

# INVENTORY CONTROL.

Professional  
Products  
Catalog  
1995



 **Terra**

Have what you need, when you need it, without the expense of a large inventory. It's easy. Make Terra Professional Products your single, convenient source for insecticides, herbicides, fungicides, adjuvants, fertilizers, micronutrients, turfseed and much more. Choose from a line-up that includes major brands as well as our own high-quality line of Terra Professional Products. All it takes

is a phone call. You'll get the products and service you want *and* the agronomic advice, technical support and product information you need. For your nearest sales and service location, talk to Terra at **1-800-831-1002, Ext. 225.**



**From Terra**

Terra International, Inc. • P.O. Box 6000 • Sioux City, Iowa 51102-6000

Circle No. 128 on Reader Inquiry Card

WE DON'T  
JUST DELIVER GRUB  
CONTROL.  
WE OVERNIGHT IT.



Pull to open ▶▶▶

**DYLOX**  
6.2 Granular  
Insecticide

You know how much damage grubs can do once they begin feeding. So don't settle for an insecticide that stops grubs eventually. DYLOX® Insecticide delivers grub control posthaste. In other words, it's the fastest grub control available.

After grubs hatch and begin to feed, apply DYLOX. Within 24 to 48 hours, the grubs are dead. And since DYLOX has a very short soil residual, it's an insecticide you can feel good about using.

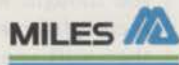
What's more, unlike other subsurface insecticides, DYLOX has no label restrictions on land-



scape and recreational turfgrass varieties or sites. In fact, with the 80% water soluble powder formulation, you can even spray flowers, shrubs and trees and get first-class control of ornamental insect pests.

DYLOX is a low-odor compound and is also available in a 6.2% granular formulation. To find out more, contact Miles Inc., Specialty Products, Box 4913, Kansas City, MO 64120. (800) 842-8020.

And get fast grub control signed, sealed and delivered.



# Seven sure-fire ways to motivate workers

**If number one on your list is a swift kick in the seat of the pants, you've got a lot to learn.**

by Phillip M. Perry

■ Imagine the benefits of a crew that goes that extra mile for your team. Better employee attitudes lead to superior work habits, happier customers and fatter profits or a more efficient team.

And the alternative? An unmotivated, lethargic staff that irritates customers... disenchanted workers who leave for greener pastures...and you, scrambling to hire and train replacements.

"Top managers realize that in a tight labor market, it's cheaper to concentrate on retention than to live with high turnover," says Don Schackne, president of Personnel Management and Administration Associates in Delaware, Ohio. "When an employee walks out the back door, you lose all your invested training dollars and productivity. Starting over is very expensive and creates morale problems."

Is the secret to boost salaries? Not in the long run. "You may steal a few employees from the competition that way, but you can raise your cost of doing business to a level that cannot be passed on to your customers," Schackne notes.

Here is the secret of motivation: show employees how you can increase their skills and move them forward on their career path.

Effective personnel management helps workers achieve their maximum abilities, resiliently and independently, says Dr. Peter A. Spevak, director for the Center for Applied Motivation in Rockville, Md.

Here are some steps you can think about implementing. All will not fit your situation, so select the ones that seem most appropriate...then go to work!

## 1) Relate individual goals to those of your entire team.

Do your employees feel as though they are vital elements in the success of the team? If not, you're in trouble.

Share financial information with them—sales figures, if applicable, and

## The secret of motivation:

Show employees how you can increase their skills and move them forward on their career path.

### The steps:

- Relate individual goals to company team goals.
- Provide individual feedback.
- Provide career counseling.
- Teach each employee what everybody else does.
- Involve employees in the planning process.
- Encourage them to motivate each other.
- Try new techniques.

budgets—and tell them how they contribute to the team's financial well-being. Then, show them how even greater efficiency will lead to greater salaries and bonuses. Describe your financial plans to share the benefits of increased efficiency.

This two-step effort helps employees identify individual goals and rewards with the greater good in mind, a much better approach than telling them that simply serving the customer is the prime goal.

## 2) Provide individual feedback.

Once employees have a solid understanding of the team's goal, make sure each one understands how individual tasks help the team.

Your employees need more than a sense that they will be rewarded with higher pay. They also need to know that their work is worthwhile; that it creates value.

Establish a regular program of providing performance feedback to each employee. Keep an eye open for on-the-job excellence. Then issue the appropriate praise.

When praising employees: be specific and provide the feedback in a structured format. Invite each employee into your office on a regular basis and discuss what you thought were especially noteworthy accomplishments. This motivates more than will spontaneous expressions of appreciation at the work site.

## 3) Provide career counseling.

In individual meetings, communicate to your employees that you are concerned with their long-term career goals, and that what they do today will help them achieve their aspirations tomorrow.

Ask how you can provide them with more opportunities for advancement. Encourage them to suggest ways to further their skills—while helping the team. For instance, can their work be done more efficiently or more productively, or can some tasks be delegated to newer employees?

Also encourage continuing education, which will require a budget.

## 4) Teach each employee what everybody else does.

Only by knowing the "big picture" will the employee realize how his or her individual actions fit in.

## 5) Involve your employees in the planning process.

"With the tighter labor market, employers are starting to realize that they better listen to their employees," says Schackne. "How do they feel about the place? The management style?"

Take written surveys, hold regular staff meetings, and establish a goal-setting process, but don't set too many goals and schedule enough time to achieve the goals.

## 6) Involve your employees in motivating their co-workers.

Ask employees how to motivate everyone else. Speak with each one individually, and as a part of a group discussion.

## 7) Experiment!

Don't get caught in a rut. Always be on the lookout for new techniques that will get employees working with you to create a valuable team that out-performs any other team around.

Some recent innovations to motivate employees: flexible work hours, suggestion boxes and an awards program.

Remember, too, that incentives are good motivating tools, but they aren't miracle workers, and they have to be structured carefully and correctly. Awards should be items (usually \$10 to \$100 gifts) that employees would not normally purchase on their own.

Above all, gear everything toward encouraging employees to create their own incentives. If they feel they are going somewhere, you won't have to push them.

—The author is a freelance writer based in New York City. More than 3,000 of his articles have appeared in the business press.

# GOLF & ATHLETIC TURF

## Reel mower sharpening:

**Two months ago, one industry expert gave his analysis of reel mower sharpening. Here are some alternatives to consider.**

by Paul Fox

■ When grinding the faces of bedknives on reel mowers, make your angle measurements from the center of the axle shaft to the longest radius of the blade tip. (This is the leading edge of the blade. The shorter radius is the back side of blades.) At the perpendicular point where the longer radius meets the top edge of the bedknife, add an extra 5° to determine grinding angle. The relief angle on the back side of the bedknife, meanwhile, will differ depending on the size of the reel and the amount of grass being cut.

On greens mowers and walkers, the most often used grinding angle is 7° plus a "dirt factor" of 2°. For tee and collar mowers, it is usually 9° with a dirt factor of 3°. Large fairway and pull gang units use 11° with a dirt factor of 4°. This relief angle on the bedknife is for ejecting the grass clippings and debris. When this angle is worn away by lapping, grass builds up on the back of the bedknife, causing it to rifle, which in turn leads to poor ejection of clippings and loss of cut quality.

Spin grinders achieve what is known as a convex grind. Over a three- to eight-week period, blade tips wear 60 to 100 percent, causing excessive drag. Thus, reducing the blade thickness by relief grinding is a correctly recommended solution.

An Express Dual gives a hollow (concave) grind. This is achieved by the stone

## another spin



On greens mowers and walkers, the most often used grinding angle is 7° plus a 'dirt factor' of 2°.

hitting the back side of the blade and then grinding forward to the blade tip. This gives anywhere from 2° to 4° relief in the reel. Over the same three- to eight-week period, the blade tip wears only 15 percent.

Once the reel and bedknife are ground, the clearance should be anywhere from .002 to .003 inch. Greens and tee mowers should cut a piece of paper that has been folded in half and pinched. Light fairway

and larger units should cut a business card.

Regular maintenance of the bedknife is essential to keep acceptable cut quality. This is done by facing the bedknife with a file or a die grinder. A product from Precision Small Engine, Pompano Beach, Fla., will be on the market soon that will face bedknives on the traction unit.

*continued on page 2G*

### ELSEWHERE

**Another course goes Audubon, page 3G**

**Watch air, water to cure black layer, page 6G**

**Follow a plan to survive summer, page 10G**

**Creative 'scapes at Oregon course, page 14G**

## Jacaranda's program

■ Our equipment consists of four Toro 3100s with S.P.A. reels, two Jacobsen Greensking IV greensmowers, four Jacobsen Greensking IV tee mowers, two Jacobsen 3810 fairway units, two John Deere 3325 slope mowers with old-style beaver reels, two seven-gang Toro Reelmaster rough units and two spare sets of 3100 S.P.A. reels.

All cutting units have regular bedknife maintenance, facing the bedknife. For other specifics, please consult the accompanying chart.

Modifications to the reels and frames of our 3810 fairway units made by head mechanic Jim Wicklein and myself make the reels much easier to grind and remove from the traction unit.

John Deere 3325s with the old beaver reels take 8-10 hours due to

the amount of work to remove the bedknife. We have just modified the bedknife holders on these reels that could cut grinding time by up to two hours.

All spare reels are ground and ready to go whenever needed.

In seven months, I have only replaced two 3810 reel bearings on two cutting units. I haven't had to replace any on greens, tees or rough units. I've only had to replace three cutting units on slope mowers, due to factors other than grinding or lapping reels.

If you are interested in the modifications we made on the Jacobsen 3810 or John Deere 3325, contact me at Jacaranda Golf Club, 9200 W. Broward Blvd., Plantation, FL; (305) 472-5251.

—Paul Fox

surfaces are mirrored and curved to the shape of the reel blade. The grass is rolled over the bedknife (even with a faced front edge), pinched, dragged, ripped and torn, leaving a ragged cut that shows up in the afternoon as pale or white-colored grass.

Also, with this braking effect, contact must be tighter and tighter for the reel to cut properly. It also makes the mower or traction unit work harder—meaning the engine and hydraulic pumps must work harder.

Bearings on mowers with lapped reels don't last as long as on mowers with spun-ground reels because lapping creates a vertical stress on the bearings. With the reduced contact area from relief grinding, a much higher vertical thrust will oval the bearings. (On a  $\frac{1}{8}$  tip reduction, vertical stress is 16 times greater.) The bearing wear creates a fine vibration, which rounds off the blade tips, creating more bearing wear, more vertical stress, more vibration, etc.

Finally, while the amount of metal removed during backlapping is small, over a period of time it adds up to a lot more than is removed during a regular grinding program.

—The author is reel technician at Jacaranda Golf Club, a 36-hole semi-private club in Florida whose superintendent is Randy Jacobson. Fox is a former employee of Bernhard & Co. Ltd., manufacturer and marketer of Express Dual and Anglemaster.

### GRINDING from page 1G

Cutting units will not need to be removed.

After relief grinding, if the reel and bedknife are properly set, there will be no friction. But a thinner blade is not as strong because of less blade area being removed during relief grinding, and it will not take a "hit" as well as a thicker blade.

The thicker blades of spin grinding on an Express Dual will usually pass the object through the reel or cut it with min-

imal damage to the bedknife or no damage at all. (This depends on the size of the reel and object being hit.) If that should happen, you can grind the reel or take the bedknife out and also regrind it.

Backlapping is not necessary after spin grinding because the burr that is left after grinding will go away on its own during mowing. Backlapping removes the relief angle that is ground into the bedknife and flattens out the reel blades, creating a braking effect. As the reel is lapped, both

## Jacaranda's Maintenance Program

EQUIPMENT	GRINDING INTERVAL <sup>1</sup>	OUT OF SERVICE <sup>2</sup>	BEDKNIFE LIFE
Toro 3100	6-8 wks.	40-45 mins.	4-4.5 mos.
Jacobsen Greensking IV	6-8 wks.	60 mins.	6 mos.
Jacobsen 3810	8-10 wks.	4.5-5 hrs.	>10 mos.
John Deere 3325	8-10 wks.	8-10 hrs.	1.5 yrs.
Toro Reelmaster	16-18 wks.	8-8.5 hrs.	1.5-2 yrs.

<sup>1</sup>Time between grinds

<sup>2</sup>Time out of service during grinding

Source: Paul Fox

# N.Y. Audubon certification is a bona fide money-saver

**Natural cultural practices help keep the Oregon Golf Club one of the sharpest in the Pacific Northwest—if not the entire country.**

by Jerry Roche  
Editor-in-Chief

■ Oregon Golf Club superintendent John Anderson points at a particularly steep wooded area adjacent to a short fairway. That's where he was almost killed, he says.

"We've had some close calls," the veteran superintendent admits. "One day, while I was trying to mow that fairway, the tractor started slipping down the hill and I had to jump off it real quick. I watched it roll down the slope and hit a tree at the bottom."

The tractor was destroyed, but Anderson survived with just a few scratches. "Mowing is a definite problem, even though I've got some very skilled workers," he still admits. "Everything we have now is traction-assisted four-wheel drive."

This is the price of maintaining a natural, wooded golf course. But it's a price that Anderson—and other superintendents like him—gladly pay because it pays off itself in the end.

Four years ago, pro golfer Peter Jacobsen chose choice land from the 600 acres that the late Tasimano Ohno owned, here in the hills of West Linn, Ore., overlooking Portland. His design is stunning.

"He is still our director of golf, and he sets the tone and philosophy for the whole club," Anderson observes. "When he designed the course, he left it as natural as possible. There was less earth moved on



**Though it looks natural, this is a man-made stream that weaves its way through Oregon Country Club, the 18th course to earn complete New York Audubon Society Cooperative Sanctuary certification.**

the golf course than there was to build the clubhouse. The course looks like it's been here forever, and it's only three years old."

The Oregon Golf Club was the 18th golf course to be certified in the New York Audubon Society's Cooperative Sanctuary Program.

"The year the course opened, I spent \$45,000 on turf chemicals," Anderson remembers. "The hardest thing for me to do was not grab the sprayer and to get out

of that mode. You have to accept some damage and let the disease run its course. Last year, we spent just \$580 on turf chemicals. Being in the Audubon program has saved us a tremendous amount of money."

Indeed, there has not been a fungicide application on the course for 16 months. The difference, Anderson relates, comes from light foliar applications of  $\frac{1}{4}$  lb. of nitrogen and  $\frac{1}{4}$  lb. of potassium plus iron.

"I can't believe it myself," he notes. "Our helminthosporium (leaf spot) disappeared as soon as we made the foliar application, and it was the same situation for our patch diseases."

Besides cutting back on pesticides, the Oregon Golf Club is cooperating with the district park department to build a nature trail along a local park that abuts the course. Prior to construction, the local Nature Conservancy is lending a hand by conducting a flora/fauna audit.

The club is also building numerous bluebird houses. "It's very rewarding," says Anderson. "It feels like you're giving something back to the environment. With the Audubon program, you're forced to do and document all the good things you should be doing anyway."

When an article about the club appeared in a local magazine, "I got a lot of calls from people who want to get involved or do the same things on their own property," Anderson remembers.

Many of the problems that most golf courses experience are headed off by using good cultural practices and the right plant in the right spot.

"We use Bardot colonial bentgrass on the fairways because it's less aggressive and a lower thatch producer," says Anderson. "Our soil is low pH, so there's not any microbial activity to decompose our thatch. And I'm keeping the *Poa annua* out by using good cultural practices."

"Our most important cultural practice is light, frequent topdressing every two

*continued on page 4G*

## AUDUBON from page 3G

weeks. It controls thatch, smooths and speeds the surface, and improves water percolation."

The course has Pennlinks greens and tees. Greens are mowed at  $\frac{1}{8}$ -inch, tees at  $\frac{1}{4}$ -inch and fairways at  $\frac{1}{2}$ - to  $\frac{3}{8}$ -inch or slightly more.

"I also personally change the cups every morning," says Anderson. "It's a good way for me to monitor the greens. The best pair of eyes on the golf course are mine. I can see things long before they happen, while the dew is still on the greens."

People like pro golfers Ben Crenshaw and Phil Mikkelsen, and Larry Gilhooley of the USGA Green Section say the club's surfaces are "as good or better than any playing surfaces (greens) they've ever seen," Anderson contends.

Another part of his secret is a competent and proud staff of 22 people in the summer and 11 in the winter. Key employees are assistant super Bruce Brown, head mechanic Sam Simonson, horticulturist Dave Phipps and head irrigation specialist Gil Goldsberry.

Brown was with Anderson at Portland Golf Club. Simonson is simply known as the best mechanic in the Northwest, for both his inventiveness and his prior experience as a superintendent. Phipps has won awards for maintaining the clubhouse landscape, which is brightly colored by hundreds of roses, the late owner's favorite



Anderson: Spots trouble long before it has a chance to happen.

flower. (The course itself has 3,000 roses on the 12th hole.)

Average age of the 400 members who

play 25,000 rounds per year is around 40. Members include Terry Porter, Buck Williams and P.J. Carlissimo of the NBA's Portland Trailblazers. The day LM visited the course, former NFL quarterback Neil Lomax, another member, was having his annual golf "shootout," and Charles Barkley of the NBA's Phoenix Suns was among the participants.

"We have a very family oriented membership," Anderson observes. "But a lot of our members haven't been country club members before, so education is a key. A lot of them don't know golf etiquette. Our assistant golf pro and I did a video for the men's and women's associations last year. We also distribute a club newsletter, and we had a demonstration where we showed the associations how to repair divots."

Yet Anderson considers himself very lucky. "Peter and David Jacobsen are the Greens Committee, so political hassles don't exist. It's like being on vacation, not having those political problems.

"If ever there was a dream job, this is my own personal dream job."

## Beware leaking underground storage tanks, says expert

■ "A good number of the underground storage tanks in this country are leaking," says Purdue University's Dr. Ron Turco, "and you may run into a situation where you have to [pay to] clean up the environment."

The types of liquids that are likely to leak from underground storage tanks on golf courses include gasoline, heating oil and kerosene. They, along with airplane fuels, are commonly referred to as LNAPLs (light non-aqueous phase liquids).

"The real problem is when they contaminate aquifers," Turco notes. "LNAPLs float right on top of the aquifer."

A tank leakage will introduce chemicals

into aquifers at very high levels—parts per hundred—and the subsurface area cannot clean itself.

There are four ways to clean up aquifers contaminated by leaking underground storage tanks—and none is cheap, Turco is quick to point out.

**1)** Bio-remediation is a process in which biological (especially microbial) catalysts act on pollutants, thereby eliminating contamination. Of the four, it is the most cost-effective means of aquifer decontamination.

**2)** Bio-venting is when air is pumped through the contaminated soil zone to the

aquifer. This process stimulates bio-degradation of the pollutant.

**3)** Air sparging is the same as bio-venting, except the air is blown right into the aquifer

instead of into the saturated soil zone.

**4)** Soil vacuum (vapor) extraction uses the bio-venting process in reverse to actually recover the contaminating product.

"Now, scientists are combining bio-venting and vapor extraction to more efficiently remove contaminants from aquifers," Turco notes.

The point? If your golf course includes underground storage tanks for fuels or other LNAPLs, make sure it is not leaking. It costs far less to have it removed and replaced than it would to clean up a contaminated environment.



# Chalk One Up For **TURCAM**<sup>®</sup>



Turf insects like the mole cricket can leave indelible marks even on your best work. But true turf craftsmen know they can always erase turf pest problems, especially with TURCAM<sup>®</sup> insecticide at their fingertips.

TURCAM is a carbamate insecticide with solid rub-out capabilities: rapid knockdown and effective residual control. Unless infestations are unusually high, a single, properly

timed treatment means root-feeding insects virtually disappear.

Whether by surface or sub-surface application, TURCAM can be used on all turfgrass and many trees, flowers and shrubs. Choose your favorite medium-wettable powder or granular formulations.

Regardless of the weather or geography, TURCAM, applied in single bold strokes, helps wipe the slate clean.



A company of Hoechst and NOR-AM

Specialty Products  
AgrEvo USA Company  
Little Falls Centre One, 2711 Centerville Road  
Wilmington, DE 19808

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

Circle No. 101 on Reader Inquiry Card

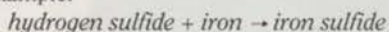
# Air and water prevent black layer buildup

**Make sure that the rootzone soil is rich in oxygen, control the amount of water used and relieve any of the physical problems in the soil.**

by W. Lee Berndt, Ph.D.

■ Black layer can be a serious problem for managers of fine golf greens. A decline in the turf quality can occur very quickly when the black layer appears.

Black layer is a form of sulfur that has bonded with metal. A soil chemist would call the black layer a deposit of metal sulfide. It forms in soil when hydrogen sulfide reacts with an element like iron. For example:



Hydrogen sulfide (or free  $H_2S$ ) is a type of sulfur gas. It appears in a turf soil when microbes called sulfur reducers respire. The amount of free  $H_2S$  released to the soil depends on how active the sulfur reducers are. To be active, they require ample amounts of organic matter and water in the soil. They also require a form of sulfur such as sulfate or elemental sulfur, plus a total lack of soil oxygen—which may be the most important factor. Free  $H_2S$  cannot form without any one of them. Together, these are the building blocks of black layer.

Free  $H_2S$  is likely to be the cause of the turf decline associated with black layer. Free  $H_2S$  is a known cell poison that can suffocate a plant by stopping its root respiration. Scientists have proved that it causes a decline in the quality of grass plants like rice. It can also be lethal to turf.

Could the presence of a black layer in the rootzone of a golf green actually be

helpful to turf managers? In one respect, it may be. However, a deposit of metal sulfide in soil hinders the flow of soil water and soil air. It also binds any oxygen in the soil, making it less available to plant roots.

The best way to stop the release of free  $H_2S$  in golf greens is to make sure that the rootzone soil is rich in oxygen. A way to minimize the release of free  $H_2S$  would be to avoid applying any kind of sulfur. This is

sulfur.

Making sure that the rootzone soil is rich in oxygen is not as easy. To do so, turf managers need to control water. They also need to relieve any of the physical problems the soil may have.

Placing ample amounts of nitrate in the soil is one way to assure that the rootzone of a golf green is rich in oxygen. Studies show that placing nitrate in a flooded turf soil prevents a decrease in that soil's redox (aeration) status. This in turn prevents free  $H_2S$  from forming.

Take care when using any nitrate-type fertilizer. Apply it to fine golf greens only at very light rates to avoid burning the



**Black layer is a form of sulfur that has bonded with metal.**



**Scientists have proved that black layer causes a decline in the quality of grass plants like rice. It can also be lethal to turf.**

true even when oxygen is absent.

It should be easy to control the amount of sulfur applied to a putting green: just limit the use of turf products that contain

turf. This approach can also help save the quality of groundwater.

The release of free  $H_2S$  could also be prevented in soil by removing any of the other building blocks. However, it would not be practical to rid a turf soil of the sulfur-reducers. Nor would it be practical to rid a turfgrass soil of its native sulfur and organic matter. Soil moisture cannot be removed from a golf green unless the turf manager also wants to lose a job.

The best bet for stopping free  $H_2S$  from occurring is by keeping the soil rich in oxygen and avoiding sulfur.

—The author is a certified professional agronomist operating out of his office at 143 Greentree Circle, Jupiter, FL 33458; phone (407) 746-4762.

# Field experience clears maintenance pitfalls

**Your golf course maintenance program is composed of many duties and concerns. If you ignore one, you may be creating a problem elsewhere.**

Formal research methods gives superintendents many techniques and strategies for maintaining golf course turf, but there's no substitute for field experience and observation when it comes to keeping the turf healthy, says a USGA agronomist.

"An important aspect of improving ourselves is recognizing our mistakes and

then learning from them," says Bob Brame, agronomist with the USGA's Mid-Atlantic Region. "Each facet of a golf course maintenance program overlaps and ties in with all the other components."

Individual trouble spots need to be identified, evaluated and considered individually before they are combined with others as a package.

Brame lists the following, "Second 10" pitfalls of golf course maintenance.

**Time on the course.** Few superintendents have the time or take the time to walk their golf courses daily to closely observe turf conditions. Not because they don't want to, but because they are pulled in too many different directions.

While superintendents agree that they are spending more time on the job, less time is actually spent on the golf course.

Superintendents need to play their courses once a week, or at least walk the course regularly. The industry can't afford to lose sight of the fact that golf course maintenance is still a hands-on profession.

**Documentation.** Record keeping ranges from very good to non-existent in golf course maintenance operations. With today's pesticide regulations, however, it's important to record every detail leading to and including the decision to actually apply a chemical.

**Bandwagon.** Before you copy what the "leading" course in town is doing, take the time to see if the method is agronomically sound for your course. Find out whether any university testing has been done in that area to suggest that it will work equally well at most sites.

**Marking the course.** Know the rules, stay current with changes and mark the course properly.

Lack of outside interests. To avoid burnout, take time off from making your

course the "perfect" course. Pursue a non-golf related interest.

**Test plots.** The value of on-course testing cannot be overstated. Every golf course maintenance operation should have at least one turf nursery in which to perform controlled evaluations.

Leave control strips when making applications to determine the efficacy of a product.

**New technology.** Attend local, regional, national and even international educational conferences, field days and seminars.

Read industry magazines and publications.

**Long-range planning.** A well-devised



## The Top 20 Pitfalls

*(Superintendent sins of commission or omission)*

- Poor communications and public relations.
- Overwatering.
- Fast green speeds.
- Excessive use of pesticides.
- Continuity of course officials/green chairperson.
- Pesticide storage and/or maintenance buildings.
- Tree management.
- Amount of play.
- Labor: not enough and/or underqualified.
- Equipment: not enough and/or poor quality.
- Time on the course.
- Documentation.
- Jumping on the bandwagon.
- Marking the course.
- Lack of outside interests.
- Test plots.
- New technology.
- Long-range planning.
- Training and delegating.
- Managing carts and paths.

master plan, approved by management can help bridge the gap in continuity when superintendents or course officials change. A good master plan may also increase the longevity of the current superintendent because there is a good idea of what is expected and where the operation is headed.

**Training and delegation.** If you have a pager, cellular phone or two-way radio in constant use, maybe it's time to spread some responsibility to other key employees. A good rule of thumb is to train key employees to do everything you do. Don't be insecure.

**Managing carts and paths.** A well-built golf cart path offers the best wear control and maintenance options where heavy cart traffic exists. While no one likes the idea of having a paved surface on the golf course, serious thought should be given to current and future use of carts on your course.

# LOOK OUT FOR NUM



---

**PENDULUM<sup>®</sup>, AMDRO<sup>®</sup>  
AND IMAGE<sup>®</sup>**  
**THE PROFESSIONAL'S CHOICE  
FOR TOP  
TURF PERFORMANCE.**

---

*Savvy professionals rely on PENDULUM, AMDRO and IMAGE for reliable, cost effective control of unwanted hazards like problem weeds and fire ants.*

And their confidence is repaid with courses that are noticeably better looking and more comfortable to play.

It's why they're the treatments of choice on the market today.

**PENDULUM Herbicide  
with pendimethalin. Now for turf!**

PENDULUM provides proven turfgrass tolerance and excellent preemergent control of crabgrass, goosegrass and other troublesome weeds. And with its superior season-long performance, people notice the difference when PENDULUM swings into action.

And although gentle enough for over-the-top application to more than 260 labeled ornamentals, 45 broadleaf and grassy weeds don't stand a chance against PENDULUM.

**AMDRO Fire Ant Bait: Kills the Queen.  
Kills the Mound.**

Fire ants may be annoying and dangerous, but they're not all that smart. That's why it's easy for AMDRO to fool worker ants into thinking it is food.

# ER ONE THIS SEASON.



The worker ants take AMDRO back to the colony and feed it to the queen. The worker ants and the queen die, and the entire colony is eliminated — often in less than a week. And with baits like AMDRO, the colony won't relocate or satellite.

AMDRO is easy, because the worker ants do the killing for you. No other fire ant bait treatment works as fast and effectively to kill the mound. Which is why AMDRO is the undisputed market leader in fire ant control.

### IMAGE Herbicide: Control the Uncontrollable.

IMAGE gets to the roots of the most troublesome weeds in warm season turfgrasses. IMAGE controls previously uncontrollable summer weeds like purple and yellow nutsedge, field sandbur, and dollarweed, as well as

winter weeds like wild onion and garlic.

Attacking below the turf line, IMAGE inhibits protein synthesis in the root, so these pesky weeds starve and die. Which means it improves the IMAGE of your course — year round.

PENDULUM®, AMDRO® and IMAGE®. The professional's choice for top turf performance. They'll leave your course looking like a million bucks.

Available from quality distributors of turf products. For more information or for the name of the Cyanamid distributor nearest you, call 1-800-545-9525.

 **CYANAMID**  
Agricultural Products Division  
Specialty Products Department  
Wayne, NJ 07470  
©1995



Circle No. 103 on Reader Inquiry Card

# Planning, experience take off the 'heat'

**You can survive a busy summer if you follow a plan, hire good people and rely on past experience. These superintendents show us how.**

by Terry McIver  
Managing Editor

■ Sharri Brogan at Champions Golf Course in Columbus, Ohio, and Steve Early at Columbus Country Club keep things running smoothly, even in the crazy summer months. Brogan does it by "working the plan," while Early uses techniques gleaned from 25 years as a superintendent.

Brogan maintains a 30,000-round facility with a mere eight employees. And she's always smiling.

The secret to her peace of mind is planning, plain and simple. Brogan loves what she does, and she says she loves working at Champions, and that's probably because

the work never gets the best of her. She knows what has to be done, and when. Equipment maintenance is regular, product applications are done in time, and everybody gets along.

**Smart delegating—**Planning the work and working the plan make it easy for Brogan and crew to cope with unexpected problems, as happened in early July. Heavy flooding from a creek running through the course required that four holes be closed for a few days. The knee-high water receded quickly, and the once-flooded fairways bounced back beautifully.

Champions offers golfers an invigorating combination of well-maintained bentgrass, native grasses and rockscaping. Tees, fairways and greens are

all seeded with bentgrass, and every hole looks great, beyond the usual wear and tear.

Champion's 54 bunkers are being renovated, and a preventive disease control program helped the greens make it through the hot July weather.

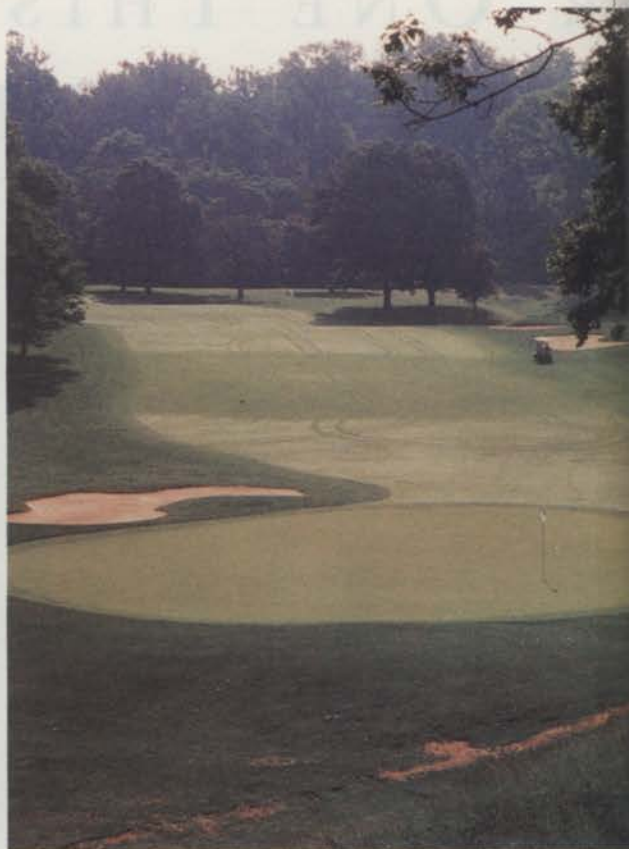
Early also uses a preventive approach to disease and insect control. Management includes aerification and supplemental fertilization, and regular soil and leaf tissue testing. If he's stumped by a problem, agronomists at Ohio State University are just a phone call away.

Early keeps his equipment running smoothly by letting employees most adept at equipment operation ride the mowers and other larger equipment. People with other talents handle other duties. Equipment hours and maintenance is carefully tracked.

Two sets of environmental conditions make the agronomics at the course a challenge. Soil content in the upper half includes a lot of yellow clay. The lower half, at an elevation that's about 100 feet lower, has richer, darker soil.

**Teamwork—**At Champions, higher wages in an area of very low unemployment made it easier for Brogan to find help this summer; the down side is that the city budget keeps the payroll small for each course. Brogan has three full- and five part-time employees, which means everybody does a little of everything. Mowing duties are shared, and all employees gain experience tending the tees, greens and fairways.

When it comes to Early's employee relations, he has two rules: pay a competitive wage—which is essential in a city with low unemployment figures—and follow the Golden Rule.



**Columbus Country club handles between 18,000 and 20,000 rounds a year.**



**Champions was originally known as Winding Hollow Country Club. The Robert Trent Jones, Sr. course was built in 1948, and has a classic, tree-lined look.**

"I treat people the way I would like to be treated, and I try to be fair. I don't believe in double standards," Early says. "We had very little turnover this year. The people have good attitudes, and most respond well" to the daily regimen.

Brogan, meanwhile, lucked out in the equipment department when the city took over: with new ownership came all new equipment. A Toro Hydroject aerator was purchased last year, and is shared by the seven courses. Greens are aerated twice each summer, as a defense against hard spots and compaction.

Work remains to be done on the tee

boxes. Some of them are just too small to accommodate all the play.

"This year, we're on another 30,000-round pace," Brogan says. "That's a lot of rounds for this type of facility. We rebuilt the number 2, 14 and 17 tees, to make them larger. Number 10 and 14 were reseeded; 14 and 17 were sodded."

The roughs at Champions are mowed between two and two-and-a-half inches, which makes for faster play.

"We get information (on speed of play) from the pro shop," and Brogan keeps her eye on the speed of play. In 1994 she surveyed the customers, and one of the most

common complaints was slow play. To solicit opinions, she placed comment cards on clubhouse tables.

Steve Early finds it easy to discuss and finalize plans with the golf course directors. After 25 years in the business, his talent and judgement is recognized and respected.

For example, green speed at Columbus Country Club is fast (10-10½ stimpmeter readings), and the fairways are tight. But as Early says, "anybody here would agree they'd rather have green grass than dead greens."

## Bunker upkeep a function of design



■ Sand bunker renovation and maintenance can be like trying to prevent the tide from sweeping away a sand castle. The frequent erosion, golfer traffic and debris that often collect in them make some supers wish grass bunkers were the norm.

Bunkers are important to the game, since they: set shot value; control shots or moving balls; contain balls from out-of-bounds or water; better define the hole; and improve eye appeal of the hole.

**Steps in construction**—John Carlone, CGCS, of Middle Bay Country Club, Oceanside, N.Y., offers these financial and construction suggestions for bunker renovation:

- Two choices when it comes to budgeting the job: hire an architect with a construction company or have an architect and operator shape the bunkers, and your crew do the rest.

- Possible fees include: architect fee; labor; equipment rental; employee lodging; drain tile; gravel; fill; sand; sod/seed; small tools; gas/diesel fuel; fertilizer; irri-

gation; cleanup; soil tests; sand tests.

- Consider what kind of shots your players will be landing. Don't, for example create impossible shots out of bunkers onto greens that slope back to front.

- Have soil tests done on the fill material. If you are selecting a sand for the bunkers, have samples tested before construction starts.

- At Middle Bay, Carlone had top soil pushed from the existing bunkers to an out-of-the-way area. They had to generate fill since the bunkers were a mere three feet above ground water table, and they could not dig down to generate fill and deepen the bunkers.

"We had to add fill all around the bunkers to give them the appearance of being deep," Carlone notes. "Several of our ponds were being enlarged at this time, so we were able to haul fill from those sites to the bunker sites.

"Once there was enough fill, the bulldozer operator shaped the area. When it was roughed out, the topsoil was pushed

back over the fill."

- Budget money for cart path repair. No matter how careful you are, there will be some damage to the course.

- Caring for new sod will be important post-construction duty. It must be weaned off the fertilizer, to 2 lbs. of nitrogen per year. Moisture is also important. For steep slopes with southern exposure, it might be wise to add a mist system and use drought-tolerant turfgrass.


- Hand raking provides a consistent surface and lie, but it's labor-intensive. Courses using this method usually are on a continuous schedule.

- Edging may also be restricted by the budget, however, it is something that must be done periodically or the turf will close in and shrink the bunker, leaving an unsightly and unplayable margin.

**Types of edging**—**Rotary**: this is a quick and easy way to maintain the margins followed by hand-raking the trash left in the bunker. However, this method leaves the raw edge exposed unless the sand is brought to turf level, eliminating the desired lip. Remember to require the operator to wear goggles.

**String trimmers** do a fair job in the hands of a good operator, but it is difficult to maintain a clean and straight edge. It also leaves the turf with ragged edges. Hand rakes are required to remove the trash in the bunker after this operation.

**Hand edging** is the preferred method, by far, because pulling the runners that protrude leaves the turf with a groomed look and lets it drape over the edge.



# TURF DISEASES HAVE BAYLETON FOR WE

To stop enemy turf diseases from gaining a beachhead on your course, do what golf course superintendents have been doing for 15 years. Apply BAYLETON® Turf and Ornamental Fungicide. No other fungicide on the market has the proven history of preventing the toughest turf diseases.

Whether the adversary is summer patch, dollar spot, anthracnose or any number of other major turf diseases, BAYLETON consistently delivers unsurpassed control. And it's systemic for long residual. So after the initial application, BAYLETON has just begun to fight.

It's a good tactic to apply BAYLETON over your entire course. By applying it on your fairways,



# E SURRENDERED TO LL OVER A DECADE.

you'll keep golfers from tracking disease up on to your greens and tees. And you'll get excellent control of powdery mildew and rust on ornamentals. What's more, BAYLETON comes in water soluble packets for easy mixing and less applicator exposure.

To find out more, contact Miles Inc., Specialty Products,  
Box 4913, Kansas City, MO 64120. (800) 842-8020.

Then, just apply BAYLETON, and the rout is on.

**MILES** 



Circle No. 105 on Reader Inquiry Card

# Battling floods and wildlife

**Floods, critters and creative landscaping make this Washington State course exciting year round.**

by Leslee Jaquette



**Jean Phipps raises about 60 flats of annuals in the Mt. Si greenhouses.**

■ Originally part of the largest hop farm in the world, the Mount Si Golf Course has been mostly dry since Prohibition days. And—though Elliot Ness never made a raid on the Snoqualmie Valley farm—the 18-hole course has since seen its share of excitement.

The public course is nestled in the foothills of the Cascade Mountains at the base of Mount Si, about 30 miles east of Seattle. The old, well-maintained course attracts folks from all over the Northwest—except when it floods.

Because of a slough to the north where three forks of the Snoqualmie River converge, you would think spring runoff

would be the problem.

Not so, explains superintendent J.K. Moore. Annual winter floods, caused when the Cascades receive a heavy snow before Thanksgiving followed by a warm December with rain, swell the river into uncontrollable torrents. The bloated rivers back up first into the first slough, which under less violent conditions acts as a fairly successful reservoir. But when the waters jump the banks, the back nine suffers the consequences.

Moore recalls that one flood measured 12 feet above the 10th green. Three times in the past two decades, the entire course has been submerged, and three times the clubhouse has been under five feet of water. Every year some flooding affects the course.

Fortunately, Moore says, the water backs up onto the course but doesn't cut it into ravines. (If the rivers invented a new fork during floods, the course would suffer much more damage.) Secondly, the water abates quickly, usually within 24 hours.

But what remains is a spongy course strewn with debris.

Moore mobilizes volunteers from the men's club and other local courses, plus his full-time winter staff of three to scrape six to eight inches of silt off the greens. The work takes several days, and the greens are left terribly soft. Surprisingly, even when the back nine is flooded, the front nine often stays open in keeping with the course's commitment to year around play.

**Birds and bees**—Most of the critters—bald eagles, great blue heron, otter and waterfowl—make the slough their home. But the deer and elk graze on everything in sight. Indeed, each of the three Snoqualmie Valley golf courses has its own herd of elk. "Maybe each herd has its own course," Moore muses.

To keep the large animals away and

minimize destruction, Moore buys "Cougar Crap" from the Seattle Zoo. He discreetly places the big cat feces around the wooded perimeter of the course in standing bird-feeder type troughs. "The scent freaks out the deer," he notes.

This year, the course got a late start due to the lingering snow season, heavy rains, late freeze and small spring flood. Because of that, Moore may not be able to purchase any new equipment this year. However, most years he buys one piece of

new equipment. He prefers to invest in top, new equipment on a regular basis as opposed to employing a full-time mechanic. He compares his plan to that of the businessman who drives the latest model car. This way he doesn't have to nursemaid old equipment. He gets efficient performance and minimal service headaches.

Moore explains that this management method is different, but works due to the fact that his core employees,

including son and assistant supervisor Michael Moore and head landscaper Jean Phipps, are reliable individuals who take responsibility for their own machines.

"Our operators do their own maintenance," says Moore. "If their machine doesn't work, they don't work."

Mount Si Golf Course has the smallest crew anywhere in the Pacific Northwest. The three of them, all salaried, mow 135 acres.

Phipps says that by making two fungus spray applications, early spring and fall, both fungi and grubs are easily controlled. She notes that other local courses that only make one application seem to suffer grub infestations some years. When moles attack the course, Phipps traps them.

**Colorful treats**—Since Phipps joined the team eight years ago, she has concentrated on additional landscaping and flowers. Probably the most ornamental course in the Northwest, Phipps raises about 60



**Superintendent J.K. Moore, left and landscape manager Jean Phipps trust in the work of reliable crews.**

*continued on page 16G*

# ProStar®



Your key for  
locking out  
turf disease

You'll want to be among the first to use PROSTAR®, the remarkable new systemic fungicide from AgrEvo USA Company. Extensive tests by leading universities and golf course superintendents have shown that PROSTAR provides outstanding control of brown patch, yellow patch, and gray snow mold. It also stops southern blight, pink patch and red thread. In addition, PROSTAR has demonstrated its ability to suppress fairy ring for which no control agent currently exists. So now you can rely on the broad-spectrum activity and extended residual control of this outstanding new compound.

PROSTAR is in the benzamide class; it represents a whole new chemistry that makes it a perfect choice for use in resistance management programs, and it can also be tank-mixed with several other fungicides, including BANOL® or triazole compounds, for even wider disease protection.

PROSTAR can be used either for preventative or curative control and has shown excellent safety on all species of fine turf.

For more information on new PROSTAR, call or write AgrEvo USA Company.



A company of Hoechst and NOR-AM

AgrEvo USA Company  
Little Falls Centre One, 2711 Centerville Road  
Wilmington, DE 19808

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

**PROSTAR...Your key for locking out turf disease. Turn it to your advantage.**

**MOUNT SI** from page 14G

flats of annuals in the course greenhouses and purchases another 60 flats. Perennials are used extensively in the course's 40-plus gardens. Indeed, Phipps maintains enormous gardens, each with its own style and motif with dozens of kinds of flowers, flowering trees and roses. She is proud of the 100 roses on the course and broad spectrum of relatively unusual flowers

they cultivate from seed.

Phipps jokes, "Golf is free at Mount Si. Here people pay for the botanical gardens."

Her newest and largest garden parallels the 18th tee. At a whopping 130 feet by 20 feet, this garden includes everything from Asian pear trees, peach and apple trees to poppies and the popular and somewhat unusual feathery, purple astilbe.

One of the reasons Phipps can cultivate

such enormous and varied gardens is that the course rests at an elevation of 400 feet. Despite its proximity to the volatile, mighty Cascades the weather is mild and inviting in the valley most of the year.

—The author is a freelance writer based in Edmonds, Wash. She is a frequent contributor to LM.

## Turf stress a factor with 9-hole courses

**When to expand**—For courses of 2,500 to 3,000 yards and a Standard

**To handle double play, use two sets of tees for each hole, and find a way to vary traffic patterns.**

■ On the face of it, managing a nine-hole golf course should be no more difficult than looking after 18. Yet, some factors related to golfer traffic and maintenance make 9-hole management more challenging.

The decision to develop a site for 9 holes, as opposed to 18, usually relates either to a lack of space or finance. Generally, these basic constraints follow through to produce management problems for the shorter course.

Excellent 9-hole courses are located throughout the country, but many golfers consider them the "poor relation" to 18-hole facilities. This perception is grossly unfair, as some have layouts that are as good as, if not superior to, the quality of an 18-hole layout.

If a 9-hole golf course is built on land too small for 18, there may be more room to design a superior course in terms of its playing qualities, assuming that the architect fully appreciates and capitalizes on the opportunity. Many 18-hole courses are ruined because two or three holes have been squeezed into the available area.

It's more difficult to attract visitors to a 9-hole course due to the perception that a standard 18-hole course is better. The supposed tedium of playing the same hole twice in a round may be another reason.

This can be overcome to a degree by having two sets of tees per hole, located well away from each other. This presents a totally different tee shot to the fairway on a par 4 or par 5 hole, or green shot on a par 3.

Scratch Score as low as 60, the option to go to an 18-hole format should be resisted, if there is only the room to double the existing yardage. It may make more sense to design a quality, 9-hole layout with a better balance of par 3, 4 and 5 holes.



Some superb 9-hole layouts have a special character of their own which would be impossible to repeat through a full 18.

**Turf stress concerns**—A round of golf on a 9-hole course still adds up to 18, and this results in double the turf traffic.

If room was initially a constraint, it is unlikely that much thought was given to designing large greens, adequate tees and wide, diverse traffic routes.

Nine-hole courses with separate tees and varied landing and approach areas will have less wear damage. A tighter layout also provides less opportunities to divert winter play.

The question of access around the course has implications for equipment as well as golfers.

If the layout takes up most of the available room, then maintenance vehicles may encroach more onto the playing areas of the 9-hole course. Less room through the site may necessitate having to mow everything, an added maintenance burden many 18-hole courses avoid by promoting banderoughs and conservation areas.

**Morning glut**—It won't take long for a 9-hole course to become choked with golfers first thing in the morning, and there will be minimum amounts of time for greens mowing and other important morning maintenance.

Maintenance for 9 holes is not half that of the 18-hole course due to down time—traveling around the course, maneuvering around small greens and small tees takes up a major portion of management hours.

**Machinery costs**—Essentially the same machinery range is required to tend a 9-hole golf course. A triplex mower is needed for the greens, regardless of number. At first glance, it may be thought that a walk-behind greens mower is more feasible on a 9-hole course. However, the lack of time may mandate using a riding triplex.

Half the topdressing, fertilizer and fungicide can make for a tidy savings, although the difference can be eaten up by increased repair costs.

Fertilizer and pesticide bills may not show lower costs, due to the demands of play, which require a greater input to stimulate growth.

Equivalent costs with reduced income will not make the club's accountant a happy man and the budget will be strained by major outlays, such as irrigation projects, or larger equipment purchases.

—Source: "Northern Ohio Turf"

# LAWN & LANDSCAPE INDUSTRY

## Natural habitat gardens sell when explained in detail

by James E. Guyette  
Contributing Editor

■ Landscape managers say more customers are appreciating the benefits of natural habitat gardens, which essentially use the plants and animals originally found at a site.

The key factors for this type of work are specialized plant selection skills, education of both landscape manager and customer, and a firm commitment to integrated pest management techniques.

"It's a business opportunity that's just beginning—and it's growing," reports Dr. Fernando Agudelo-Silva of FAS Technologies in Berkeley, Calif. An entomologist, Agudelo-Silva specializes in using beneficial insects for interior and exterior pest control. Much of his work deals with implementing pesticide-free landscape applications in cooperation with landscape managers who tend natural habitat areas.

"The thrust of my practice is planning," says Agudelo-Silva. "A lot of the pest problems in gardens can be eliminated by planning before you have the outbreak of pests."

Agudelo-Silva says his customers usually have to be receptive to at least the natural habitat concept from the beginning. "The clients have to have the attitude that they want to reduce pesticide use long-term," he explains. "My approach includes a significant amount of education. In the beginning, it's a lot of work to make the client feel comfortable—most people don't feel comfortable with insects."

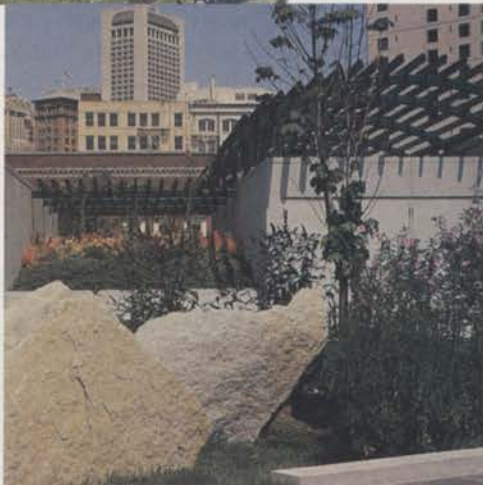
Photographs and charts are critical sales tools. "I use a lot of visual aids. I have pictures of beneficial insects, before-and-after pictures (of landscape sites) and charts. A lot of people, for example, have



never seen a picture of a beneficial mite attacking a harmful mite."

Clients mostly come to Agudelo-Silva via word-of-mouth or other referrals. "There are situations where a client can't use chemicals, like a hospital, for example," he notes.

**The right 'diagnosis'**—Natural habitat gardens can be just the right cure for hospital grounds in need of landscape improvements. "Hospitals seem to like the idea," reports Linda J. Novy, chief executive officer at Gardener's Guild, Inc., a full-service landscape firm based in San Rafael,



Calif. "They want to create a healing, healthy environment around them."

Novy notes that the natural habitat concept is especially appealing to her homeowner association clients, retirement communities and senior citizen-oriented institutions.

**Dial it in**—A landscape manager skilled at this type of project is able to assign differing levels of naturalness based on the clients' needs. It depends a lot on the site itself, too. "In a suburban or rural type of environment, it can be expanded," Novy explains. "You can have more than plants and beneficial insects—you can bring reptiles into the picture."

Reptiles and amphibians such as snakes, lizards, toads, salamanders and frogs are great pest controllers. The menagerie of desired animals is dictated by site concerns.

Gardener's Guild created the butterfly garden at San Francisco's Yerba Buena Gardens. There, butterflies seek tall trees for roosting, and—for some species—developing into their pupa form. They also seek open sunny areas. Certain flowers, grasses and shrubs are used to provide nectar for the adults and food for the caterpillars.

*continued on page 6L*

### ELSEWHERE

**Make money on  
firescaping,  
page 7L**

**Ever-popular  
hostas soar,  
page 12L**

**Care & feeding  
of customers,  
page 14L**

**Let employees  
take risks,  
page 16L**

## Sense of history helps

■ Look to the past when selecting natural habitat plant materials, advises Ken Druse, author of the book "The Natural Habitat Garden."

"In evaluating your site, take into consideration what would have been there and nearby presettlements working from researched models (in regional and local guides, old topographical maps, museums and arboretums, for example)—before the bulldozers pulled up and put in a parking lot—not just what exists today," the book says.

More suggestions:

• **Educate, educate, educate.** "It's a learning curve for the clients in having them accept a look that they may not be used to," explains Lance Schendorf, general manager at Gachina Landscape Management, Menlo Park, Calif.

Corporate office complexes, homeowner associations and other developments may opt for a natural habitat garden in order to attract certain wildlife species or to comply with regulations for preserving native plantlife. This approach can also be a plus when it comes to projecting a politically correct image to the public.

"People are becoming more environmentally aware in regard to their landscapes," notes Schendorf. "The corporate client will get into it as something that's good to do from a public rela-

tions view—it'll look good in the company newsletter."

Problems can crop up, though, if people think that the natural habitat garden they're paying for looks akin to a weed patch. "If it's an existing development, it has to have curb appeal, so in most cases you have to have plant material that looks good all year round," Schendorf notes.

And this is where the landscape manager must pay attention to detail and explain the concept to skeptics. "It's a lot of education of the client and you have to be on top of the client's structure," Schendorf stresses. "It's not just the client; it can also be their bosses or residents, who may want a manicured look."

A scenario can develop where "the property manager's boss who flies in from Chicago is going to pull up in front of the building and say, 'What on earth is going on here?' And if the property manager says, 'We're attracting birds,' that might not work," he warns.

• **Choose customers carefully.** "It's best to work with customers who are willing to listen to the educational part of my program," says Dr. Fernando Agudelo-Silva of FAS Technologies in Berkeley, Calif. "I've recognized that some clients are not going to like it."

Schendorf suggests that existing

clients are more likely to go for a natural habitat site, especially those who enjoy an ongoing personal relationship with their landscape manager. "If you know a client who goes hiking on weekends or who likes bird watching, then you have an 'in' to discuss their interests." You can explain that "we're able to choose a plant that attracts birds, or that attracts whatever you want."

• **Be aware that each property and each natural habitat site requires individual planning and attention.** "You can't have a recipe book," Agudelo explains. "One of the characteristics is that each landscape program is customized—and that can be an advantage or disadvantage."

• **Take your time pricing.** "It's so site-specific," says Schendorf. "Actually, you're taking better care of it than if you went in and cut everything down. Sometimes it's more expensive than taking care of it in a traditional manner. One of the main problems is getting rid of plants you don't want. There may be upfront costs to replace areas" overgrown with undesirable species. Usually native plants are best obtained from smaller nurseries because the larger ones tend to concentrate on growing plants that are more popular.

—J.G.

## NATURAL from page 5L

Other needs are fresh water, tall trees that provide lookouts for adult male butterflies on the hunt for a mate or protecting their turf, and rocks for basking.

"The butterfly garden is maintained in a more relaxed state than the crisp, manicured look usually expected in urban gardens. Knowledge of which plants provide nectar, which provide food, which provide shelter, and which are places for pupae to form and mature guide our rotative plant choices," Novy points out.

**No-spray zone**—"Each area of the garden has special maintenance needs, so we designed specifications just for this garden," Novy says. Pesticides are not used here.

"The butterflies don't know where their garden ends and the rest of the grounds begin, so strict integrated pest management is necessary throughout the entire gardens. Cuttings from trees, shrubs and



groundcovers are placed in piles for up to a week. This allows caterpillars to crawl away and seek alternative living plants.

"Near these piles of clippings are plants that are larval food sources. Flowers are

detailed frequently to encourage abundant flower and nectar production, but discolored or disfigured leaves are left as-is because there may be caterpillars grazing, eggs laid on the underside of the leaf, or caterpillars molting in leaves that have been pulled together," she cautions.

"Mowing heights of turf in the butterfly garden were raised to three inches and the turf is not edged. Around the boulders, the turf is allowed to grow taller," Novy recounts. "What attracts butterflies to our garden also attracts birds and other insects," she adds.

If you decide to seek these types of projects, educating yourself is the first hurdle—then you can get to work on educating potential customers.

Agudelo-Silva suggests that you seek information from your local extension agent and enlisting consulting services from an IPM specialist such as himself.

# 8 ways to make money on firescaping services

**These new add-ons are spreading like wildfire—and not just in California. It's now a coast-to-coast enterprise.**

by Maureen Gilmer

Wildfires have always been a concern to residents of the western U.S., but in recent years the threat is spreading to other areas of the country, including the East Coast, where conditions have changed for the worse.

The area in which the new risk is greatest, though, is in the Rocky Mountain states and Pacific Northwest. There, populations are exploding and more homes are cropping up in the urban-wildland inter-



Firescapes are often designed with low growing shrubs such as heathers, with gravel or decomposed granite walkways as fire breaks.

face—that zone where housing developments blend with ecosystems rich in fuel for fires.

The interest in “defensible space” homesite design and fire-resistant landscapes becomes more critical with each deadly wildfire.

Long-term landscape maintenance can eliminate fuel accumulations that can grow to dangerous proportions. This creates an opportunity for companies to tailor

new service packages to wildfire-vulnerable apartment and condominium complexes, commercial buildings, homeowner associations and single-family residences.

Some of the components of “firescaping” maintenance, which are more likely to be requested during fire season or just after a recent fire in a particular neighborhood:

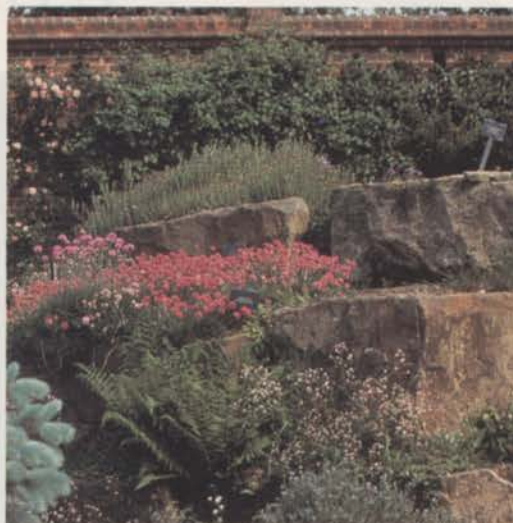
**1) Pruning** to keep proper separation and clearances must be ongoing. The edges of tree canopies must remain separated in order to reduce the tendency of flames to spread through continuous canopies. You may extend this service to cleaning up any tree litter which accumulates on rooftops and in rain gutters.

**2) Weed and litter disposal.** On the ground, sources of fuel like tree litter and weeds must be removed and disposed of. Here, too, separation of shrub and ground-cover plantings is used to interrupt the

rapid spread of flames, but as plants mature these spaces decrease and must be pruned and shaped.

**3) Dead plant removal and replacement.** If allowed to dry out—as did the vegetation of the Oakland Hills fire of 1991—a very hazardous condition results.

**4) Irrigation system maintenance.** Irrigation keeps firescape plants fully hydrated because the greatest threats come in the driest seasons.



Dwarf shrubs for rock gardens are frost hardy, and provide low/no fuel.

**5) Compliance with local ordinances.** Some communities are passing laws that demand homeowners control weeds and flammable vegetation on their property. In some cases, this calls for alteration of an existing ornamental landscape; in other cases it's the application of firescape concepts to native or naturalized wildland vegetation.

**6) Comprehensive fuel management programs.** You can cultivate clients in areas where services are most needed according to fire experts, and obtain leads from municipal fire stations or state fire protection agencies. Creating a dual package of services—one to alter the existing problem and another to make annual or biannual maintenance visits—assures you the initial clean-up job and a long-term regular customer.

**7) Tapping the senior citizens market.** For older homeowners who cannot accomplish the fire preventive maintenance work as easily as others, a landscape maintenance service is essential.

**8) Increasing your public visibility.** When you move into the firescape management and maintenance business, your work suddenly becomes a public service issue. Your company could eventually be placed in the public eye, should it save a home, a life or even an entire community.

**Beforehand**—It is basically the same to maintain a landscape designed for fire resistance and render an existing landscape less vulnerable to fire. Knowing how fuels accumulate, and how fuel types vary, should be considered for a comprehensive program and more accurate cost estimates

*continued on page 10L*

# LOOK OUT FOR NUMB



---

**PENDULUM<sup>®</sup> AMDRO<sup>®</sup>  
AND IMAGE<sup>®</sup>  
THE PROFESSIONAL'S CHOICE  
FOR TOP  
TURF PERFORMANCE.**

---

*Season after season, savvy professionals rely on PENDULUM, AMDRO and IMAGE for cost effective control of problem weeds and fire ants.*

And season after season, their confidence is repaid with satisfied customers and better bottom lines.

It's why they're the treatments of choice on the market today.

**PENDULUM Herbicide  
with pendimethalin. New for turf!**

PENDULUM provides proven turfgrass tolerance and excellent preemergent control of crabgrass, goosegrass and other troublesome weeds. And with its superior season-long performance, your customers will notice when PENDULUM swings into action.

And although gentle enough for over-the-top application to more than 260 labeled ornamentals, 45 broadleaf and grassy weeds don't stand a chance against PENDULUM.

**AMDRO Fire Ant Bait: Kills the Queen.  
Kills the Mound.**

Fire ants may be annoying and dangerous, but they're not all that smart. That's why it's easy for AMDRO to fool worker ants into thinking it is food.



# ER ONE THIS SEASON.



The worker ants take AMDRO back to the colony and feed it to the queen. The worker ants and the queen die, and the entire colony is eliminated — often in less than a week. And with baits like AMDRO, the colony won't relocate or satellite.

AMDRO is easy, because the worker ants do the killing for you. No other fire ant bait treatment works as fast and effectively to kill the mound. Which is why AMDRO is the undisputed market leader in fire ant control.

### IMAGE Herbicide: Control the Uncontrollable.

IMAGE gets to the roots of the most troublesome weeds in warm season turfgrasses. IMAGE controls previously uncontrollable summer weeds like purple and yellow nutsedge, field sandbur, and dollarweed, as well as winter weeds like wild onion and garlic.

Attacking below the turf line, IMAGE inhibits protein synthesis in the root, so these pesky weeds starve and die. Which means it improves the IMAGE of warm season turfgrasses — year round.

PENDULUM®, AMDRO® and IMAGE® The professional's choice for top turf performance. They'll leave your customers' lawns looking like a million bucks. And you'll have more bucks in the bank!

Available from quality distributors of turf products. For more information or for the name of the Cyanamid distributor nearest you, call 1-800-545-9525.

 **CYANAMID**  
Agricultural Products Division  
Specialty Products Department  
Wayne, NJ 07470 © 1995



Circle No. 104 on Reader Inquiry Card

**FIRESCAPING** *from page 7L*

for service.

Three types of fuels should be considered:

**Aerial fuels** are composed of tree canopies which feed crown fires that travel quickly from tree to tree. Rooftops are considered aerial fuels as well, particularly if wood shake or shingle.

**Ground fuels** exist from the soil surface to about 18 inches tall and are typically dry grass, leaves, litter, groundcovers and low-growing shrubs which feed a surface fire.

**Ladder fuels** fall between: taller shrubs and tree branches below 8-10 feet. They provide the "rungs" by which a surface fire jumps into trees or vice versa. The most dangerous fires are those which burn both on the ground and in tree

canopies simultaneously.

Also, before you attempt to mine the growing market for "defensible space," you must examine all the information already available on state and local wildfire conditions.

Many other factors (besides the choice of plant materials) should be considered, like topography, local wind conditions



**Keeps colorful plants at 18 inches or less in height (above). Perennials at left are too high. Keep taller plants away from flammable wood walls.**



and native fuel types. Where public lands or national parks are concerned—or even in private communities with strict CC&Rs, you must understand the regulations before attempting any work.

—Maureen Gilmer of Dobbins, Calif., has worked in virtually all aspects of horticulture and landscape design. She is author of "The Wildflower Survival Guide," a 176-page book available for \$10.95 from Taylor Publishing Co., Trade Books Division, 1550 W. Mockingbird Lane, Dallas, TX 75235; (800) 275-8188.

## IPM book available from EPA

■ RISE is partnering with the National Pest Control Association (NPCA) and the Professional Lawn Care Association of America (PLCAA) to distribute an U.S. EPA booklet.

That booklet tells schools how to adopt an integrated pest management (IPM) approach. The EPA developed the booklet in 1993 with the help of RISE.

"Although EPA did include responsible pesticide use information in the booklet, we believed some issues needed further emphasis to ensure a full understanding of responsible pesticide use and its role in IPM," says Tim Maniscalco of

DowElanco, who heads the Issues Committee's IPM in Schools Task Force.

Maniscalco says a plan is under way to distribute additional educational material to schools along with the booklet.

He points to the rigorous pesticide testing and registration process as an issue which needs more emphasis.

"Communicating this message helps reassure schools that pesticides pose low or no risk when used responsibly," he says.

In addition, the educational materials include information on why schools use pest control products and the RISE defini-

tion of IPM. The mailing also underscores the willingness of regulatory bodies and associations to work together toward a common cause.

Maniscalco encourages lawn care professionals and others to merchandise this effort at the state and local efforts and position themselves as IPM experts within their communities.

"Implementing an IPM program takes knowledgeable people who understand pests and how they can be monitored and controlled," says Maniscalco.

# Our Commercial Mowers Are Now Easier to Operate...



## Even if You're Not All Thumbs

One good thumb is all it takes to put more mowing productivity in the palm of your hand.

The reason? New thumb latch controls on John Deere commercial walk-behind mowers.

To back up or go from one speed to another, just depress either handle-mounted latch to lock in neutral. Then shift. No more acrobatics to find neutral and engage both brake levers,

while simultaneously trying to change gears.

Seven hp/cutting width combinations—12.5, 14 or 17 hp; 38-, 48-, or 54-inch cut. All with wet-disk drive and 5 speeds.

See your dealer for thumbs-up commercial mowing performance. Or for more information, call 1-800-503-3373.



*Thumb latches on John Deere commercial walk-behind mowers make shifting from forward to reverse and between gears easier. Just depress either handle-mounted latch to lock in neutral, then shift.*

NOTHING RUNS LIKE A DEERE®



# Hostas' popularity ready to soar

**Ohio grower says landscape pros should educate themselves to the growing variety and versatility of one of America's favorite perennials.**

by Ron Hall, Senior Editor

■ The hosta is a flowering plant that landscape pros should become more familiar with for reasons you'll discover here. But first an anecdote from a top Mideast hosta grower:

Van Wade says that in 1986 he had a huge dog on his Wade & Gatton Nurseries in rural north central Ohio. He says it weighed about 140 pounds and one hot day that summer it proudly deposited a dead ground hog at his front door.

After a while Wade's wife, Shirley, protested about having a dead ground hog in their yard, and commanded Van to bury it. Obediently he did. He shoveled the ripening woodchuck into a hole near their big white frame farm house; then he planted a hosta over it.

Although it's been nine years, Wade still grins every time he points to that hosta and comments about its prodigious growth. The huge yellow leaves of the



Ohio's Van Wade with his 'Sum & Substance' hosta, the world's largest.



Hostas show incredible diversity in size, color, shape, according to expert Van Wade.

hosta are each about the size of a tennis racket. They give the plant (variety: 'Sum & Substance') an 11-foot span at its base.

"It's the biggest hosta in the whole world, and it's probably the most photographed hosta in the world too," he declares.

That specimen hosta is just one of an amazing 1,500 varieties of hostas that the Wades have collected. Many came from hosta hybridizers, but Van has developed a few himself.

The hosta is a "plant of the future" because of its amazing variety and versatility, says Van Wade.

Originally from Asia, the hosta varies in size and color from the huge yellow 'Sum & Substance' variety to the tiny-leaved 'Poo Poo', a blue/green miniature that spreads no larger than dinner plate. The different shapes and textures of leaves among varieties is almost as remarkable as the differences in sizes and colors.

Hostas are easy to care for and, generally, require minimal maintenance. They're winter hardy, develop few pest problems (apart from slugs or black vine weevils), and tolerate shade well. Most hostas, in fact, do best in a dappled shade. If they can

get some morning sun they prosper. Growing in well-drained, but moist soil they'll form large clumps from basal rhizomes and stolons.

Because they tolerate different growing conditions and because they're so diverse, hostas fit well in many landscape areas. There are varieties that qualify as specimen plants, ground-cover, and varieties that can be used with shrubbery, near a pond, in the perennial border or as edging plants.

But, with all this praise, the hosta's main attribute is its beautiful foliage. This lush foliage makes the hosta a perennial to enjoy in spring, summer and fall. Mid-summer blossoms that range from snow white to blue are attractive too, but really just a bonus. (The blossoms of some varieties are quite fragrant.)

Wade says landscape pros need to educate themselves about hostas to keep up with the gardening public.

"Many landscapers probably only know 5 to 10 varieties of hostas," he says. "That's just scratching the surface. In fact, we're all just scratching the surface because as the public sees more gardens with different varieties of hostas, there's going to be more demand for them."

Van says he and his wife began building the hosta gardens, and adjacent gardens containing about 1,000 varieties of daylilies, just over 10 years ago. He says many of their ideas come from other "wonderful inspirational gardens" that they visit.

Their gardens, located just east of the tiny town of Bellville, Ohio, are open to the public Monday through Saturday. They are a part of the 1,000-acre operation that is a large regional grower of shade and ornamental trees.

—To learn more about hostas, contact The American Hosta Society, 7802 NE 63rd St., Vancouver, WA 98662. There are also a number of state and regional hosta societies.

# An ear to the customer

## Tune in—before, during and after the service delivery process—to enhance your customer retention and profitability.

by Ed and Aaron Wandtke

■ A man went to his doctor complaining of poor hearing. The doctor took out a pocket watch and asked his patient if he could hear it ticking. "Yes," the man replied. The doctor went into the hallway. "Can you hear it now?" he asked. "Yes," said the patient.

The doctor moved to another room. "Can you hear the ticking now?"

"Loud and clear."

The doctor returned to the examining room. "There's nothing wrong with your hearing," he said, "you just don't know how to listen."

It's true of many people. They don't know how to listen.

As children, we were taught to "listen to others." But the older we became, the less we felt we had to listen to certain advice. Not until we've had a variety of unfortunate experiences do we begin to remember the importance of being a good listener.

The ability to listen well contributes much to human development. People do learn from mistakes and from trial and error, but many of the errors can be avoided if they learn to listen to people who have experienced similar situations.

**The trade-off**—When we spend our money, we expect good service or a good product in exchange for the money spent. Customers can inspect and use the product only after purchase. But sellers of professional services are scrutinized in three stages: before, during and after the service is provided.

Therefore, your employees and the company they represent are both under scrutiny by the customer through the length of the contract.

Along with the physical abilities required to perform professional lawn and landscape management services, your employees must be able to communicate with your customers. Many employees love to talk, and will often talk to their hearts' content. But these same employees may not realize the

importance of *listening* to the customer, and must find a happy medium between prolonged talking and attentive listening.

**How to listen**—When your employees listen to (and address) customer concerns, the customer feels more comfortable about both the property and your company. Effective listening builds, sustains and expands customer confidence.

A new customer, for instance, may be unsure about what he or she expects from the service. The simplest way to overcome this obstacle is for employees to ask questions so they can better understand what the customer expects.

Have your employees do the following to improve their listening skills:

- Ask questions during a conversation rather than during a question-and-answer session. Allow questions to flow with the conversation.

- Restate their understanding of what the customer said.

- Ask the customer to restate his or her answer to a question. This serves two functions. First, your employee might not have completely understood what the customer explained. Second, asking a question a second time requires the client to re-think his or her answer and breaks it down into simpler terms, often clarifying what was intended to be said. Both frequently cause the client to change his or her position after better understanding what he or she expects.

Your customers often enjoy the satisfaction of coming home from work or stopping by on their way out for the day to observe the progress made on the property. These opportunities allow your employees to interact and listen to the customer while the job is in progress.

**Careful follow-up**—After a job is completed, most lawn and landscape companies will follow up. Most programs, however, don't integrate the customer's suggestions with the ongoing operations. Companies might record the customers' suggestions but never apply them—which, more often than not, only enhance the services it can provide.

Customers who actively participate in a follow-up program are extremely valuable to your company, because they are willing to share their positive, negative or indifferent feelings about your service.

Good listening is essential if a company wants to experience the most value from a customer. Before and during a job, listen-

## Listening Skills

Have your employees do the following to improve their listening skills:

- Ask questions during a conversation rather than during a question-and-answer session. Allow questions to flow with the conversation.
- Restate their understanding of what the customer said.
- Ask the customer to restate his or her answer to a question.

ing should focus on the customer's needs and how these needs can be met. By listening to customer comments after the job is completed, your company can measure how well it did what the customer wanted.

—The authors are affiliated with Wandtke & Associates, 2586 Oakstone Dr., Columbus, OH 43231. For more information about the managerial and financial services the company provides, phone (614) 891-3111 or fax (216) 891-7698.

## THATCH MANAGEMENT!

## THATCH BUSTER

Cellulose Decomposing Enzyme

## PERVADE

Superior, Biodegradable Penetrant

## MAXIPLEX

Non-fulvic humic soil amendment for improved microbial activity

## FLORATINE

Creative Solutions for Turfgrass Management



179 So. Main/Collierville, TN 38017  
(901) 853-2898

Circle No. 109 on Reader Inquiry Card

# The care and feeding of customers

**Review your current customer relations system as the season winds down. It's never too late to make some changes.**

by John B. Calsin, Jr.

■ Do we really need another article on customer service? Yes!

An article on a new piece of equipment or control product would be nice. But if your care and feeding of customers is nothing more than waving to the customer as you walk behind your mower, read on.

Whether you are a sole proprietor with one truck and a few pieces of equipment, or the division head for a regional or national company, it's critical that you improve customer service and/or keep your customers happy.

**Tackling complaints**—"We really strive for customer service," says Chuck Feld, vice president and 19-year employee of J. Franklin Styer Nurseries in Concordville, Pa. This 105-year-old company is a frequent winner at the Philadelphia Flower



Show. It supports a large garden center, has four architects on staff and nine crews on the road.

According to Feld, Styer does not consider itself big enough to have a specific customer service department or representative, but it does have a plan to handle customer complaints.

If there is a complaint, it goes directly to the salesman who sold the job. This person tries to solve the problem. Even if the customer is at fault, "we usually just take care of it," says Feld.

The company does all it can to satisfy the customer, and guarantees its plants for two years.

If the salesperson is not able to remedy a problem due to a personality conflict or design problem, the complaint moves up to the vice president.

This does not happen often, however. "The salesperson has full responsibility to take care of it and full power to take care of that customer," explains Feld. They can't "give away the store," but Styer wants to "make sure (the customer) is happy."

Feld believes professionalism is the reason why there are so few complaints about the company's work.

In other words, do the job right the first time.

**Keep customers informed**—Styer also distributes handouts to customers:

✓ A doorcard checklist is signed by the foreman and left with the customer.

✓ A printed maintenance sheet with instructions for proper irrigation.

✓ "A Basic Primer on Garden Insect and Disease Control" contains instructions for applying control products.

It comes down to harmony versus good agronomy. John Carson, division manager of Ehrlich Lawn and Tree Care, says,

"We're really trying to focus on customer service issues as opposed to agronomic issues. I think it is becoming less important what materials (for example, the former industry battle of liquid materials vs. granules) you're using and much more important how the customers are relating to the services."

Ehrlich operates in a multi-state area, and is headquartered in Reading, Pa.

**'It's a heck of a lot cheaper to keep (customers) than to gain new ones.'**

—John Carson

Carson says the company did a quality-of-service survey four years ago. Representatives talked with current customers who were satisfied, and those who had left.

"The number one, glaring issue," Carson noticed, "was that customers want to hear more about what's happening with their service, and they want to hear it from the person who is providing the service—the technician. The customer wants to be reassured that the company is trying to do all that is necessary."

Training for technicians—the front-line service people—incorporates customer service issues. It includes role playing between service technicians, in which one takes on the role of the customer.

Technicians speak with the customer before and after the service is provided. These chats cover treatment, problems and expected results.

This way, customers are not left wondering what is going on with their lawns or trees. It also helps to cut down on nervous or angry telephone callbacks. For example, the customer is told that certain weeds may take two to three weeks to die back, and that others may show up before the next treatment.

Carson believes that, especially in the lawn care business, there is a trend to sell on price, and acquire new customers through discount programs. This, natural-

## Customer relations guidelines

- Answer the phone by the third ring, no matter how busy you are
  - Answer with a smile
  - Be polite
  - Speak slowly
  - Answer questions to the best of your ability
  - Customer complaint form is filled in with information, which is used later.
- For landscape designers:
- Return calls the same day they come in
  - Set appointments within the next week
  - Keep the appointment, and be there on time
  - Dress neatly

—J.C.

ly, effects a company's profitability and its ability to pay professional, year-round technicians and other employees, which in the long run impacts employee turnover.

Carson states that Ehrlich realized it has to maintain competitive pricing levels. "We are not going to sacrifice profitability and we're not going to sacrifice what we believe we need to pay professionals technicians, year-round as we can make them."

This is a fine line. "Customer service is the basic guiding principle of our firm," says Terry S. Wallace, president of Landscape Services of Kennett Square, Pa. When she bought the business in 1980, it grossed \$300,000. This year, Wallace expects \$1.5 million in gross sales.

**The issue**—Several years ago, Wallace came to the conclusion that customer service was "the key issue" in today's market. Her company started a couple of initiatives to improve customer relations, which also included a customer survey. Some of the customers' concerns were caused by common industry problems (such as phone calls not returned promptly, or missed

## Handling the gripes

### ■ Advice from Lawrence

Kokkelenberg, popular speaker at the PLCAA show, for handling customer complaints:

- 1) Establish in the first three minutes of a conversation with the customer that you are going to be helpful.
- 2) Never point to a customer's errors.
- 3) Try to avoid the word "you;" instead, use the customer's name in conversation.
- 4) Draw the customer out by engaging

appointments).

"(These are) basic things we could have figured out ourselves," says Wallace, but hearing it from the public made a big impact.

The company also provides a number of informational pieces which deal with different aspects of the service the customer will receive and what they might expect.

in conversation.

- 5) Use nurturing words like "I can appreciate your concern."
- 6) Always try to be calm: use gentle gestures and a gentle tone of voice; be reassuring.
- 7) Give bad news only when after the customer is settled down.
- 8) Use common sense. Assume you are dealing with a person who possesses a good bit himself or herself, and he/she will respect you more.

Included with each bill is a letter of appreciation and a questionnaire, to learn what can be done to make the service better. They also send out complete, specific maintenance instructions for every type of plant used on site.

*The author is a freelance writer and president of Lighthouse Writing Services, Inc., West Chester, Pa.*

**Tested by Lawn Care Professionals and Homeowners**

## All of the Features, None of the Hassles!

The AERATOR™ from TURFCO® offers so many valuable features it's impossible to list them all here. Like all TURFCO equipment, the AERATOR is specially designed to meet the tough demands of professional lawn care and rental operations.

Separate throttle and clutch controls, along with our unique drum-forward design, provide superb control, so even first-time users can get professional results. Sturdy bumpers on the front and sides allow operation close to fences and other objects without worry — and they're also handy for loading and tiedown.

Design features include a fully enclosed drive chain to eliminate the excessive wear that's so common with most other brands, and box-frame construction that eliminates unnecessary welds while keeping the AERATOR compact enough to fit through a 32" gate.

Aerate up to 26,000 sq ft per hour with 2-3/4" deep penetration, using your choice of Honda or Briggs and Stratton power.



Converts in minutes with our exclusive sod-roller option, giving you the value of two machines at a fraction of the price!



**TURFCO**®

MFG. INC. • 1655 101st Avenue NE • Minneapolis, MN 55449-4420 • Phone: (612) 785-1000 • FAX (612) 785-0556

**AERATORS • SOD CUTTERS • EDGERS • DRILLING UNITS • POWER RAKES • PIPE PULLERS**

# DO YOUR COMMUNITY LEADERS HAVE THE FACTS ON WATER POLLUTION AND THE ROLE OF TURF?



## MAIL THIS FORM AND WE'LL HELP YOU GET THE FACTS TO THE RIGHT PEOPLE

Local water departments are focusing on something called "nonpoint source pollution"—chemicals from no specific source, such as a lawn, that appears in water runoff and groundwater. Some departments are actually sending bill stuffers or notices to customers asking them to "use pesticides sparingly on lawns" and to "control fertilizer use on lawns." Much of this information indicates a lack of knowledge about the important role turf plays in reducing runoff and chemical leaching into groundwater.

It's time to tell your side of the story to share facts with influential people. And to help you do that, we've developed a program that includes a

letter and a video. You can get them and make personal calls yourself. Or, if you're too busy, just give us your directions and we'll handle it for you.

Either way, all you have to do is fill in the form below and mail it today. We'll help you set the record straight by informing your community leaders about the positive benefits of turf. The 10-minute video is titled "The Value of Turf to Water Quality and the Environment." The letter is customized to the target audience and outlines the key messages to inform influential people about this important issue.

Fill in the form and mail it now.

Mail to: PLCAA Education & Research Foundation  
1000 Johnson Ferry Rd., NE, Suite C-135  
Marietta, GA 30068-2112  
Fax: (404) 578-6071

YOUR NAME \_\_\_\_\_

YOUR ADDRESS \_\_\_\_\_

COMPANY NAME \_\_\_\_\_

YOUR PHONE \_\_\_\_\_

**PAYMENT:** \_\_\_\_\_ check \_\_\_\_\_ Visa \_\_\_\_\_ MasterCard SIGNATURE \_\_\_\_\_

ACCOUNT # \_\_\_\_\_ EXP. DATE \_\_\_\_\_

Enclosed is my check for the amount of \$ \_\_\_\_\_ made payable to the PLCAA Education & Research Foundation for the following services:

**SEND ME THE "VALUE OF TURF" VIDEO AND LETTER;** I'll contact the right people myself and explain the benefits of turf.

My tax-free donation is \$25 x (quantity) \_\_\_\_\_ = \$ \_\_\_\_\_.

**PLEASE HANDLE THIS FOR ME;** I'm too busy right now.

My tax-free donation is \$25 x (mailings) \_\_\_\_\_ = \$ \_\_\_\_\_.

Please provide the following information for every video you want the Foundation to mail for you. Send to:

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

DEPARTMENT \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE ( \_\_\_\_\_ ) \_\_\_\_\_

PLCAA EDUCATION & RESEARCH FOUNDATION

LANDSCAPE MANAGEMENT MAGAZINE



# CLEVELAND

## RENEWING *the* AMERICAN CITY



ASLA's 1995 Annual Meeting and EXPO offers the most ambitious and comprehensive educational agenda ever for understanding landscape architecture! From the opening keynote address through the closing reception, this year's program is dedicated to providing you with inspiration and practical solutions to benefit you and your practice. The "Renewing the American City" theme will be our platform to address real life questions and solutions facing our cities, as we use Cleveland as our learning laboratory. Here are just a few of the Education Sessions that you won't want to miss:

- **Landscape Architects and the City Planning Movement in America** —
- **Restoring Natural Communities** —
- **Site Management Planning: An Emerging Frontier** —
- **The Business of Sports-Facility Planning, Design and Economics** —
- **The New Urbanism** —

Call 1-800-787-2752 or fax 1-800-787-1001

**REGISTER TODAY FOR THE 1995  
ASLA ANNUAL MEETING AND EXPO!**



## Fall fertilization of turfgrass

**Research suggests many different effects, many different approaches. Weigh them all before making any applications.**

by Paul Rieke, Ph.D.  
Michigan State University

■ Fertilization is a priority for fall and late-fall turf management. Fall fertilization is one of the most important turf management practices done that has a major effect on the quality of turf the following spring.

### **Phosphorus and potassium—**

The key nutrient in fall fertilization is nitrogen, but phosphorus and potassium are also key nutrients. Certainly, these nutrients should be available to the turf in adequate quantities.

For example, when potassium is limited, there is a probable reduction in stress tolerance—including potential for low temperature injury to turf during winter. Some evidence also suggests an increase in susceptibility to snow mold when potassium is limited.

Use a soil test for medium and fine-textured soils to be sure there is adequate potash in the soil. If it suggests potash is needed, appropriate rates should be applied based on recommendation and

common sense. For turfs on sands, soil tests for potassium are usually low in spite of a potash fertilization program. Regular, light applications of potash at frequent intervals (spoon feeding) should be made on sandy soils, particularly on sand greens.

At the time of late-fall fertilization, about half as much potash should be applied as nitrogen on finer-textured soils. On sands, use equal quantities of nitrogen and potash.

If soil tests show a phosphorus deficiency, it can also be applied in the fall, normally in a complete fertilizer. Seldom is phosphorus limited on turf. An exception is when no phosphorus has been applied and clippings are routinely removed.

Another potential exception is on sand greens, which have little capacity to hold phosphate. We have seen several cases of phosphorus deficiency on sand greens, more commonly on new greens, but also on older greens where no phosphorus has been applied for some time. Soil tests must be used to determine the need for phosphorus.

**N in the fall—**For cool-season grasses, both fall and late-fall fertilization should be considered.

Fall fertilization is best done during September, preferably early in the month. Weather

changes in late-summer, shorter days, cooler nights and more regular rainfall cause the turf plant to grow at a less rapid

vertical rate than it will during the spring. More lateral growth results in better turf density after the rigors of the summer. So fertilization in the fall deserves top priority. Carbohydrates manufactured at this time of year will be more likely to be stored, building up the plant for next year.

Appropriate rates of nitrogen applied during the fall period depend on a number of variables, ranging from ½ to 1 lb. N/1000 sq. ft.

A higher rate may occasionally be justified at times such as:

- on a newly-established turf which has suffered serious thinning over the summer due to injury from diseases, insects, traffic or moisture stress;
- in areas where an extensive weed population has been controlled, leaving open areas.

On general turfs (lawns, grounds, etc.) all the nitrogen can be applied in one application. For greens and other high maintenance turfs, you can use two split applications if the higher rate of nitrogen is needed. An alternative is to use a fertilizer which contains more slow-release nitrogen. Or, a spoon feeding program with weekly applications of soluble sources can be used, particularly on greens.

Normally, it is best to withhold nitrogen applications during October to permit the turf to "harden off." This permits the turf to accumulate carbohydrates and reduces the potential for frost injury if the turf softens before a major freeze.

**Timing—**In part because of differences in climatic zones and variations in the severity of seasons, there are many opinions as to how and when to apply nitrogen in late fall.

From my perspective, the objective is to supply nitrogen to the turf after growth has ceased. The root system is still active, as the soil is warmer than the air, and nitrogen can still be taken up and used by the plant.

If N has been applied properly in September, the turf should still be green and active. This permits the plant to continue photosynthesis whenever modest



**Dr. Rieke says you should supply N after growth ceases, but while soil still warm.**

temperatures and some sunlight conditions occur. Carbohydrates manufactured during this time are not "burned off" with growth and clippings, but are stored. This builds up the plant for next spring.

The rate of nitrogen application will again vary with turf conditions and the philosophy of the turf manager.

- For greens,  $\frac{1}{2}$  lb. N/1000 sq. ft. may be sufficient.

- If tees are still thin from traffic, especially on par 3 tees,  $\frac{3}{4}$  to 1 lb. may be needed.

- Fairways could receive  $\frac{1}{2}$  to  $\frac{3}{4}$  lb.

- Lawns and general grounds can receive  $\frac{1}{2}$  to 1 lb. N.

Some turf may perform better without late fall nitrogen. Some lawn care companies cannot justify the cost of late-fall nitrogen for customers who may not continue with their services the next year. However, turf quality the next spring should be excellent about the time spring sales begin.

**Snow mold caution**—Snow mold was severe on many turfs over the winter of 1992-93. Some of the greater infestation was aided by late fall nitrogen applications.

If turf is hit hard by snow mold nearly every year, and no snow mold prevention

## Late fall nitrogen: pros and cons

### PROS

- + Good carbohydrate levels in the turf next spring.
- + Good early spring root growth.
- + Good fall and spring color.
- + Good turf density; less spring weed establishment.
- + Good turf color in spring.

### CONS

- Nitrogen may leach.
- More mowing, affecting snow mold and other winter injury.
- May increase susceptibility to thatch formation to some degree, based on evidence from Ohio State University.
- Small increase in mowing in spring.

program is followed, it may be best to avoid late-fall nitrogen. In most years, the late fall N may increase the amount of snow mold, but there is a much quicker recovery from injuries.

Snow mold damage may be more superficial with the late fall nitrogen and/or the recovery is quicker. Either way, the next spring the turf returns to a better quality condition sooner with late-fall nitrogen.

For the Great Lakes region, we suggest applying the nitrogen after growth has ceased for all practical purposes.

This does not mean there will be no need to further mowing, but regular mowing will not be needed.

An additional mowing or two may be required before growth ceases entirely. This occurs anywhere from the last week of October to the second week of November.

Avoiding early spring nitrogen has the advantages of reduced carbohydrate loss caused by excessive growth, less mowing, potential reduction in several diseases and greater moisture stress tolerance during the summer.

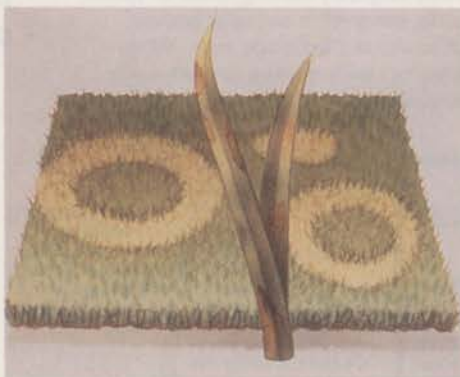
—Dr. Paul Rieke is a turfgrass specialist at Michigan State University. This article is excerpted from a paper he wrote for Hole Notes.

## Take the bite out of summer patch

■ Summer patch is one of the most destructive diseases of cool-season turf in North America. Prior to 1984 it was an unidentified component of the disease Fusarium blight. Summer patch has been reported on annual bluegrass, Kentucky bluegrass and fine fescue.

**The symptoms**—In mixed stands of annual bluegrass and bentgrass maintained under putting green conditions, patches are circular, 1 to 12 inches in diameter. As annual bluegrass yellows and declines, bentgrass species frequently recolonize patch centers. On fairways, rings or patches may not develop; symptoms may appear as diffuse patterns of yellowed or straw-colored turf that are easily confused with heat stress, insect damage or other diseases.

Infection commences in late spring when soil temperatures stabilize between 65-68 F. Symptoms develop during hot (86-95 F.) rainy weather or when high



### To reduce summer patch

- ✓ raise the height of cut
- ✓ aerate in spring and fall
- ✓ fertilize with acidifying N sources
- ✓ convert from annual bluegrass to bentgrass

temperatures follow heavy rainfall. Patches may expand through the summer and early autumn and are often still evident the following growing season.

**Chemical control**—Systemic fungicides such as fenarimol (Rubigan), propiconazole (Banner), triadimeton (Bayleton), and the penimidazoles (i.e. Tersan 1991, Fungo 50, and Cleary 3336) are most effective applied at label rates. Begin preventive applications in late spring or early summer when the maximum daily soil temperature exceeds 60° F. for four or five consecutive days. Monitor soil temperatures at a two-inch depth during the warmest part of the day. Repeat fungicides two to three times at 21-28 day intervals. Control is enhanced by applying products in 4-to-5 gallons of water per 1000 sq. ft. Post-treatment irrigation does not seem to increase control.

**Cultural control**—Because summer patch is a root disease, cultural practices

that alleviate stress and promote good root development to reduce disease severity. Avoid mowing turf below recommended heights, particularly during periods of heat stress. Summer patch is stimulated at high soil pH. Maintain soil pH between 5.5 and 6.0 with the application of ammonium sulfate or a slow-release nitrogen source such as sulfur-coated ureas. Conversion of golf areas from annual bluegrass to bentgrass will further reduce disease incidence.



**Clarke: Maintain soil pH between 5.5 and 6.0.**

reduce fungicide rates 25-50 percent. Acidifying fertilizers and systemic fungicides have also been used on golf greens to effectively control summer patch and increase the population of bentgrass 11 to 20 percent over a three-year period.

—Bruce B. Clarke, Ph.D., Rutgers, presented this information at the 1994 Turf-Seed Field Day, Hubbard, Ore.

**CORRECTION**

■ The systemic vs. contact fungicides "definition" debate has returned, after an article in our July issue.

A reader called to say that the article on page 29—which was supplied to LM—misidentified thiophanate, Chipco 26019, Vorlan and Curalan as contact fungicides.

We spoke with Scott Werner of Lincolnshire Fields, about whom the article was written. He agreed that thalonil was the only "true" contact fungicide mentioned in the article, which was also the opinion of our caller.

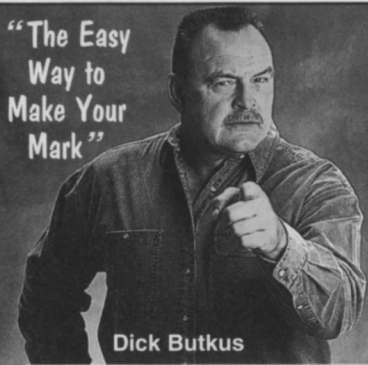
Werner explained there has long been a difference of opinion as to how the product action of fungicides should be described. Werner said there is no danger in combining these products, but agreed that some clarification was in order.

We spoke with Dr. Bruce Clarke of Rutgers University. He describes thalonil, Vorlan and Curalan as contact fungicides, while thiophanate and Chipco 26019, he says, are systemic fungicides. Others may prefer to call them "penetrants," while many turf pathologists will say the only "true" systemic is Aliette.

If you have questions on fungicides, contact your supplier or an extension turfgrass pathologist.

LANDSCAPE MANAGEMENT regrets any inconvenience this may have caused.

"The Easy Way to Make Your Mark"



Dick Butkus

Football Great Dick Butkus says, "Mark Anywhere Quickly and Easily with the Original Upside Down Aerosol Power Paint Cartridge!"

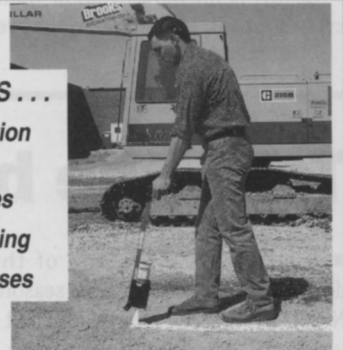
**easy marker®**

"Meets temporary marking needs for special events, construction and utility projects, golf course and landscape work. Saves money by clearly marking work sites with instructions to avoid costly mistakes."

*Dick Butkus*

**SOME USES . . .**

- Construction
- Utility Companies
- Landscaping
- Golf Courses



Also from FOX VALLEY SYSTEMS

**SUPER STRIPER®**  
**STRIPE . . . \$49<sup>95</sup>**  
 • Parking Lots!  
 • Warehouse Floors!  
 • Athletic Fields!



**SUPER STRIPE® TRAFFIC POWER PAINT CARTRIDGES** Perfect for either covering old faded lines or for striping new ones. Paint is fast drying, offers one coat coverage even on a variety of surfaces and comes in eight choices of colors. One case will cover about 2,400 linear feet of bright crisp 3" lines.

12 (18 oz.) cans per case \$49<sup>95</sup>



**SUPER SUPREME® TRAFFIC POWER PAINT CARTRIDGES** Our best paint is specially formulated with modified acrylic for a harder finish. Ideal for heavy traffic areas.

\$69<sup>95</sup>  
 12 (18 oz.) cans per case

U.S. patent numbers 4126273, 4895304, 4940184, 4943008, 4946104, D320757, D324053

**GREAT FEATURES . . .**

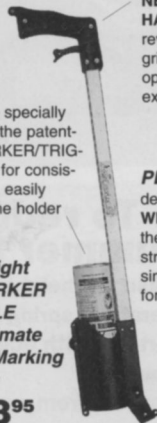
**SPRAY CAN** - specially designed with the patented EASY MARKER/TRIG-A-CAP nozzle for consistent paint flow, easily inserted into the holder

**Lightweight EASY MARKER HANDLE** is the Ultimate Temporary Marking Tool!

Only \$8<sup>95</sup>

© 1995 FOX VALLEY SYSTEMS, INC. U.S. and foreign patents pending

**NEW COMFORT HANDLE** - revised plastic grip with locking option for extended use



**PLUS . . .** detachable **Wheel** to aid in the application of straight lines - simply remove for freehand use!

**easy marker® / trig-a-cap® POWER PAINT CARTRIDGES**

Best paint on the market because it's loaded with pigment which means you get more marks from every can, about 2 1/2 miles per case! Available in paint cartridges or in chalk for less permanent marking. Can be used out of the holder for hand marking. Made *exclusively* for use in easy markers and for handheld applications. Call for the full selection of colors.



12 (17 oz.) cans per case \$28<sup>50</sup>

See your local dealer for product information or call:

**1-800-MARKERS**  
 1-800-627-5377  
 DEALER INQUIRIES INVITED

**FOX VALLEY SYSTEMS, INC.**

DEPT. 4221 • 640 INDUSTRIAL DRIVE • CARY, ILLINOIS 60013  
 The Old Fashioned Company with Old Fashioned Values

# GIE Bull's-Eye!

**S P O N S O R S**



**PLCAA**

**PGMS**

November 12-16, 1995  
Fort Worth, Texas  
Fort Worth/Tarrant County Convention Center

## GIE Sponsors:

Associated Landscape  
Contractors of America  
(ALCA)  
(703) 620-6363

Professional Lawn Care  
Association of America  
(PLCAA)  
(404) 977-5222

Professional Grounds  
Management Society  
(PGMS)  
(410) 584-9754

## Hit a Green Industry Expo (GIE) bull's-eye on the first try.

How? Sign up for any of three educational conferences offered by the GIE sponsoring associations—ALCA, PLCAA and PGMS—and you can “shop” the green industry’s leading national trade show **FREE!** What a deal. You can mix and match sessions on management, marketing, customer service, landscaping, lawn care and grounds management techniques. Expert speakers available on all green industry topics—*you just sign up once, and pick and choose your schedule.*

**All for ONE great price.**

For more information on educational conferences held in conjunction with the GIE, FAX or mail your request with this coupon. We'll let you know *real quick* how you can learn and save at three national conferences during “A Show So Big, It Could Only Be Held in Texas”—GIE, that is.

Circle No. 132 on Reader Inquiry Card



## Hit a Bull's-Eye...

**Request Conference & GIE information Today!**

Mail or FAX coupon to: Conference Information, 120 Cockeysville Road, Suite 104, Hunt Valley, MD 21031/FAX (410) 584-9756.

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

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

Phone ( ) \_\_\_\_\_ FAX ( ) \_\_\_\_\_

# HOT TOPICS

## Survey tracks spread of Ambrosia beetle

by James E. Guyette  
Contributing Editor

**COLLEGE STATION, Texas**—The Asia ambrosia beetle is creating havoc in several nurseries in East Texas. This spring the pest did a minimum \$5,000 damage in one nursery alone.

"We've got a lot to learn about this insect," says Bill Ree, a Texas A&M University research entomologist.

Ree is surveying entomologists in 25 states—from Florida to Maine and as far west as Oklahoma—to determine the beetle's migration patterns.

The ambrosia beetle was first found in the United States in Charleston, S.C., in 1974. It was first identified in Texas in 1985, and under a statewide monitoring program started in 1994, it is now seen in 41 Texas counties. Because many Texas nurseries send their stock elsewhere the impact of the beetle could be more widespread than previously believed.

The only control method specialists can recommend so far is to burn any infected trees—which is something Ree

had to recently tell one nursery owner. "When you have a 5- to 6-year-old (infested) Shumard oak in a 30-gallon bucket and you have to tell her to burn it, that's pretty hard," says Ree. A tree like that can retail for as much as \$250, he says.

The pest attacks numerous woody plants, and its damage may be identified by the toothpick-like spines that protrude one-and-a-half inches from the host plant. These spines are the "sawdust" left after the female bores into the host to make brood galleries.

The ambrosia beetle bores horizontally into the tree, not vertically like most pests. This eventually causes more damage to the different sections or layers.

"The number of infestation sites on a host plant will determine whether it will die," Ree reports.

The pest has been found in Shumard oak, burr oak, chinquapin, red bud, Chinese pistachio, Mexican plum, golden raintree, Bradford pear, and pecan trees.

Ree can be reached at (409) 845-6800.



## Musser names major scholarship winner: UM's Paul Johnson

**SHARON CENTER, Ohio**—The Musser International Turfgrass Foundation has awarded Paul G. Johnson \$6,000 toward pursuit of a Ph.D. degree in horticulture from the University of Minnesota.

"This kind of award indeed reminds me of the kind of support the turfgrass industry has for students like myself," says Johnson. "In my mind, no other industry group shows this kind of support."

"I also look forward to showing my appreciation by serving this great bunch of people in any way that I can."

Johnson, 30, would like to teach and to conduct research in turfgrass breeding and genetics. His doctoral thesis is on "Genetics and Physiology of Flowering on Selected *Poa Annua L.*"

Professor Burton Musser, for whom the scholarship is named, was a turfgrass pioneer for four decades at Penn State University, according to foundation president Frank Dobie. "The foundation is dedicated to promoting that same kind of pioneering individual," he says.

Over the past seven years, \$63,000 in scholarships has been awarded.



## New study backs no-risk studies on golf of the past

**BELLE GLADE, Fla.**—Avid duffers are not at risk from pesticides applied religiously to golf courses, according to a new study from the USGA and 11 universities, including the University of Florida.

"From the pesticides that we have studied, there's not much danger for the golfer," says soil chemist George Snyder of Florida's Institute of Food and Ag Sciences (IFAS) at Everglades Research and Education Center. "We think it's really mini-

mal, based on what we've seen so far."

Snyder and his colleagues, including chemist Curtis Elliott, began a \$2.7 million, USGA-funded environmental study three years ago.

He and turfgrass scientist John Cisar conducted their study on a specially-constructed USGA-specified green. In one phase of their work, they determined the amount of pesticide residue left on used golf shoes, golf pants and on golf balls. As

part of their studies, the scientists walked around the course, knelt on the grass, and even putted balls. They also measured what amounts of pesticides remained in the soil and in runoff groundwater.

"We concluded that most organophosphate insecticides are strongly absorbed into the golf courses' thick thatch layer," says Snyder. "Even less of the pesticide penetrated into the soil and very little seeped into the percolated water."