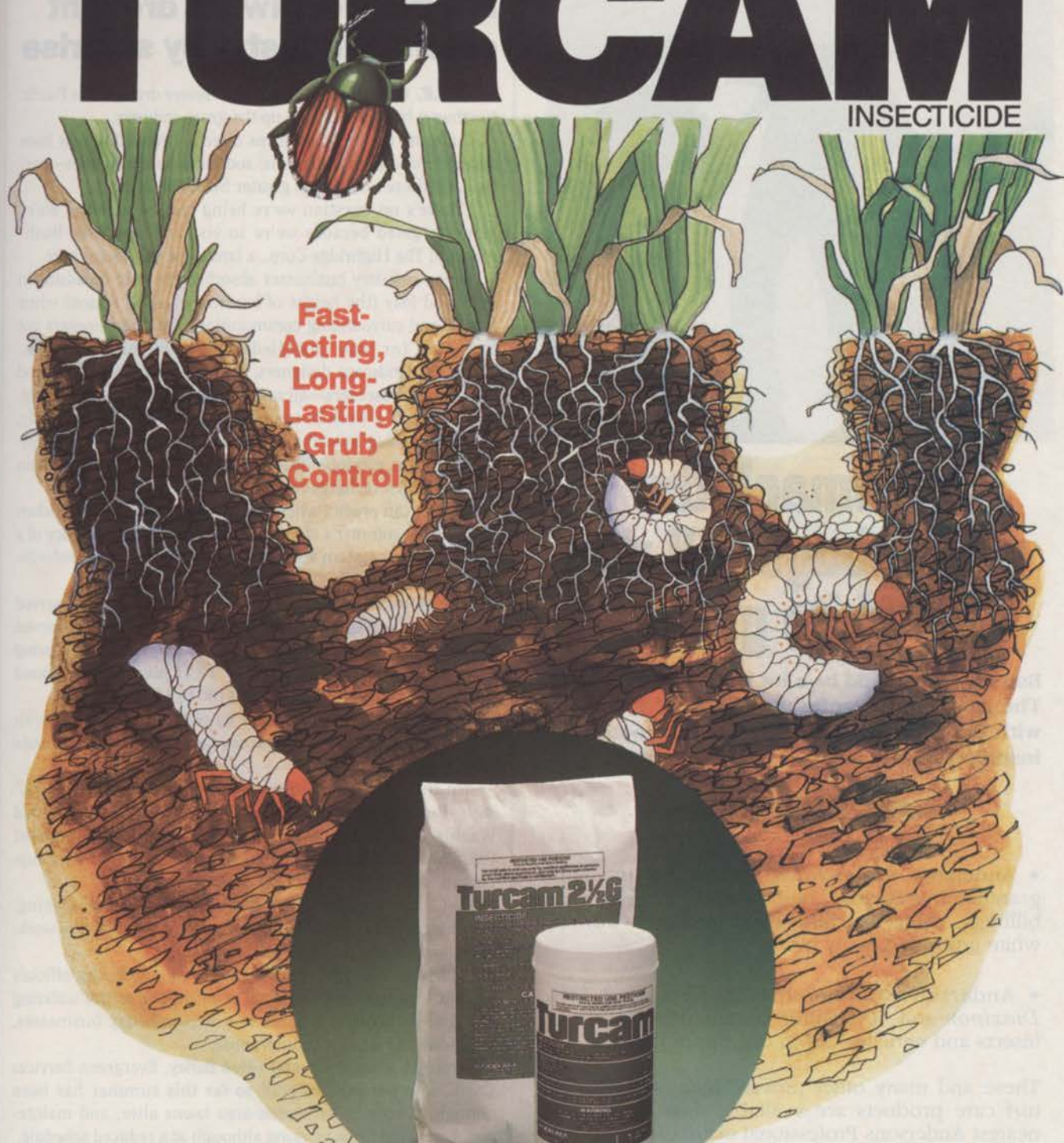
For the first time ever, the PGMS will hold its own separate educational sessions. Topics to be covered include: middle management training, color in commercial landscapes and doing more with less. Other events are an optional Winner's Circle breakfast, an awards banquet and reception, and optional pre-conference and spouse's tours.

For more information on the Green Industry Expo trade show, phone (404) 973-2019. For a free brochure on the PLCAA meeting, call (404) 977-5222. For info on ALCA's program, call (703) 620-6363. To register for PGMS's sessions, call (410) 667-1833.



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## Pacific Northwest drought catches industry by surprise

**SEATTLE, Wash.**—One of the most severe droughts in Pacific Northwest history is drying up the green industry.

Suffering the most are firms directly involved in new lawn and/or landscape installations, sod farms and nurseries—particularly those serving the greater Seattle market.

“There’s no question we’re being treated unfairly. We’re being targeted because we’re so visible,” says Mike Bushmaker of The Highridge Corp., a landscape contractor here.

Green industry businesses absorbed the first broadside in April and May (the height of landscape selling season) when Seattle and surrounding communities urged homeowners not to install (or have installed) new lawns or landscapes. Nurseries; landscape designers, contractors and installers; sod growers; hydroseeders—all saw business fall or not materialize.

In spite of a week of unusually wet weather in early July, the drought dug in as the summer progressed. This past winter there was precious little snow to refill Cascade Mountain streams which recharge reservoirs.

No one can predict when the drought will ease. Even when it does, this summer’s shortage points out the inadequacy of a water delivery system that hasn’t had a substantial enlargement since 1968.

**You’re under arrest!**—Seattle and the 28 suburbs served by the Seattle Water Department (1.2 million people) moved first to drastically reduce outdoor water use, including passing lawn watering bans monitored by *water police*. Those found watering their lawns face fines of \$100 to \$500.

Shrubs and flowers can still be watered with hoses with shutoff nozzles, or with irrigation systems if they’re separate from turfed areas.

“In the long run these types of restrictions never work,” says Bushmaker, who also chairs the newly formed Washington Coalition for Sensible Water Management (WCSWM). At least 10 allied green industry groups lend support to WCSWM.

(WCSWM says there are more than 3,000 landscaping, nursery and related businesses, employing about 25,000 workers in and around Seattle.)

Although WCSWM representatives met with city officials and pleaded the environmental implications of the watering ban and its economic harm to green industry businesses, water officials wouldn’t compromise.

**Drought a wake-up call**—Rod Bailey, Evergreen Services Corp., says periodic rainfall so far this summer has been enough to keep most Seattle-area lawns alive, and maintenance/mowing firms working although at a reduced schedule.

Even so, the outdoor watering restrictions are causing landscape firms to alter their services. “We’re standing on our heads doing manual watering of trees and shrubs,” he says.

“Many plants have become turf-water dependent. They started into wilt as soon as the lawn’s turf turned brown.”

Bailey says the drought is a wake-up call to green industry professionals in the Pacific Northwest. It’s telling them that they need a stronger public education effort, and have to be a part of the water-use decision-making process.

Seattle’s water woes won’t be solved until its system is upgraded, he explains. The burgeoning King County area has outgrown its water supply system, and the green industry is paying the price.

—Ron Hall



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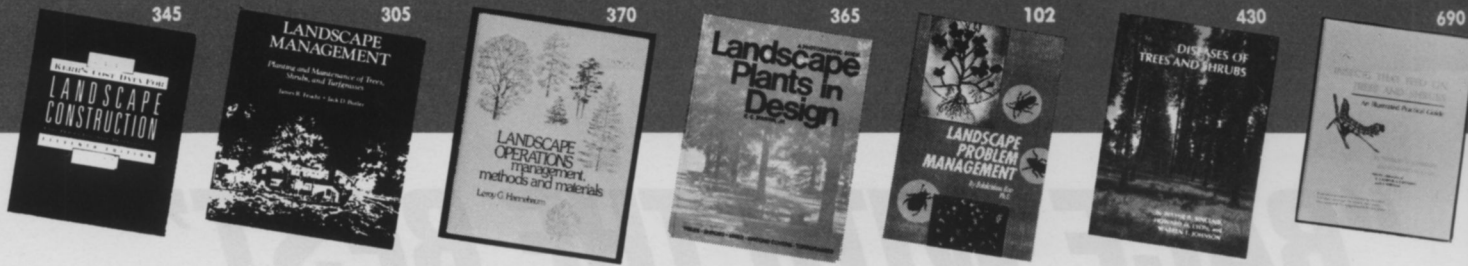
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***PLCAA '92 November 16-19***



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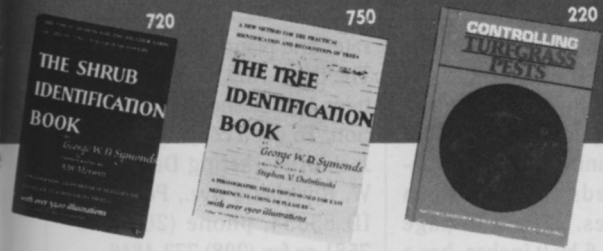


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By **Balakrishna Rao Ph.D.**



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# INFO CENTER

## Useful literature and video offered to LM readers

**HOW TO MARKET...**The second edition of "Practical Marketing Techniques for the Landscape Company," a 90-page instruction manual, is now available from the Landscape Horticulture Center for Personnel Development. It is a compilation of notes, experiences, charts, graphs, examples, case histories and just plain common sense, all geared to the green industry. Copies are \$19.95, plus \$3 for shipping and handling. To order, call (800) 359-6647 or write Landscape Horticulture Center, 2509 E. Thousand Oaks Blvd., #109, Westlake Village, CA 91362. Checks, COD, MasterCard and Visa are accepted; quantity discounts are available.

**OSHA STANDARDS...**An easy-to-understand regulatory review of key OSHA standards specifically applicable to the green industry is available through the Professional Grounds Management Society. Interested parties have a choice of packets: (351) hazard communication; (352) small chemical disposal; (353) trenching standards; (354) spill control; (355) small quality generator; (356) confined space safety; (357) stormwater/wetlands; (358) underground and above-ground storage tanks. Cost of each packet is \$22; PGMS members get a discount. To order, call the PGMS and ask for Regulatory Review Guidelines: (410) 667-1833 or fax (410) 667-6178.

**WEED IDENTIFICATION**  
...Faculty at the Universities of Georgia, Auburn and Florida are making available for \$8 a book containing 437 color photos: "Weeds of Southern Turfgrasses." The 208-page book, sized 6 by 9 inches, has a waterproof, tearproof cover. To order, send a check payable to the University of Florida (Florida residents add 6% sales tax) to: Publications, P.O. Box 110011, Gainesville, FL 32611. Order book No. SP-79.

**GUIDE TO GRASS...**The free "Turfgrass Technical Manual," by Jacklin Seed Co., is designed to help golf course superintendents and turf professionals identify varieties, blends and mixtures, recommend seed

rates and planting instructions. The three-ring binder also contains troubleshooting information. To get a copy, contact the Jacklin Marketing Dept., 5300 W. Riverbend Ave., Post Falls, ID 83854, phone (208) 773-7581 or fax (208) 773-4846.

**ON CUSTOMERS...**A new guide book, "50 Low Cost Ways to Acquire New Customers" is written for small businessmen. Sections include 15 keys, 25 benefits people buy, the 9 P's of marketing, 7 business mistakes to avoid, 20 ways to make the sale and a 12-month plan to acquire new customers. To order, send \$10.70 to J.D. Todd, JDT Marketing, P.O. Box 3316, Wichita Falls, TX 76301 or phone (817) 692-7818.

## CUSTOMER SERVICE TIPS

### Handling customer complaints: get to the crux of the problem

by E.T. Wandtke

Unfortunately, relationships with your customers do not run smoothly all the time. As service providers, your attitude toward the customer's complaint can mean the difference between keeping a customer or losing several.

Here are some tips on how to deal with a customer complaint:

**1. Discover what went wrong.** This should be the time for fact-finding, not finger-pointing. During this discovery process, don't make any judgments or place any blame on the customer.

It is also important to discover the problem. Often we listen to a complaint on the phone and assume the cause before we hear all the facts.

Don't assume the cause of a complaint until all information is received and the customer's property is visited. Know 100

percent of the information before you decide on a course of action.

**2. Discover who is responsible.** This determination may take time, but it is very important to determine if an individual caused the complaint or if the cause of the complaint was outside the control of the employee or customer.

Many customers do not understand that agronomic conditions may not be anticipated or solved until they are discovered. Only by receiving the customer's complaint do you know the condition exists.

Explaining the causes of turf or ornamental problems requires care and understanding. The customer needs to understand what has happened on his or her property, how it came about, and what you are going to do about it.

**Use the telephone correctly—**Customer service personnel who handle

telephone complaints must know how to deal with complaints a little differently:

**1.** Have customer service reps pretend it is their company. What would they do if they owned the company? How would they help the customer? How would they follow-up to be certain the customer has been satisfied?

**2.** Give the customer time to explain the problem. Do not sound rushed. Apologize if you have to take another call. Then, when you get them back on the line, apologize for the delay and restate the problem.

**3.** If you are not certain about what to do, ask!

Customer service personnel should not make promises that the company might not be able to keep. They should tell the customer they do not have an immediate answer, and that the manager will return the call.

Most important of all, make sure they give the customer time to explain the problem, and that they're efficient and professional.



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- Heat, drought and shade tolerance mean wider range of adaptability.

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Mow-Less Brand Tall Fescue blend was developed to save conscientious turf managers time, money and clippings.

Mow-Less is a blend of the latest generation of dwarf tall fescues. Today, Mow-Less is composed of Silverado, Tomahawk (5DX), Monarch and Eldorado. As newer varieties are developed, like 5PM and 59D, they will be included in Mow-Less.

The components of Mow-Less all contribute dark blue-green color, heat, drought, shade and insect tolerance ... naturally. Mow-Less has made inroads into areas that tall fescue has not traditionally been adapted. Is this the start of something big? We think it's the start of something small ... with a big savings in mowing.



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## GREEN INDUSTRY EVENTS

### AUGUST

**12:** Professional Lawn Care Assn. of Mid-America Summer Field Day, Powell Gardens, Kingsville, Mo. Contact: Olivia Golden, PLCAMA, P.O. Box 35184, Kansas City, MO 64134; (816) 765-7616.

**12-13:** Penn State Turfgrass Field Days, Valentine Research Center, University Park. Contact: Dr. Thomas Watschke, 116 ASI Bldg., University Park, PA 16802; (814) 863-7644 or Christine King, Pa. Turfgrass Council, P.O. Box 1078, Lemont, PA 16851; (814) 863-3475.

**18:** Golf Course Design/Construction Field Day, SUNY, Delhi. Contact: N.Y. Turfgrass Assn., P.O. Box 612, Latham, NY 12110; (518) 783-1229.

**18-19:** Texas A&M Turf Field Day, Dallas. Contact: Dr. Bill Knoop, Texas A&M Extension Service, 17360 Coit Rd., Dallas, TX 75252-6599; (214) 231-5362.

**19:** Michigan Nursery and Landscape Association Summer Field Day, Lincoln Nurseries, Grand Rapids. Contact: MNLA, 819 N. Washington Ave., Suite 2, Lansing, MI 48906; (517) 487-1282.

**19:** University of Rhode Island Turf Field Day, Kingston. Contact: Dr. Noel Jackson or Dr. Bridget Ruemmele, Dept. of Plant Sciences, Woodward Hall, URI, Kingston, RI 02881; (401) 792-2481.

**19:** New Hampshire Landscape Association Twilight Meeting: Wetlands, Derry, N.H. Contact: Guy Hodgdon, NHLA (800) 639-5601.

**20:** Michigan State University Turf Field Day, Lansing. Contact: Dr. Frank Rossi, MSU, Plant & Soil Sciences Bldg., E. Lansing, MI 48824; (517) 353-0860.

**20-21:** Pennsylvania Landscape & Nursery Trade Show & Conference/West, Pittsburgh Expo Mart. Contact: PLNA, 1924 N. Second St., Harris-

burg, PA 17102; (717) 238-1673.

**26:** "Landscaping for Wildlife," Cook College/Rutgers University, New Brunswick, N.J. Contact: Office of Continuing Professional Education, Cook College, P.O. Box 231, New Brunswick, NJ 08903; (908) 932-9271.

### SEPTEMBER

**11-13:** Florida Nursery and Allied Trades Show, Orange County Civic Center, Orlando. Contact: Joanne Chive, FNGA, 5401 Kirkman Rd., Suite 650, Orlando, FL 32819; (407) 345-8137.

**12-15:** California Association of Nurserymen Annual Convention, Silverado Resort & Country Club, Napa Valley. Contact: Holly Hitchcock, CAN, 4620 Northgate Blvd. Suite 155, Sacramento, CA 95834; (916) 567-0200.

**12-16:** National Conference of the American Society of Irrigation Consultants, Hunt Valley, Md. Contact: Wanda Sarsfield, executive secretary, (510) 516-1124.

**13-15:** World Fertilizer Conference, Los Angeles Century Plaza Hotel and Tower. Contact: The Fertilizer Institute, 501 Second St. NE, Washington, DC 20002; (202) 675-8250.

**15-16:** University of California Turfgrass Conference and Field Day & Landscape Management Research Conference, UC Riverside. Contact: Registration Coordinator/Turf & Landscape Conferences, 4110 Batchelor Hall Extension, Botany & Plant Sciences Dept., Univ. of California, Riverside, CA 92521.

**20-23:** Florida Turfgrass Conference & Show, Prime F. Osborn III Convention Center, Jacksonville. Contact: FTGA, 302 S. Graham Ave., Orlando, FL 32803; (407) 898-6721.



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# GREEN INDUSTRY SHOWCASE

## Lightning detection system spots dangers at 25 miles

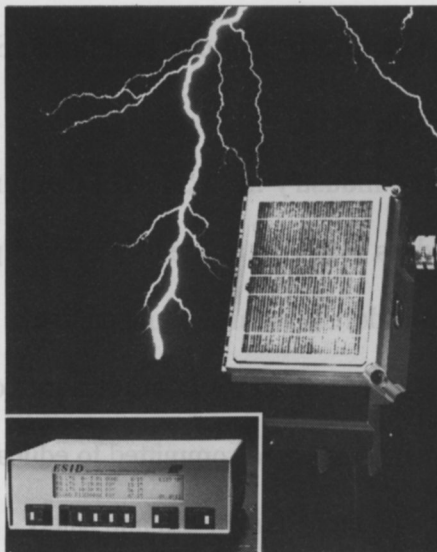
The 1992 Masters Tournament was the first in-practice testing ground for a new technology developed to detect and range lightning within 25 miles of a golf course.

The patented technology was developed by Lightning Location and Protection (LLP), which was recently purchased by the Toro Company's Irrigation Division.

The system, called the Electrical Storm Identification Device (ESID), was first put into public practice at the Masters in Augusta. Midway through the third round of Saturday's play, the sign-boards carried warnings of threatening weather nearby. About 30 minutes later, with no rain in sight and the skies uniformly overcast, the lightning sirens began to sound.

Neither the spectators nor the television commentators could understand the reason for the sirens; it seemed like just another cloudy day. But within 20 minutes, the rains came, complete with thunder and lightning.

Play was suspended with the detection of one flash of lightning, which struck 14



miles away from the course. Twenty minutes later, the big rains came and 26 flashes were seen in a span of 15 minutes.

The ESID also indicates when it is safe to resume play.

Toro and Lightning Location and Protection have entered into a joint agreement, under which the Irrigation Division will market and sell the ESID units manufactured by LLP.

ESID is described as a rugged, solar-powered, omni-directional short-range thunderstorm sensor.

It "looks" for electrical and optical energy emitted by lightning. Detection and analysis hardware is installed at ground level or on a rooftop. The system's "internal logic" system contains algorithms with which the ESID identifies the unique wave-form signature characteristic of lightning. These algorithms coincidence the energy pulses, or determine the time-relationship, and therefore the common source of both pulses. This final step ensures the reliability of a lightning report.

ESID estimates the range of cloud-to-ground lightning.

The unit indicates that lightning is either overhead; 0-5 miles out; 5-10 miles out; or 10-25 miles out.

This information is especially valuable when considering that cloud-to-ground lightning can move laterally a distance of 10 miles.

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

## SHOWCASE PRODUCT REVIEW

### Heavy duty sweeper mounts to lighter tractor frames

Sweepster, Inc. has introduced the new Model M18 sweeper for lawn and garden tractors.

The M18 mounts to most popular lawn and garden tractors with a minimum of 10 hp. The mechanical sweeper is driven by the tractor's front or mid-PTO, by a constant-velocity drive shaft.

Standard features include: 18-inch wide sectional brush available in polypropylene, wire or 1/2 poly-1/2 wire; manual angle change; electric brush lift and rear casters. Options include: side-mounted brush casters to prevent turf scalping during thatch



removal and storage stands which mount in place of side casters.

Jim Koch, Sweepster Product Manager, says the sweeper's weight might make some question its sturdiness.

"Just because this sweeper weighs less doesn't mean it's not heavy duty," says Koch. "We've incorporated the technology from our larger brooms into the M18. The heavy-duty center gearbox was custom-designed for this special application and extensively tested to ensure a durable low maintenance driveline."

Parallel linkage mounting and rear casters allow the brush head to oscillate sideways and up and down along contours.

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



# PRODUCT REVIEW

## Motor oil for water-cooled and air-cooled engines

Penzoil's Premium Multi-Purpose 2-cycle oil can be used in water-cooled and



air-cooled small engines.

Premium Multi-Purpose 2-cycle oil is recommended for all 2-cycle filling for up to 100:1 fuel-to-oil ratio or requiring an NMMA/BIA TC-W or TC-W II certified lubricant.

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

## Portable pumps remove water from traps, low areas

Extended flanges have been added to Otterbine Barebo's Floating Portable Pumps, making hose attachment easier.



These self-priming pumps are centrifugal dewatering pumps. They are able to start in three inches of water, and are designed to move large amounts of water.

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

## Improved buffalograss turf seed available in 1993

The Native Turf Group is making two new cultivars of buffalograss seed available to turf managers and golf courses for field testing in 1993.

In addition, several new cultivars of improved buffalograss are undergoing continued evaluation this year and will be available for commercial use in 1994.

The group says buffalograss is rapidly gaining favor with turf managers concerned about pesticides, water use and labor costs.

Its low-growth reduces mowing requirements, and the turf requires less water and pest control than bluegrass, bentgrass or bermudagrass.

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

## Front mower line for golf, landscape management

The F2400 front mower is equipped with a 24-hp diesel engine. The 4-cycle, 3-cylinder engine is designed and manufac-



tured by Kubota.

The F2400's hydrostatic transmission works together with a front differential lock feature and 2- or 4-wheel drive to provide powerful traction and smooth operation on uneven or slick terrain.

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

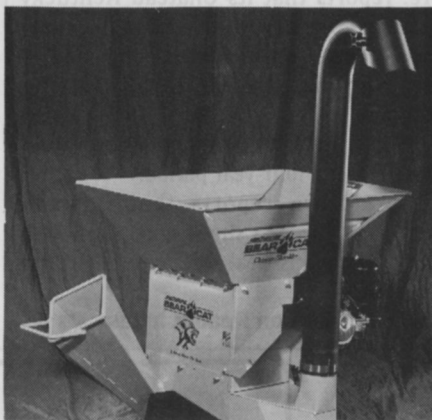
## New fan blower fits entire chipper-shredder line

An exclusive new fan blower fits all Bearcat 5- and 8-hp chippers and shredders.

The optional attachment provides a powerful air stream, which makes debris loading

easy.

An adjustable spout allows you to change direction of material flow, so debris is deposited just where you want it.



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

## Potassium-based copolymer for landscaping, hydroseeding

Evergreen Polymers supplies the 400 Series of Stockosorb potassium-based copolymer.

The product is available in several crystal sizes for general purpose landscaping, growers and for hydroseeding.

The product tends to resist the salinity factors in soils and will perform even in reclaimed water.

Mezotrace is a micronutrient that is a source of a wide range of elements and micronutrients. It is uniform and allows for a good carry-over inventory of trace elements in a given soil.

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

## Tree pruner now equipped with self-oiling mechanism

A new, patented automatic oiling system has been added to the Power Pruner from Technic Tool Corp.

The Power Pruner is the only portable telescoping pruner available, according to the company. The oiling system can be retrofitted to all Power Pruners on the market today. The pruner reaches up to 17 feet, is lightweight, and has a 7- to 11-foot drive shaft.

**Circle No. 199 on Reader Inquiry Card**



# PRODUCT REVIEW

## Kentucky bluegrass ranks high in turfgrass trials

Fine Lawn Research of Lake Oswego, Ore. reports that its Chateau Kentucky bluegrass averaged fifth among 67 bluegrasses, based on turf trials conducted by the National Turfgrass Evaluation Program.

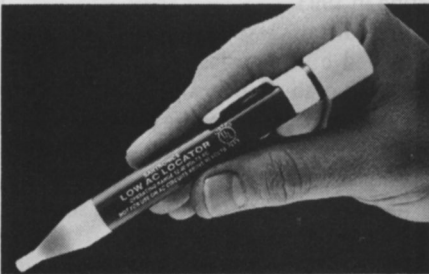
The evaluation program tested bluegrasses over a four-year period.

Fine Lawn reports that Chateau Kentucky bluegrass shows good shade performance, and is wear tolerant and disease resistant.

**Circle No. 200 on Reader Inquiry Card**

## Circuit locator can solve tricky irrigation problems

The Santronics Low AC Locator helps determine the presence of 12-90 volts in tricky irrigation maintenance situations.



The locator senses 12-90 AC volts through insulation without disconnections, current flow or contact with the conductor. If AC voltage is present, the tip glows red.

**Circle No. 201 on Reader Inquiry Card**

## Self-propelled lawn vacuum converts to leaf blower

Yard-Man's 5-hp, self-propelled lawn vacuum can be easily converted to a powerful leaf blower.



The optional blower kit requires no tools for quick conversion.

An optional hose kit can be used to clean hard-to-reach areas, such as shrubs or gutters.

The 30-inch wide nozzle adjusts in height. Handle-mounted controls include a safety grip drive/clutch lever. Semi-pneumatic wheels provide easy mobility.

A six-bushel collection bag is included.  
**Circle No. 202 on Reader Inquiry Card**

## Look for new turf fertilizer with just two ingredients

A new fertilizer is on the way from Great Salt Lake Minerals, produced in cooperation with Farmland Industries.

The fertilizer, called healthy Turf Blend Fertilizer, consists of just two ingredients, DAP (diammonium phosphate) and SOP (sulfate of potash).

The result is a four-nutrient formulation—N-P-K-S (6-15-34-11)—the company says is ideally suited for turf.

**Circle No. 203 on Reader Inquiry Card**

**PULLS TIGHT AROUND TREE**

# PALM TREE COLLAR

**with DUCKBILL® tree support systems**

**SAVES TIME** Quick and easy to install  
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With the two new Jacobsen Aero King aerators, you get the widest selection of hole spacings on the market to handle changing aeration needs quickly and easily. Simply shift gears to select just the right pattern for the job.

**Most convenient controls in the industry.** Unlike competitive units, the self-propelled



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**Lower overall maintenance costs.**

Our virtually unpluggable tines last up to three times longer than competitive tines. So you get more consistent hole depth throughout your course, while spending less time and money changing tines. What's more, the Aero Kings' simple, durable designs are easier and more economical to maintain than gear-driven units.



They also cover more ground in an hour than competitors, giving you the best overall aerator value.

The tractor mounted PT2448, with its 48" width, is small enough for greens but big enough for fairways and tees. The PT2448 features a storage frame and castors for fast, easy hook-up to an 18+ hp tractor.

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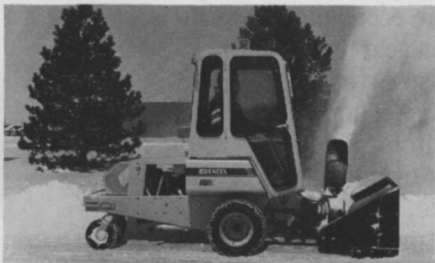


# PRODUCT REVIEW

## Snow removal kit converts out-front mowers easily

Excel Industries, Inc. offers a variety of snow attachments, including a dozer blade, snow thrower, rotary broom and cab enclosure. Tire chains, wheel weights and rear weight kits are also available.

The Hustler V-Blade attaches quickly to the two-point tool bar and cuts a 60-inch swath. The dozer blade is available in lengths of 60- or 72-inches. The heavy-duty snow thrower is PTO driven and hydraulically controlled.



Circle No. 204 on Reader Inquiry Card

## New fungicide controls snow mold, brown patch

Grace Sierra Horticultural Products Company has introduced Penstar PCNB



75WP and 10G turf fungicides for long-lasting control of snow mold, brown patch and other key turf diseases. Both have the same label and use rates as other PCNB products. Penstar 75WP is a preventive, wettable powder soil fungicide; 10G is available as a granular. Final registration was pending at presstime.

Circle No. 205 on Reader Inquiry Card

## Leaf mulcher cuts a wide path, mows up to four acres/hour

The Woods new Model 80 Rotary Mower/Shredder operates by belt drive, and mows up to four acres per hour, according to the company.

A shock absorbing belt drive and free-swinging twin blades offer versatility and cut heavy brush, shred stalks, or mow



weeds and grass. The Model 80 is for tractors rated at 30- to 60-hp, 540 PTO.

Circle No. 206 on Reader Inquiry Card

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Circle No. 127 on Reader Inquiry Card

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*Through the National Lawn Care Risk Purchasing Group, Inc., Lawn Care firms can now purchase pollution clean-up insurance for spills which are the result of an automobile accident.*

*Reasonably priced clean-up insurance is available for all sizes of trucks and production equipment providing up to \$100,000. in annual clean-up costs.*

*Coverage is provided by Lloyd's of London and is subject to a \$2,500. deductible per accident. This program will not replace your automobile insurance—it will fill a void in your current policy. Consult your Agent or Broker to verify that your current policy does not provide pollution clean-up protection.*

For further details contact:

Richard P. Bersnak, Jeanne Bartkus, or Dan Remley at:

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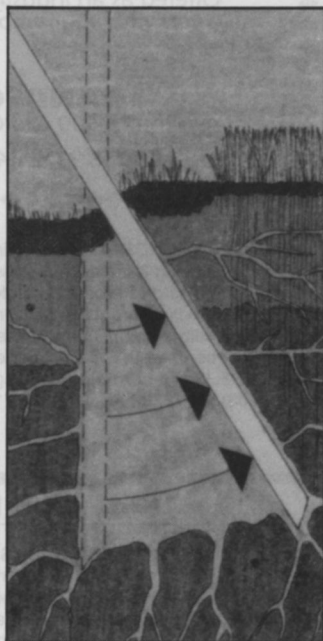
# BELIEVE IT OR NOT

**Only Verti-Drain® helps you grow bent grass roots as deep as 8 inches.**

Turf professionals are amazed to see how healthy and deep their root systems grow after deep tine aeration with Verti-Drain. Case study after case study worldwide shows root systems of fine grasses 8 to 10 inches deep, often through the black layer into the deep root zone.

In all sorts of applications Verti-Drain has saved greens, improved fairways, brought back sports fields, racetracks, restored high-traffic turf areas . . . even shown dramatic savings on water usage. All because it does one thing better than anything else on the market today—it promotes deep root growth. Customers say it works like a pitchfork actually pitching the tines forward, heaving the soil and creating new pockets for air and water without scarring the surface. There's no other machine like it. And only Verti-Drain can pull cores up to 12 inches deep and solid tine up to 16 inches deep.

Whether you're into hollow tining or solid tining, there's a Verti-Drain model to fit your needs and budget. Deep tine aeration with Verti-Drain can answer your compaction and drainage worries. Now you can have better turf, believe it or not.

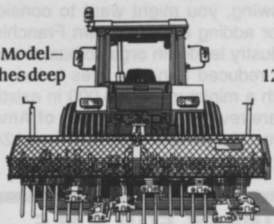


The patented Verti-Drain design permits tines to pivot back and forth while penetrating as deep as 16 inches into the soil. A lifting-shattering effect occurs similar to the action of a pitchfork. The results are improved drainage and deeper, stronger healthier root systems.

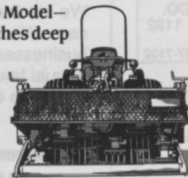
A Verti-Drain user in Virginia sent us proof of his unusual bent grass results. After aerating he found root-bound holes like this with healthy, white roots growing well past the black layer. It convinced him of the benefits of deep tine aeration. If it works this well for him, think of what it can do for your turf.

No matter what your aeration productivity and depth requirements are, Verti-Drain has a model and the attachments to meet your needs. Call or write today for more details and the name of a dealer near you.

250 Model—  
16 inches deep



145 Model—  
12 inches deep



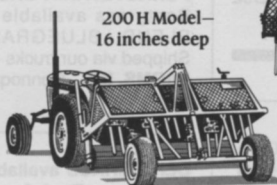
120 Model—  
10 inches deep



Pedestrian Model—  
6 inches deep



200 H Model—  
16 inches deep



**VERTI-DRAIN®**  
*Works like a pitchfork, only better.*

Emrex Inc., Hilltop Drive, RR #3, Box 76, Tunkhannock, PA 18657 (717) 836-3406

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**EXCITING OPPORTUNITY/"SLEEPING GIANT!"** Organic lawn care company with dynamic track record seeking to expand nationally. Looking for investors - partners - lenders or sale. **HIGH** rate of return and/or shared equity option. For further information call **(716)442-2151**, in Rochester, NY. 8/92

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**PENNSYLVANIA GROWN SOD: PENNCROSS -** Bentgrass available soil free. **BLUEGRASS BLEND, BLUEGRASS/RYEGRASS Blend-** Shipped via our trucks - forklift unloaded. **VICNOR FARMS, INC.,** Connoquenessing, PA 16027. **800-842-0461** 10/92

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**Pat Guy**  
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**Atlanta, GA 30324**

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**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

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Prompt attention will be given to responses which include a resume and compensation history. Strict confidentiality is assured. Please reply to:

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**EHRlich GREEN TEAM**  
**J.C. EHRlich CO. INC.**  
**P.O. BOX 13848**  
**READING, PA 19612-3848**

EOE/MF

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**BUCKET TRUCKS:** Straight Stick, Corner Mount and Knuckle Boom Cranes. Brush Chippers - New Asplundh (Morbark Disc Type), New Asplundh Drum Type. Best prices anywhere. Used Chippers - Asplundh, Woodchuck, 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. Opdyke's, Hatfield (Philadelphia Area), 215-721-4444. TF

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**ENGINES, EQUIPMENT, COMMERCIAL MOWER PARTS and MORE!** - Get your **FREE** catalog from Landscapers' Supply Corp. by calling 1-800-222-4303 or in New York 1-914-429-8300. 12/92

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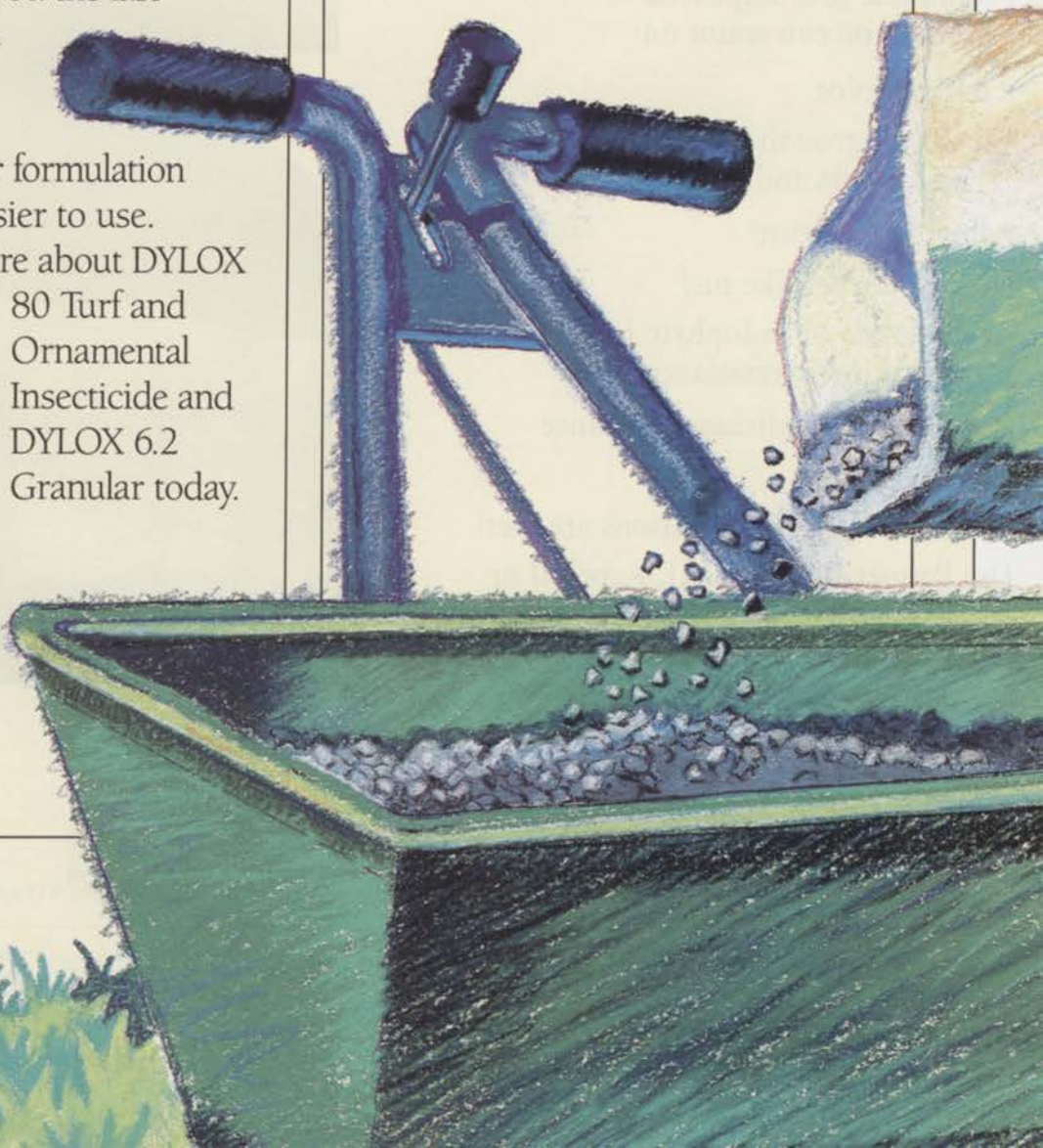
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