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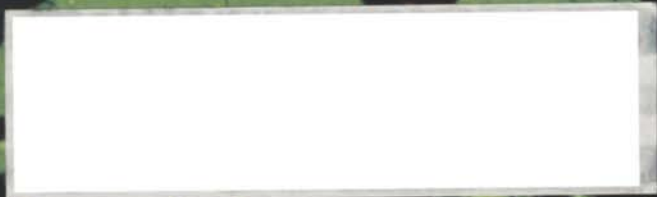
LANDSCAPE MANAGEMENT

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ISSUES '94

COPING WITH:

- ▶ Pesticide storage & containment
- ▶ RCRA/hazardous waste
- ▶ Community relations
- ▶ Public perceptions
- ▶ Pesticide training





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AS WE SEE IT

TERRY McIVER, MANAGING EDITOR



Expect the little mistakes, even if you hire the best

Of the three jobs I had during high school, the best one was assistant greenskeeper at a public golf course.

It was the best job a kid could want; outdoors all day, using equipment I'd never before seen or operated, and the pay was good. There was even time for a little excitement.

Some days into the job, my partner and I were riding in a utility vehicle (called a 'Cony'; do they still make those?) across the number two fairway. We were goofing off as we rode, laughing over the way he impersonated one of our bosses, an old-timer whose mission in life that summer was to make sure we stored the hoses correctly (this course had no underground irrigation system).

We were distracted and didn't see a long ditch—it was a creek if there was rain—dead ahead, running through the middle of the fairway. The vehicle plunged down and I went flying through its make-shift, plexiglass windshield and plywood frame (this was one well-used machine).

We watched as the vehicle, now imbedded in the landscape, leaked oil onto a patch of fairway. We were addled, afraid (what if the guy who got me this job found out?), looking around for witnesses. This was one of those moments you never forget, like the time you were stung by a swarm of bees or had dirty creek water poured over your head by a bigger, much nastier kid down in the neighborhood woods. (Ever happen to you? Be glad it didn't.)

We were called in front of some city hall bigwigs (this was a city-owned course) and, as nearly as I can remember, struggled through a few clumsy minutes trying to explain what had happened. Try as we might to explain otherwise, they insisted we were goof-offs. It's true we weren't being alert, but we certainly weren't looking to cause a wreck.

We were suspended a week without pay.

The rest of the season passed without incident; just a scolding from the club pro some time later when I drove the same truck onto a tee.

But as I compare myself to some of the other guys who worked there that summer, I was one of the best. They were right to keep me.

- I was always on time.
- I learned quickly, and became a pretty good greens mower.
- I looked presentable, unlike a couple guys who helped destroy the super's faith in "the kids of today." But even metal heads needed to work.

- I did what I was told, which was a lot better than trying to look busy.

- I didn't drive yet, or own a car, so I had to eat lunch at the course, which meant I never came back late from "tooling around."

- Most importantly, I knew when to keep my mouth shut, and what not to do.

The work we had to do wasn't very complicated. The super's always been the one with the tough job.

Still, there's no sense in asking for trouble. Three months can seem like three years with bad help.

So, when you look for high school or college age help this summer, look for someone who you think has an understanding of the responsibility involved.

Someone like...me.

And remember: cut them some slack for the little mistakes.

Accidents *will* happen.

Terry McIVER

RIDERS

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LANDSCAPE MANAGEMENT

'WE KNOW YOUR TURF'

APRIL 1994 VOL. 33, NO. 4

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ASK THE EXPERT

DR. BALAKRISHNA RAO



Plants to transplant in spring and fall

Problem: Which landscape plants transplant easily in the spring and fall? Is there an ideal season for transplanting? (Michigan)

Solution: The following information should be helpful. However, many landscapers may perform their landscaping in the fall as it may fit their work schedule. Generally, we may be better off to plant in the spring in the northern U.S. Fall transplanted plants may be more susceptible to low temperature injury.

Woody plant	Ease ¹	Season ²
Fir.....	1-2.....	Early spring
Maple.....	1-2.....	
Buckeye, horsechestnut.....	2.....	
Alder.....	1.....	
Downy shadblow.....	2-3.....	
Birch.....	2-3.....	Early spring
Am. hornbeam.....	4.....	Early spring
Hickory, pecan.....	3-4.....	Early spring
Catalpa.....	1.....	
Hackberry.....	1.....	
Katsura-tree.....	2.....	
American redbud.....	2.....	
Fringetree.....	2.....	Early spring
American yellowwood.....	2.....	Early spring
Flowering dogwood.....	3.....	Early spring
Hawthorn.....	1-2.....	
Russian Olive.....	2.....	
Beech.....	2-3.....	Early spring
Ash.....	2.....	
Ginkgo.....	2.....	Early spring
Common honeylocust.....	1.....	
Kentucky coffeetree.....	2.....	
American holly.....	2-3.....	Early spring
Walnut, butternut.....	3-4.....	Early spring
Goldenrain tree.....	2.....	Early spring
Laburnum.....	2.....	Early spring
Larch.....	2.....	Early spring
American sweetgum.....	2-3.....	Early spring
Tuliptree.....	2.....	Early spring
Osage orange.....	1-2.....	
Magnolia.....	3.....	Early spring
Apple, crabapple.....	1-2.....	
Tupelo, black gum.....	3-4.....	Early spring
American hophornbeam.....	4.....	Early spring
Sourwood.....	2-3.....	Early spring
Corktree.....	1.....	
Spruce.....	1-2.....	
Pine.....	1-2.....	
Planetree, sycamore.....	1.....	
Poplar.....	1.....	Early spring
Cherry, plum.....	2-3.....	Early spring
Golden larch.....	2.....	Early spring
Callery pear.....	1.....	
Common pear.....	1.....	
White oak.....	3-4.....	Early spring
Scarlet oak.....	2.....	Early spring
Shingle oak.....	2.....	Early spring
Pin oak.....	1.....	
Sumac.....	1.....	
Willow.....	1.....	Early spring

1 Rated according to ability to regenerate new root system and tolerance to stress following transplant. 1= transplants most readily; 4= most difficult to transplant.

2 Early spring signifies both early spring or late winter before growth starts. No season listed indicates plant can be transplanted with care almost any time.

Source: E.B. Himelick, *Tree and Shrub Transplanting manual*, ISA, 1991

Managing fire ants

Problem: What's the best way to manage fire ants? (Texas)

Solution: The queen must be eliminated before the colony dies.

The entire colony communicates through the passing of chemicals in food. Foraging ants—10-20 percent of the total colony, can only ingest liquid food. The foragers pick up "baits" and bring them to young larval ants that digest the solids to liquids for the forager/worker ants and the queen. Proteins secreted by the larvae stimulate egg production from the queen. Thus, fast-acting poisons kill the foragers, protecting the ants and queen inside the mound. Solid toxic foods are fed directly to the larvae, killing them and thus reducing their effect on the queen.

Quick-killing materials such as Dursban will only reduce the visible worker population until the queen can produce more workers. Unfortunately, this visible reduction pleases clients but will not eliminate the colony.

The best strategy for control is a broadcast bait treatment followed within three to seven days with a mound treatment. Spring and fall are the best times for this approach. The colonies actually migrate upward and downward (two to six feet) in the soil, depending on moisture and heat. The ants are closer to the surface right after a rain and during the cooler parts of the day. Do not disturb the mound when treating, as this signals the workers to relocate the queen and other ants.

You can use products such as Dursban, Orthene, Amdro or Award. Reports indicate that, if used properly, Amdro and Award will provide long-lasting results. Both these products are slow-acting, bait-containing materials. This is why it takes one to four weeks with Amdro and three to five weeks with Award baits.

(*ED. NOTE: refer to the February, 1993 LM for more on fire ant control.)

Controlling golden oak scale

Problem: How can we manage golden oak scale? (Ontario, Canada)

Solution: Use horticultural oil as a dormant treatment in the spring. Oil will suffocate and kill the egg mass. Insecticides such as Sevin, Orthene or Dursban can be used later against crawlers. The crawler emergence may vary from region to region. In a normal year in northeast Ohio, we treat crawlers around mid-May.

Try looking for these from mid-May to the end of May. If the crawlers are found, begin your treatments. Provide two to three more treatments about 10 days apart. This approach should help manage the golden oak scale problem on oaks.

In addition, consider providing proper fertilizing and watering as needed to help improve plant health.

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

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

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The government is issuing stricter and stricter guidelines for pesticide handling and storage. Here are steps LCOs can take to assure compliance.

by Kirk A. Hurto, Ph.D.
TruGreen/ChemLawn

■ When designing pesticide storage and mixing/loading areas, special consideration must be given to site development and local and state building codes. Although facility designs used in agriculture will work, professional lawn care operators need to consider modification and additional design factors.

Design considerations—Your turfgrass facility should have separate storage areas for pesticides, fertilizers and seed. Pesticides for ornamentals or total vegetation management should also be stored away from other fertilizers and chemicals.

Service trucks and other spray equipment should be filled in a warehouse with sealed floors that are diked and sloped toward a recycle sump located in the mixing/loading area.

Fertilizer storage requirements for a lawn care operator will vary with the size of the operation and its proximity to suppliers.

Typically, larger lawn care operations need 2500- to 10,000-gallon fertilizer storage tanks. Smaller lawn care operations may store dry fertilizers in separate unheated, storage buildings and transport product as needed to the mixing/loading area.

Many states require secondary containment around bulk fertilizer storage tanks. This is usually achieved with "elephant rings," diking or curbing to separate fertilizer storage areas from pesticide storage areas.

Granular fertilizer should be stored on pallets, on pallet racks where space is limited. Pesticides should be stored in secure areas in the warehouse.

Fill staging area—The fill staging area should be located over a sloped, concrete floor that drains into a recycle system sump.

The fill area for larger operations must have high capacity, metered water-pumping capability. Water supply lines must be separated from fill lines to avoid contamination. A fixed air gap or appropriate backflow prevention device is usually required by local and/or state codes.

Pesticides are loaded in several

ways, depending on the size of the operation, product formulation and handling traits, and/or handling requirements specified on the product's label.

Recent changes to pesticide label requirements will accelerate the conversion to closed delivery systems or promote products packaged in container-less water-soluble packets.

The fill staging area must have good illumination and non-porous mixing tables. Using chemical eductor systems and container rinsing devices can reduce pesticide residue in the fill area and employee exposure to materials. The area should also have a designated space for maintaining pesticide use log sheets and storing safety equipment, pesticide labels and MSD sheets.

Mixing and loading—Procedures used to fill lawn service vehicles may differ because of the volume of product used and the number of vehicles involved.

Most lawn care operations are designed as a drive-through with either overhead fill booms to add water and fertilizer solutions to the spray tank, or a series of cam-lock hose fittings to transfer product mixtures directly into the spray tank under pressure.

Many operations use a chemical eductor system to reduce applicator exposure to concentrates and to allow products to be dispensed at waist height.

Fewer injuries occur where chemical educators are installed. Chemical eductor systems require a venturi pump, properly sized for the water flow rates and water volume required. Eductor systems mix products better, which reduces incompati-

Pesticide containment and storage



For golf courses, consider this model built by Rick Tegtmeier (see sidebar).

bility between pesticides or pesticides and fertilizer solutions.

Smaller lawn care operations may not require as much automation, but the fill area design still must reduce worker exposure while mixing and loading pesticides.

Recycling systems—Recycling systems allow products to be contained and reused if inadvertently released while filling vehicles. They can also collect rinsates from washing operations.

Traditionally, recycled water is used as a substitute for 10-20% of the fresh water needed for loading operations.

Recycled water generated from mixing/loading pads should not be used in filling pesticides used on trees and shrubs. This will reduce risk of ornamental plant damage. Where applicators are involved in industrial weed control, fill staging areas should be separated from both lawn and tree/shrub fill areas.

It is recommended to wash service vehicles over the recycle pad using high-pressure low-volume power washers and low foaming truck soaps. Also, where possible, washing vehicles where pesticide residues are not a factor should be separated.

rate, to reduce pesticide rinsate water requiring disposal.

Washing operations to remove road film should be distinguished from operations to remove spray residues from the same vehicle if they are not performed over the containment pad. Besides reducing rinsate water disposal problems, there is less accumulation of sludge in the recycle sump.

You should routinely clean sludge from the sump. If it has an agitation system to resuspend colloidal matter, residue accumulation is manageable. In some states, the sludge—if properly dried—is considered non-hazardous solid waste. However, in other states, it is assumed to be a hazardous solid waste (under RCRA's TC Rule) until tested.

EPA guidelines recommend disposing of solid waste from recycle system sumps on sites where the pesticides contained in the residue are approved for use. These are reasonable for agricultural purposes, and



Shelved control products are safe, secure and easy to inventory.

many golf course operators but is more difficult for lawn care operators to follow in urban areas.

—*Re-written from proceedings of the Pesticide and Fertilizer Containment Symposium in St. Louis, February, 1994. Used with permission of Dr. Hurto and MidWest Plan Service. For a copy of "Designing Facilities for Pesticide and Fertilizer Containment," phone (800) 562-3618. Request publication MWPS-37.*

BUY OR BUILD: question of time vs. money

■ Different superintendents, blessed with different budgets, invariably pick different ways to meet pesticide storage requirements.

Rick Tegtmeier, superintendent at Elmcree Country Club, Cedar Rapids, Iowa, built his pesticide storage building a few years ago. He had his reasons, as he explained to the club's greens committee:

1) Employee safety. "The area where we had stored products had shelves adjacent to the mowers. People passed them every day, and chemicals were being knocked off shelves. It was unsafe."

2) To reduce environmental exposure. "Whenever we had a spill, there was no way to contain it. It always seemed like you could smell chemicals (in other places)."

3) "Fire department officials warned us they would not be able to enter the old building with chemicals inside."

4) Better inventory control.

Tegtmeier and his crew built a 10-by-6-by-9-foot building at a cost of \$11,500.

The building has vinyl siding, six inches of insulation and a steel door. Footings are 48 inches deep.

The floor is six inches thick, and the inside dike is one foot wide by 10 inches deep; 30 percent of the room's liquid content would be contained in a worst-case spill.

A concrete ramp allows for easier loading and unloading.

Ventilators run across the top, and it has a gabled, asphalt shingle roof. Tegtmeier says good flow-through ventilation is the most important feature. Vents were placed near ceiling height for best hot air flow, and so that fresh air is unobstructed by containers or pallets. An electric vent switch is turned on before anyone enters the building.

Tegtmeier says he would do some things differently if he could. He'd make the building larger—10-by-20 feet—with two doors, and a ramp on the inside as well.

Steve Cook of Wakonda Club in Des Moines, Iowa, took over a few months

after the club had bought a pre-fabricated building. He sees these advantages to buying a ready-made storage facility:

- 1) Time savings. Installation took only two hours.
- 2) Already approved to meet all building codes.
- 3) Can place anywhere there is a flat surface, even on gravel.
- 4) One-year warranty.
- 5) Easy to modify, add-on.

Cook says the 16-by-10-foot building at Wakonda cost \$14,500 three years ago. Total cost, with labor, concrete pad and transportation, was \$17,000. He says \$20,000 is a realistic figure for anyone looking for a similar building today.

The versatility feature may come in handy soon. Cook says storage needs have already outgrown the building.

—*Terry McIver*

What you should know about hazardous waste

■ If your company routinely uses pesticides, you should be familiar with the amendments to the Resource Conservation and Recovery Act (RCRA) that govern the handling, transportation and disposal of hazardous waste generated by Small Quantity Generators (SQGs).

Disobeying RCRA can result in penalties up to \$25,000 per day per violation.

Defining it—A waste is considered hazardous if it has one of the following characteristics: ignitability, corrosivity, reactivity or toxicity, or if it is listed in the Code of Federal Regulations.

The EPA says that pesticides include such specific wastes as:

- unusable or unidentifiable materials;
- rinse water used to clean pesticide application equipment;
- containers that hold (or held) pesticides, unless such vessels have been cleaned in accordance with regulations or label instructions; and/or
- soil or other material contaminated from pesticide spills.

Equipment which is being repaired or refurbished can also generate hazardous wastes, such as cleaning solvents, engine degreasers, carburetor cleaners, rust removers, used lead acid batteries, and paint thinners.

The EPA also says that the diluents used with pesticides give them hazardous waste characteristics.

You are one—You are a SQG, according to RCRA, if you generate between 220 and 2,200 lbs. of hazardous waste per month. Included are rinsate water, the weights of containers, and all solvents. Not included are empty containers, wastewater that has been legally discharged into a publicly-owned treatment facility, and lead acid batteries that are being recycled or reclaimed.

Those who generate less than 220



lbs. of hazardous waste a month must follow other provisions of RCRA:

- they must know exactly which of their wastes are hazardous;
- they must never accumulate more than 2,200 lbs. of such wastes on any one site at any one time; and
- they must dispose of all such waste in a manner which is approved by the state. (Check this carefully, because different states have enacted different rules.)

More yet—Other terms of the act specifically state that a hazardous waste generating company must:

- obtain an EPA Identification Number;
- identify which hazardous waste it generates; and
- never accumulate such waste on its site for more than 180 days (or 270 days if it must be transported more than 200 miles).

Wastes must be transported only by firms which have EPA Identification Numbers, comply with U.S. Department of

Transportation rules for shipping hazardous wastes and all rules relating to hazardous waste containers, labeling and safety.

Copies of all records must be retained for a minimum of three years.

The EPA also has the power—granted it through the Superfund law—to make waste generators pay part of the clean-up for environmental problems at hazardous waste disposal sites.

What to do—You can reduce risks and liabilities which can be incurred under RCRA and the Superfund law in five simple ways:

- 1) Estimate all job needs accurately so that you will not have chemical products left over after completing a specific assignment.
- 2) Never mix hazardous wastes, which can increase the total amount and make recycling difficult or impossible.
- 3) Recycle hazardous wastes whenever possible.
- 4) Document everything, and keep the records.
- 5) Watch that your disposal facility(ies) personnel follow all regulations.

—The author of this article, Bess Ritter May, is a freelance writer based in Philadelphia. She is a frequent contributor to LM.

More information

- Want more information concerning hazardous waste laws in the green industry?

Call the EPA for these free booklets: "Does Your Business Produce Hazardous Wastes?" and "Understanding the Small Quantity Generator Hazardous Waste Rules." You can also obtain a list of hazardous wastes through the EPA.

The EPA's phone number: (800) 424-9346.

—B.R.M.

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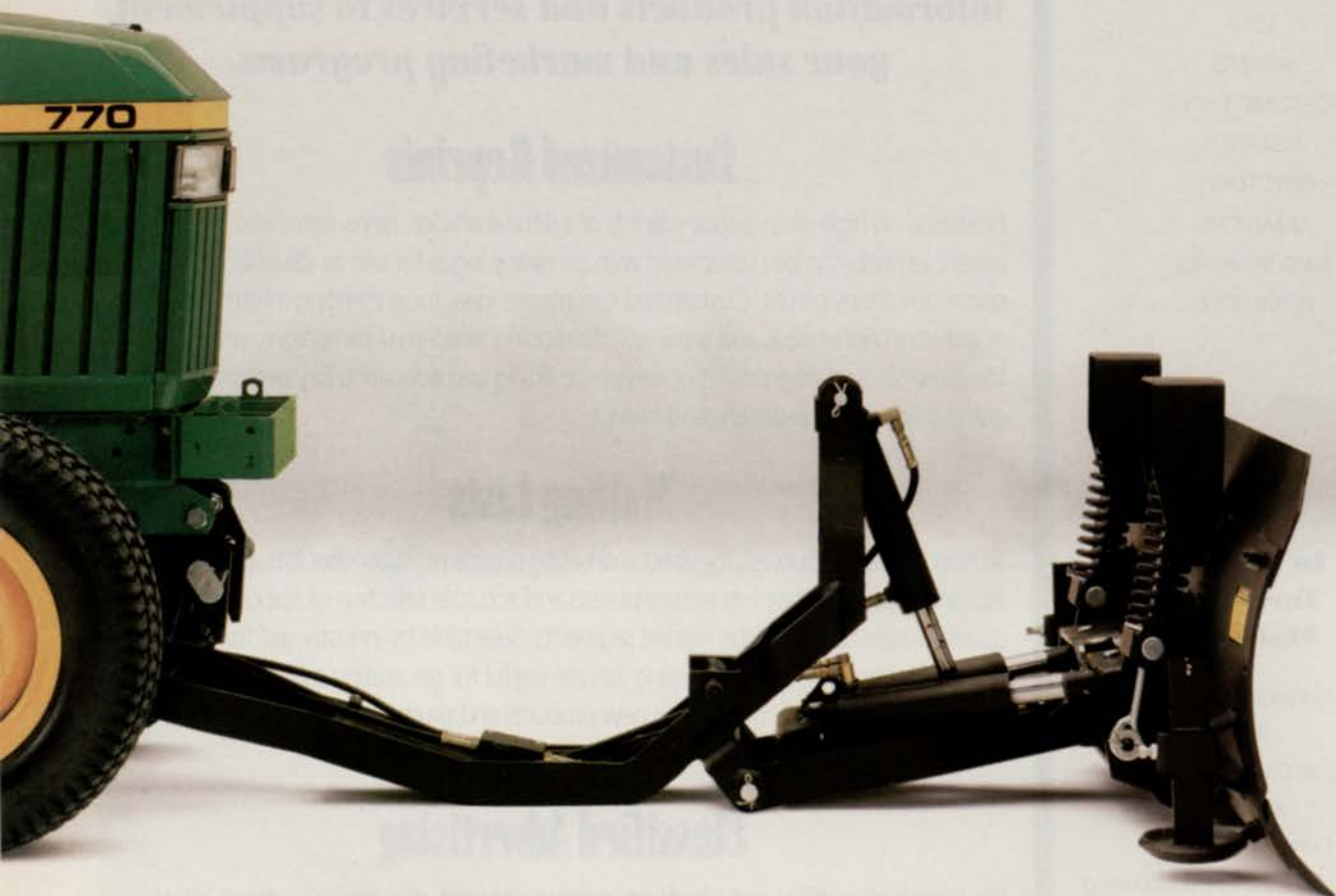
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Community relations rescue sinking maintenance budgets

Your publicly-funded landscape management budget can be spared the wrath of state and city number-crunchers.

by Bob Milano
University of California, Davis

■ Many public sector services throughout this country have felt the impact of a wild and unpredictable budget axe swinging in all directions.

In response, we've had to focus on strategies to deal with the damage. But have we focused on the correct strategies and made the right choices?

We've adapted quickly to the budget reductions by decreasing service levels, cutting capital programs, deferring hiring, scaling back equipment replacement and eliminating administrative overhead. In our haste to meet the pressing, operational demands to care for the landscape, did we many times fail to consider our responsibilities to our customer, the community?

Now is the most important time to keep in touch with customers. We have a responsibility

- to increase awareness about the importance of the resources we manage;
- to expand our efforts to educate, inform and reach out to our communities; and
- to provide accurate information about the service we provide and the resources we manage.

If we do our job well, I believe our budget levels can be maintained—even expanded—through vocal public support and recognition for our programs.

The big picture—As we all evaluate our priorities for the demands of each day, we should strive to remain aware of the critical, yet rarely pressing, requirements of good community relations.

In most public sector facilities, budgeting is determined by an elected board or appointed committee that is

held accountable by the community at large. With this in mind, you easily can see why community relations are an important and critical element of any public sector landscape program.

In most instances, I would suggest that those of us managing public facilities have three broad areas of responsibility:

- maintenance;
- capital improvements; and
- community relations.

All three are extremely important. But are enough resources being allocated toward the community relations component in your program?

Community relations include all of the daily interactions between maintenance workers and facility users as well as more formal events such as new park dedications with the city council.

The performance of your organization can be relayed effectively to your governing body through staff reports and briefings. But input from your customers and the community in general, good or bad, is frequently regarded most highly by the decision makers.

Before venturing out with any new public relations programs, you should clearly explain to your staff why community relations are important and why it is necessary to allocate resources toward the effort. Encourage everyone to interact with the

community and answer questions about the work they are doing or projects under way.

Personnel must understand that they are a vital part of the community relations program, and that the type of one-to-one grassroots public relations they can provide can be the most effective and long lasting.

Reaching out—The next step includes reaching out to the community that you serve. You might break your customers into three groups and target specific outreach and education efforts toward each.

1) Direct facility users such as organized soccer, baseball and softball leagues, swim teams and garden clubs have a high stake in your operation and should be targeted first. You might meet with the leaders of these groups on a regular basis to discuss service needs and educate them about various issues.

Let them know that you care about their needs and are willing to work with them to accomplish their goals. Solicit their support. Welcome their volunteer efforts and contributions and their willingness to marshal support for the facilities.

2) Affiliated parties, such as those that may live next to a busy park, or parents whose children go to school at your facility, could be targeted. Outreach and education about your services and programs could be included as part of larger newsletters or articles in the local newspaper, for example.

Get involved. Here, a representative from UC Davis and nearby communities plant trees in a cooperative effort.



3) The general community should be targeted with well publicized programs, events and accomplishments. Local papers, posters in visible locations and mailers could be used to distribute educational and outreach information. Not only will these efforts reach the entire community, but they will lend recognition and credibility to your program in the eyes of the budgetary decision makers.

An effective, broad-range outreach program also will validate the importance of your services and increase the enthusiasm of both the staff involved in the programs and of your key supporters.

Act now!—Start today with a new attitude and commitment toward community relations. Encourage interaction with the public. Promote volunteerism and help coordinate volunteer activities to accomplish clearly-defined goals. Involve facility users in decisions.

Be visible, with speeches at local schools and

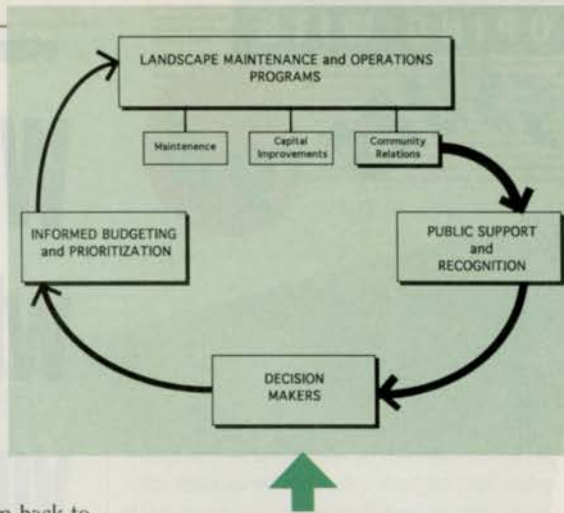
community service clubs, or sponsor tree plantings.

Keep news of your company out there, with a calendar of events and progress reports on special projects. Publicize your successes through local newspapers, radio and TV stations.

If we believe in the work we do, we need to come out of the woods and into the clearing to educate and inform our clients so they can then make informed decisions.

If we are successful, we can turn back to the community and ask for their assistance by putting down the budget axe.

—The author is grounds operations manager for the University of California, Davis, physical plant, and a past board member of the National Sports Turf Managers Association.



When community relations works, you get support from the public decision makers. Explain the need for continued landscape management programs.

Beware public perceptions

by James E. Guyette

■ How pesticide applications are perceived by the public is an issue that should be addressed daily, says Dr. Bill Pound, turfgrass research associate at Ohio State University.

Fears can be abated and clients better served by taking more care in avoiding high drift situations, Pound says.

"As we get into lower-volume applications, drift becomes more of a concern," reports Pound, who conducted a seminar sponsored by the Associated Green Industries of Northeastern Ohio.

When smaller chemical tanks are carried onto properties, there's a tendency to increase the sprayer pressure to compensate, notes Pound. This sends out smaller droplets that are oh-so-eager to blow into unwanted areas. A 2 gal/1000 sq.ft. mixing ratio that includes larger droplet sizes will help reduce the risks.

In addition to needlessly alarming and offending your customers' neighbors in a rift over drift, haphazard spray patterns will invite horticultural problems down the road that may remain hard to detect.

"Drift injury is not always described as death to the plants," Pound explains. A once-viable shrub or flower that presents puzzling aspects of illness can in reality be a

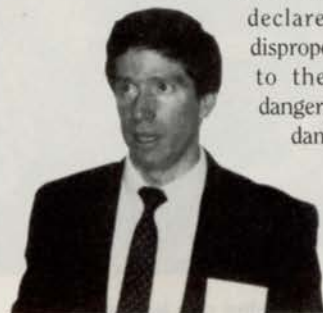
victim of a previous encounter with just a slight amount of drift.

"This is injury without actually hitting the plants," says Pound. The problem is aggravated when turf managers treat during hot weather or high winds. Always check droplet size. If a drift dilemma develops, stop treatment that day.

"If we get into any media hype for 1994, it will be related to exposure," he says. A prime target could be phenoxies, especially 2,4-D. "Phenoxies are phenoxies to people who don't know better. The president will come after something to appease the environmentalists—and everyone's heard of 2,4-D."

Pound remembers the Alar alarm. "They were tough on apples, and they can be tough on us," Pound warns. The core of the concerns was later

declared to be disproportionate to the actual danger, but the damage was done.



Pound: 2,4-D a potential community relations problem.

"It's a sitting duck," Pound says of 2,4-D. "At this point the research is inconclusive and the homeowner doesn't know what to think," he notes.

While research points out that 2,4-D is not an especially persistent material in turf, the issue of long-term exposure lingers. "That's what they're trying to decipher right now," Pound reports.

Another potential perception problem can be brought about by the use of glyphosate when spot treating for weeds. Television commercials have been targeted at homeowners, and they are encouraged to get out on the lawn and start squirting away.

"It will control that broadleaf weed, but you will have a brown spot," he cautions. "We don't need Roundup to spot treat for broadleaf weeds—we have the phenoxies for that," Pound points out.

And for all the public concerns over pesticides, Pound ponders, there's still an ongoing consumer reluctance to opt exclusively for organics. "Usually they're priced a lot more expensively," he observes. "The organic fertilizers are still on peoples' minds," he notes, but "they try the organic program and they get broadleaf weeds."

—James E. Guyette was managing editor of Lawn Care Industry magazine. He is now a freelance writer based in South Euclid, Ohio.



What to tell customers when they ask, 'Are your pesticides safe?'

■ When customers, who observe our use of pesticides on their property, voice their concern about environmental damage with questions like these, be prepared with reassuring answers:

Customer: Are your pesticides safe? Have they been tested against hazards to humans?

You: Yes and yes. All pesticides used in and around the home must comply with the testing requirements of the U.S. Environmental Protection Agency, and the EPA constantly checks new products. You should also know that most lawn care pesticides are used extensively on food crops.

Customer: Do the pesticides you use contain cancer-causing chemicals?

You: The EPA has no data proving that any currently-used lawn care pesticide is a human carcinogen. All such chemicals are evaluated in life-time feeding studies of rats and mice. They are fed the maximum toler-

ated dose which often equates to millions of times greater exposure than any human would experience in a lifetime.

Customer: My children and pets play on the lawn you are treating. Is this safe?

You: Absolutely, because

1) There is no scientific evidence that adverse effects occur with occasional exposure to residues of dilute applications of any pesticide I use. This is less than one percent.

2) Most lawns require only three applications of pesticides yearly, at the very maximum.

3) But to be absolutely safe, be sure that all treated areas are dry before you allow children, or anyone else, to use them.

Customer: In addition to controlling insects, are there any advantages to using pesticides on my lawn?

You: Definitely. Turf care chemicals improve the beauty of the landscape, control soil erosion, keep mud and dirt out of buildings, absorb noise and air pollutants, and cool the neighborhood. They also provide a safer playing surface for children.

Customer: Do you rely solely on chemicals to protect lawns?

You: No. The primary component of lawn care is proper fertilization. This helps the turf resist weeds, insects and diseases. Any chemicals I use are selected for special problems, and I usually prefer spot treatments.

Training pesticide workers

A quality pesticide safety program will probably represent a significant expense for your company.

■ A veritable plethora of laws and regulations control the purchase, transportation, storage, application and disposal of pesticides.

Sometimes it seems as though new requirements are imposed almost daily. In addition, sweeping changes in EPA worker safety standards and in applicator certification laws are on the horizon.

As an employer, you have several good reasons to teach your employees how to handle pesticides properly:

1) It helps develop work habits that will result in a safer work environment. Reducing work-related illness, injuries and



In-house training can help ensure compliance with legal mandates and company policy.

accidents will probably increase productivity and possibly lower insurance rates.

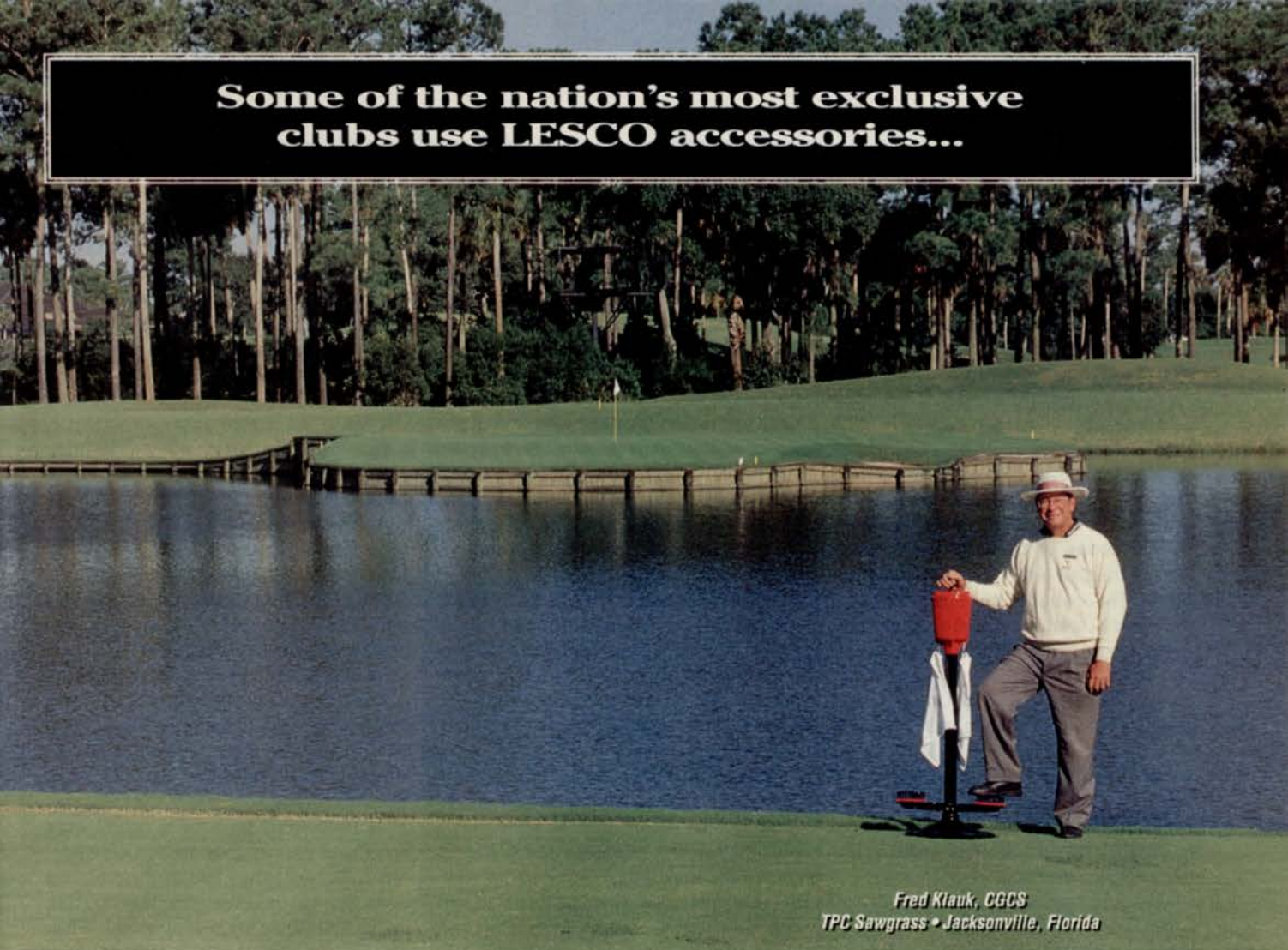
2) It helps prevent the waste of costly pesticides and can even reduce the amount of time required to apply them. Properly applied pesticides are less apt to cause unwanted damage. Correct rates and application techniques also improve pesticide effectiveness.

3) It helps avoid pesticide injury and damage lawsuits resulting from accidents, misapplications or carelessness—lawsuits that often result in huge monetary settlements.

4) It helps protect the environment. When pesticides drift off target or are acci-

continued on page 18

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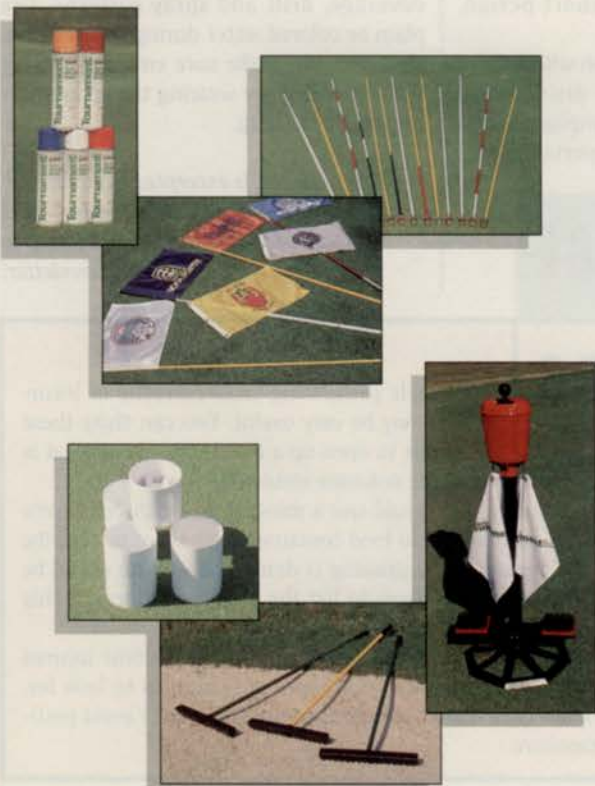
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TRAINING from page 16

dentally spilled or intentionally dumped, serious damage—such as groundwater contamination—can occur.

5) It puts you in compliance with government regulations. The EPA, for instance, requires commercial users of restricted-use pesticides to be certified applicators or to work under the supervision of a certified applicator.

Recent worker right-to-know laws mandate that all employers inform their workers about potential health hazards and how to avoid exposure to hazardous substances—including pesticides—in the workplace.

The scope of training—Most people require training before safely handling pesticides. The applicator must understand:

- how to operate application equipment,
- how to properly mix the chemicals and dispose of the excess,
- how to apply the chemicals,
- how to avoid hazards, and
- how to respond to accidents.

Two types of training are available: in-house training and outside training, which can include continuing education provided by professional organizations and cooperative extension services.

In-house training is conducted by you or someone in your company. The objective is to ensure compliance with legal mandates or with company policy.

Employees who apply, or supervise the application of, restricted-use pesticides probably passed their state certification examinations by participating in *outside training* sessions or through self-study programs.

Your state cooperative extension service may produce some training aids. University libraries, state and federal regulatory agencies, pesticide manufacturers, trade organizations and worker's compensation insur-

ance companies are other sources for current pesticide safety information. In most cases, you will need to adapt this information to fit your specific situation.

A quality pesticide safety training program will probably represent a significant expense for your company.

You must compensate the instructor, and you must release your employees from the regular duties but still pay them for the time spent in training. You must allow certified applicators to attend off-site continuing education courses, with pay, to retain their certification. And, unfortunately, there is little chance that your company will be able to totally recover these costs through lower insurance premiums or increased productivity.

However, adequately trained employees may be able to eliminate or significantly reduce injuries, damage and liability by preventing accidents or by responding appropriately when an accident occurs. Therefore, training provides a form of insurance against injury, damage or liability.

Key tips—Your program's success depends on a variety of factors.

- The instructor must be comfortable with the subject and must enthusiastically convey the importance of the information to your employees. The teaching staff will need adequate resources to develop and present an effective training program.

- Training will be easier if you divide the subject matter into small segments that can be covered in a short period. Thirty minutes is reasonable.

- Hold the training session where there will be no interruptions or distractions. You must convey to your employees that pesticide safety training is important.

- Whenever possible, use hands-on training. Allow your employees to see, hear and touch.

For example, hand an employee a pesticide container and ask him to point out the signal word or other significant label information. Ask employees to put on protective clothing to demonstrate their use. Let them practice cleaning up a simulated pesticide spill.

- Employees will learn more and enjoy the training if they interact with the instructor and with each other. Encourage them to ask questions, provide information or discuss reasons for doing something a certain way.

- Prepare an agenda and stick to it. Keep the discussion on track within the scope of the immediate session. If other points come up, schedule time during another session to discuss them.

- Add variety to your training sessions. Sometimes a video (see last month's issue), followed by a discussion, provides a lot of useful information or serves as an overview. (Don't substitute videos for other types of training.)

- Hold some sessions in actual work areas near the pesticide application equipment. Conduct the class in the pesticide storage area when teaching how to store pesticides or how to clean up a spill. When discussing pesticide application, take employees outside among the plants and let them see how pressure changes affect coverage, drift and spray patterns. Use plain or colored water during your demonstrations, but make sure employees using the equipment are wearing the appropriate protective clothing.

—This material is excerpted from an article that appeared in the December, 1991 issue of the Georgia Green Industry Association's newsletter.

LANGUAGE BARRIERS

■ One of the greatest barriers to a successful and effective pesticide safety training program is coping with employees who do not understand. This problem can stem from varying educational levels, language barriers, poor reading abilities or differing attention spans.

Language is the predominant factor. Some workers are not fluent enough in English to understand verbal instructions or written materials. Conversely, the instructor may not be fluent enough in the employees' native language to effectively discuss pesticide safety.

You may have to be innovative to ensure that your employees understand the material being taught. Non-written methods and materials, such as simple drawings or cartoons depict

ing people performing tasks correctly or incorrectly, may be very useful. You can show these drawings to open up a discussion about what is happening and what the outcome would be.

For example, you could use a drawing to teach employees not to put pesticides into food containers. Ask them to describe what the person in the drawing is doing and why he would be doing this. Then ask them to list the possible dangers of this practice and why it should be avoided.

Such a discussion could reveal why people become injured or poisoned by pesticides, what types of symptoms to look for, what kinds of first aid treatments to use and how to avoid pesticide exposure.

Buying the best sprayer

■ Before the new spraying season begins, you should do a complete evaluation of your equipment.

"Each year, more applicators find that either their equipment isn't up to the task, or they can save time and money by outfitting their sprayers with new technology before the season starts," says Rich Gould, ag marketing specialist at Spraying Systems Co.

If you're in the market for a new sprayer, check out possible choices with questions like these:

1) How well is it constructed? Is the tank made of stainless steel? Is the piping molded? Is it coated with polyurethane enamel for chemical and impact resistance? Does it have all Viton seals? Is the packing gland rustproof?

2) Does its size meet your needs? If you need a large spray tank, does it have a 900-gallon or more tank? Can it service your estimated number of accounts in a normal season? Can the unit slide into your flatbed truck?

If you need a smaller unit, is the model compact? Is it designed for a van or pick-up truck? Does it have special features such as two 100-gallon rectangular tanks, a diaphragm pump, approximately 300 feet of hose, and a lawn or ornamental gun?

3) Does it have other special features? Don't insist on versatile features if you're not going to use them. But be aware of these "extras:"

- ✓ a high-volume continuous trigger sprayer which adapts easily to a variety of containers;

- ✓ versatility: to shoot a stream 30 feet or more but, after adjustment, be able to deliver an ultra-fine mist;

- ✓ a universal adapter, a trigger bottle adapter and a fully-adjustable nozzle with shutoff;

- ✓ a reel that allows the operator to rewind the hose conveniently; and/or

- ✓ single or dual injection pumping.

4) How well does it handle treatment agents? Does it allow fertilizers and chemicals to be sprayed either separately or as a mix? Does it permit the selective use of expensive chemicals in lawn areas that require spot treatment? Are there separate polyethylene tanks which can be used for spraying herbicides, insecticides, soil conditioners and other similar solutions?

5) Are options available? Such as a variety of hoses, trailers and spray booms, which can be purchased later. This is important, especially if you feel that you only need a single-purpose sprayer now, but that you'll eventually branch out into other more lucrative work that will require a more sophisticated machine.

Some popular options, according to Spraying Systems Co., include:

- ✓ sprayer control kits, which allow applicators to control boom sections from the vehicle's cab;

- ✓ clean water tanks, which can be used in the field to rinse hands or equipment;

- ✓ diaphragm check valves, which eliminate drips after the

continued on page 22



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Deere's boom sprayer has a 200-gal. tank and 21-foot chain-supported boom.

SPRAYERS from page 19

boom shuts down;

- ✓ three-way solenoid valves, which bypass boom flow to keep pressure constant when one or more boom sections are shut down;

- ✓ triple nozzle bodies, which hold up to three nozzles, allowing applicators to switch nozzles in the field in seconds; and

- ✓ drift-reducing nozzles, which are engineered to produce larger droplets that are less likely to drift.

6) If you plan to purchase an electric-powered sprayer, is the diaphragm pump protected with a fuse and an automatic

pressure-sensing switch? Is there a rechargeable battery pack available for easy hook-up to the truck's electrical system? Is there protection via a circuit breaker? Is there a wiring kit, complete with instructions for making connections to your truck's alternator?

7) If the sprayer is designed to fit in a truckster-type maintenance vehicle, is its size suitable for the vehicle? Will it be mounted there permanently, or will you use the truck for other work?, asks Bob Riley of Green Pro Cooperative Services. How much weight will the vehicle accommodate?

8) Is the new unit completely assembled? Or will you have to put it together yourself? If so, are the directions really clear and specific? Are well-drawn diagrams included?

9) Is the manufacturer reliable? How long has it been in business? To find out comprehensive answers, contact your local Better Business Bureau, the local branch of your trade association, and friends in the business.

—Bess Ritter May, author of this article, is a freelance writer based in Philadelphia, Pa. She is a frequent contributor.

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SPRAYER EFFICIENCY

■ An efficient sprayer will earn profits for many years if you operate it sensibly and treat it kindly, says agricultural engineer Erdal Ozkan at Ohio State University. He makes these tips:

- **Always calibrate carefully.** If you don't, you'll waste expensive chemicals and cash. When a sprayer is over-supplying chemicals by as little as 16 percent, it can translate into a loss of approximately \$1200 per year.

- **Understand the factors that influence application rate.** These include shape and size of nozzle orifice, pressure at the nozzle, spacing, travel speed, concentration of active ingredient in the solution, and the uniformity of distribution. Check them routinely.

- **Remember that how the chemical is deposited is as important as the amount applied.** Check the nozzle's output periodically for clogging and whether the patterns are overlapping to ensure complete coverage.

- **Use the right nozzle.**

- **Move the sprayer in a uniform, calibrated speed.** (Moving faster cuts the application rate.)

- **Avoid chemical drift.** Remember that there is usually less drift in the morning and late afternoon.

- **Carry spare parts with you.** These should include extra nozzles, washers and repair tools.

- **Never use a pin, knife or similar object to unclog the nozzle,** because it changes the spray pattern or flow rate.

- **Clean the sprayer after each use,** and use only clean water.

—B.R.M.

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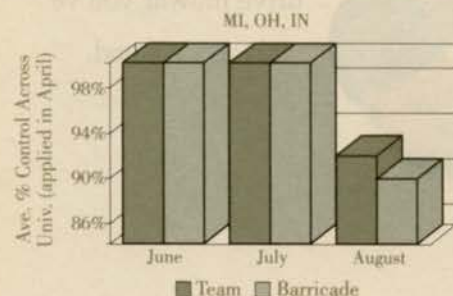
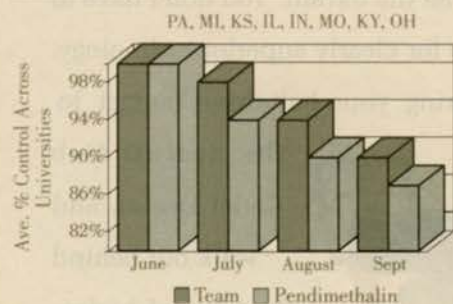
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for people interested in



SPRAYING SYSTEMS

MANUFACTURER		TYPE	NOTES	CIRCLE NO.
B&G Equipment Plumsteadville, Pa.		BACKPACK SPRAYERS: KP-4	holds 4 gal. (as large a volume as practical to carry); adjustable nozzle for close-in or distance spraying; provides hands-free operation	300
Broyhill Dakota City, Neb.		BOOM SPRAYERS: Terramaster	Terramaster fits turf trucksters; tanks from 120- to 160-gal., polyethylene and fiberglass, and electronic console controlled sprayers; three-point and skidded sprayers and turf booms and accessories also available	301
Danville Express Danville, Kans.		BOOM SPRAYERS: No-Drift sprayers	system releases chemicals through rollers for no drift during windy days; tank capacity is 12 gallons with roller widths 48, 60 and 72 inches; walk-behind DEX 30 also available	302
Deere & Company Moline, Ill.		BOOM SPRAYER: 1800 Sprayer	for use with 1800 Utility Vehicle, this Accumaster sprayer has 200-gal. polyethylene tank, Ace centrifugal pump to 100 psi, and 21-foot chain-supported boom	303
Land Pride Assania, Kans.		BOOM SPRAYERS: Chem-Pro Turf Sprayers	stainless steel tanks, sizes 100 to 370 gal. with WhirlFilters, level float boom, electric control console and metered manifold; also, the Wilker Walker, with speedometer, for walking applications	304
Lesco Inc.		TANKS, SPRAY UNITS	complete line of poly tank sprayers, 50 to 300 gallons, with gear assemblies, accessories; also available: nozzles, hoses, other parts	305
Maruyama U.S. Redmond, Wash.		BACKPACK SPRAYERS: Models MS056, MS056E, MO046	features Maruyama's duplex piston pump #056 with stainless steel wetted pump parts; 1.3 gpm maximum, up to 356 psi, dual-head nozzle; engine is Maruyama 19.8 cc two-cycle	306
Master Mfg. Sioux City, Ia.		TANK SPRAYERS: Dobbins brand	sizes range from 8 to 150 gallons with pumps from 60 to 550 psi	307
Micro-Trak Systems Mankato, MN		SPRAY MONITORS: MT-3000	MT-3000 is an electronic monitor/controller for pre-determined rate with digital readouts; Nitro-Trak is an electronic monitor/controller for anhydrous ammonia application with a liquid crystal display	308
Mid-Atlantic Systems Elkton, Md.		BOOM SPRAYER: Turf Runner	ground-driven, variable-stroke metering pump for constant accurate volume (not pressure); sprayer equipped with 300-gallon polyethylene tank, 25-foot spray boom; rates available from 8 to 60 gallons/acre	309
Milliken Chemicals Inman, S.C.		PATTERN INDICATOR: Blazon	blue colorant applied at 1/2 to 3/4 oz./1000 sq. ft.; non-staining and non-toxic; can help identify clogged nozzles	310

more on page 28



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HC-1600
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Ransomes boom sprayers have tank capacities off 160-300 gallons.

Toro's InJector Pro mixes chemicals at the last moment.

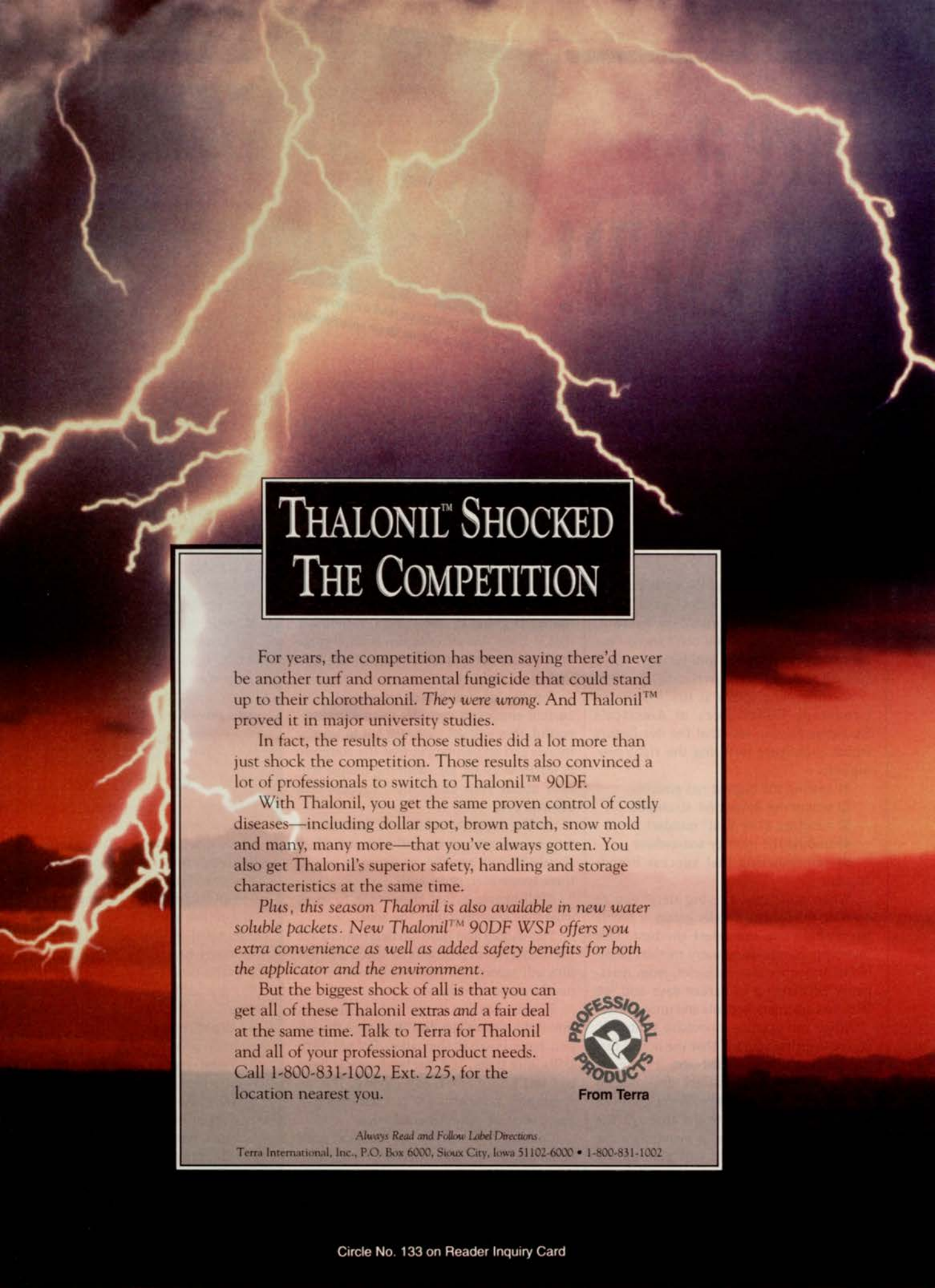


SPRAYING SYSTEMS from page 26

MANUFACTURER		TYPE	NOTES	CIRCLE NO.
Nomix Inc. Smyrna, Ga.		BACKPACK SPRAYER: Expedite	complete closed system backpack/wand sprayer for treating up to 47,000 sq.ft.; herbicides available are Grass & Weed I, Grass & Weed II, Grass & Weed Plus and 3-Way Broadleaf	311
Professional Tree & Turf Golden, Colo.		SPRAYING SYSTEM	herbicide sprayers with 14 to 200 gal. tanks, 12-volt pump with agitation option; \$195 and up	312
Ransomes America Lincoln, Neb.		BOOM SPRAYERS: Cushman Turf Master, 5th Wheel	low ground pressure for reduced soil compaction with tank sizes 160 to 300 gal. on Turf Master; 300-gal. tank on 5th Wheel with six Venturi Jet Agitators and 20-foot wet boom	313
Rogers Innovative Saskatchewan, Canada		BOOM SPRAYER Windfoil 3500	sprayer mounts on front-deck riding mowers; 5- to 12-foot booms, covered for less drift; can spray right to the edge of flower beds, etc.	314
Solo, Inc. Newport News, Va.		BACKPACK SPRAYERS: Models 425/435	4- or 5-gallon capacity with piston pumps produce pressure up to 90 psi; polyethylene tank, viton seals. Also available: 475/485 with diaphragm pumps	315
Spraying Devices Visalia, Calif.		BOOM SPRAYERS: Turf N'Trees	Equal-Flow all stainless steel wet boom with break-away hinges, easy height adjustment, drip-free nozzles and stainless steel tips; tank capacities 100 to 300 gal.; 20 gpm, 250 psi	316
Spraying Systems Wheaton, Ill.		NOZZLE: Quick Turbo Floodjet	design increases droplet size and distribution uniformity for drift control using special turbulence chamber; sizes from 1.5 to 12 gpm at pressures of 10 to 40 psi	317
Toro Company Minneapolis, Minn.		METERING SYSTEM: InJector Pro	water and chemicals kept separate until moments before mixture is injected into spray booms; can apply two chemicals at same time	318
Tuflex Pompano Beach, Fla.		TANKS, SPRAY UNITS	one of the most complete lines of fiberglass tanks, hoses, valves, guns, wand, pumps, etc. on the market	319
United Hort. Supply Salem, Ore.		BACKPACK SPRAYERS: CP3 Outlaster	contoured polypropylene tank with no exposed parts; tank capacity is 4.2 gallons with diaphragm pump; accurate at 15, 30 and 45 psi	320

ED. NOTE: Space precludes the inclusion of all spray systems and components. Please consult our September 1993 Buyer's Guide for complete listings.

Source: LM phone survey, March 1994



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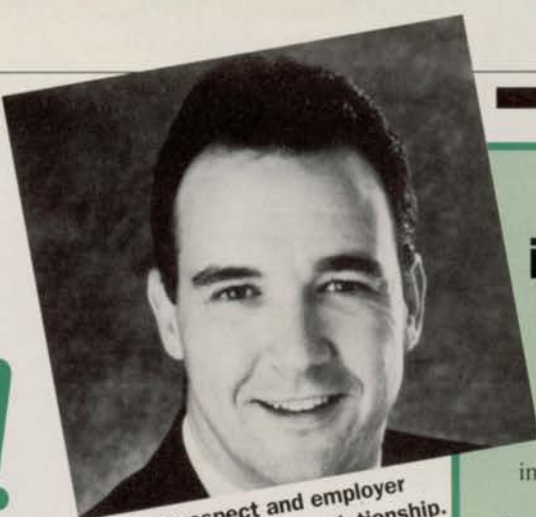
But the biggest shock of all is that you can get all of these Thalonil extras and a fair deal at the same time. Talk to Terra for Thalonil and all of your professional product needs. Call 1-800-831-1002, Ext. 225, for the location nearest you.



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Hire a WINNER!



Carline: prospect and employer must care about their relationship.

Pairing the right prospective employees with your company is a tedious, time-consuming—but rewarding—part of the owner's job.

■ "Interviewing is one of the most frustrating things we have to do," says Steve Carline, a business consultant based in Boulder, Colo. "And if you don't spend time up front (interviewing and hiring), you'll spend it at the back end (replacing)."

Carline, who spoke at the Associated Landscape Contractors of America's Executive Forum, says that the five factors which contribute to hiring the right people are:

- 1) casting the biggest net possible
- 2) practicing innovative strategies
- 3) adopting a "be-first" mindset
- 4) finding the money somewhere
- 5) remembering that success breeds success

When you "cast the big net," you're opening the door to a wider group of people from whom you can select the best. This invariably means using every method possible to announce any vacancies, from newspaper advertising to career days and job fairs; to customers, schools and universities.

When you practice innovative strategies, you're assuring yourself that the actual hiring decision will be a good one. "People say things on resumés that are designed to deceive you," Carline notes. "We've got to be very, very determined to get through the résumé fiction. We have to manipulate the environment so people will give us the information we need."

One of the innovative strategies Carline suggests is to reserve a minimum of two full hours for each candidate. These can be

arranged in one two-hour session or two one-hour sessions.

When you adopt a "be-first" mindset, you're practicing the long-range planning it takes to hire the best people. Don't wait until the last minute, or even for the time of year when everyone else is also hiring. Be first.

Hiring the right people, Carline also notes, is dependent on finding the money to do the hiring process right. You not only have to invest your time, but your resources. When figuring out where the money is going to come from, remember that it takes American business an average of 1.5 times the employee's annual salary to find a new replacement.

Finally, "success breeds success." If your current employees consider themselves successful, they will get the word out to worthy friends and acquaintances that the company is worth working for. Winning people will hear about your company's success and come to you.

Carline suggests to have job descriptions for every position you will hire for. They should be very specific, as many as two to three typewritten pages each.

"Tell people before they come to work what they're getting into," he adds.

You should also have job descriptions for the management positions to which the new hire will report, and job descriptions for the new hire's peer workers.

Finally, Carline implores his clients to hire right kind of people. "Make sure the job you have is what they like. Do not hire skills, hire traits. You can teach people 'how to,' but you can't teach caring. We, as employers, have also got to start caring—about what we can offer employees."

Carline is a trainer for CareerTrack Seminars, 3085 Center Green Dr., Boulder, CO 80301. His phone number is (800) 325-5854.

—Jerry Roche

Effective interviewing techniques

■ Steve Carline says that the "why's" to the candidate's answers are drastically more important than the "how's."

You must also keep score of the impressions each candidate makes on you. Carline uses a CAT (Candidate Assessment Tool) to grade behavior in 12 main categories; each has an importance value to the company:

- adaptability
- competence
- experience
- manageability
- interpersonal skills
- attitude
- initiative
- maturity
- stability
- emotional control
- integrity
- values

For instance, if the candidate scores a 2 (out of 5) in an area that scores 1 (of 5) in importance, it doesn't mean as much as if he or she scores a 2 in an area that scores a 4 or 5 in importance.

Top 10 questions

Here are 10 of Carline's 36 "effective interview questions:"

- 1) How do you establish working relationships with new people?
- 2) How did you gain your knowledge of this industry/company?
- 3) Tell me about a specific area of responsibility you have enjoyed.
- 4) What have you been criticized for in the past two years?
- 5) How do you criticize subordinates?
- 6) What accomplishments are you truly proud of?
- 7) What steps have you taken to become more effective?
- 8) What does your current supervisor do to get the best out of you?
- 9) How would you define a successful career?
- 10) Give me an example of a crisis situation you were involved in.

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*See your Jacobsen distributor for full warranty details.

have a unique, counter-rotating spindle configuration producing the smoothest rear discharge going.

Smooth operator.

From the easy-to-read, full instrumentation, to the ergonomic controls, the HR-5111 redefines operator convenience. What's more, power steering, tilt wheel, cruise control and the adjustable high-back suspension seat keep the operator comfortable, for a more productive day.

For high productivity, 4WD mobility, heavy-duty durability and operator comfort, there's nothing like the HR-5111 on turf. So be sure to ask your Jacobsen distributor for a demonstration today.



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THERE'S NOTHING LIKE IT ON TURF

HEALTH CARE: top insurance issue of '90s?

by Rick Bersnak
M.F.P. Insurance Co.

■ Many insurance issues face small business owners—particularly those in the lawn care profession—in 1994. They will affect their ability to grow their businesses and earn a profit in the future.

Health care reform could be the most damaging if small business is required to provide basic coverage for all employees. Although mandatory coverage may not be enforced until 1995 or 1996, there is a good possibility that employers will have to pay up to 80 percent of the cost for employees.

Worker's Compensation costs continue to rise from state to state an average of six to seven percent per year. A survey of our clientel (more than 100 lawn care operators) indicated—to our surprise—that Worker's Compensation premiums represented an average of almost 30 percent of total insurance costs.

Insurers are forcing policyholders into state-managed pools or funds, which in some cases place a surcharge on the base premiums. Self-insured pools are forming as an alternative to traditional forms of coverage, and will continue to be a choice in the future (though they can be a financial risk in early years).

Commercial automobile rates have not increased for LCOs with good loss experience. Many small companies (one or two trucks) insure their vehicles on personal policies, which are less expensive than a commercial policy. However, personal policies typically will not insure employees of the owner, nor do they contemplate the exposure of a vehicle transporting fertilizers or pesticides. Companies which depend on personal automobile policies to insure production vehicles are assuming a substantial risk.

General liability rates are stable in most states. However, there are still very few insurers which are willing to provide the correct coverage by adding the Pesticide/Herbicide Applicators Endorsement to a standard policy. There are still a limited number of standard insurers willing to provide the proper coverage for LCOs and even fewer agents who understand the green industry.

Companies of all sizes must look to the future to avoid the rate increases that are sure to come, by considering alternatives like

- lobbying against Pres. Clinton's health care reform as it is currently proposed; and

- using pre-employment physicals and drug testing.

Features employers loathe about President Clinton's medical insurance package

1) The plan denies them control over employee health care benefits, but hits them up with the cost.

2) Caps on premiums (7.9% of payroll or less) are not guaranteed in the future.

3) The plan permits numerous new changes and taxes on companies if funding runs short.

4) Self-insuring, while allowed, would in practice be taxed and regulated almost to death.

—*Fortune*, Nov. 29, 1993

What the media is saying about President Clinton's medical insurance package

"A Lewin-VHI study finds that higher premiums and the requirement to cover part-timers...will cost employers who now offer health benefits \$21.5 billion in the first two years of reform."

—*Business Week*, Dec. 20, 1993

"The company pays at least 80% of the ('basic plan') premium, the employee the rest. Some small businesses that now don't offer coverage protest that the price will force them to fire some of their workers."

"Employer-paid plans are one more course in the Great American Free Lunch."

—*Newsweek*, Nov. 29, 1993

standards for care and costs.

Under the plan, the federal government would impose new corporate and payroll taxes to fund most of the program's costs. Individuals would pay no premiums.

Fortney: According to the plan of Rep. Fortney Stark (D-Calif.), states would have broad flexibility to set up plans and voluntary purchasing cooperatives.

Employers would pay 80% of workers' premiums, plus a 0.8% payroll tax to pay for those who can't afford coverage.

Alternate health insurance plans are getting a Congressional look

■ Here are the highlights of five alternatives to Pres. Clinton's health reform plan, according to Hearst News Syndicate:

Cooper/Breaux: This plan is sponsored by Rep. Jim Cooper (D-Tenn.) and Sen. John Breaux (D-La.). It requires employers to offer, but not pay for, health insurance.

Employers with fewer than 100 employees would be forced to join purchasing cooperatives that are much like Pres. Clinton's alliances. The cooperatives would negotiate for low-priced premiums and quality care.

Chafee/Thomas: This plan is sponsored by Sen. John Chafee (R-R.I.) and Rep. William M. Thomas (R-Calif.).

It makes employers offer insurance to employees, but does not force the employer to pay.

Under this plan, the current system

remains, but states could voluntarily set up purchasing cooperatives.

Employers with fewer than 100 workers would offer either a standard package or one covering catastrophic illnesses.

Michel/Lott: This plan, sponsored by Rep. Robert Michel (R-Ill.) and Sen. Trent Lott (R-Miss.), would offer the same coverage as the Cooper/Breaux plan.

It would keep the current system, and would add no new regulations. Under this plan, individuals and companies could set up tax-free medical savings accounts to cover insurance and medical bills.

McDermott/Wellstone: This is a single-payer plan sponsored by Rep. Jim McDermott (D-Wash.) and Sen. Paul Wellstone (D-Minn.).

Similar to the current policy in Canada, it would set up a national health board, administered by the states, to set

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Azay Sheeps, Jasper Creeping Red, Spartan Hard and Victory Chewings.

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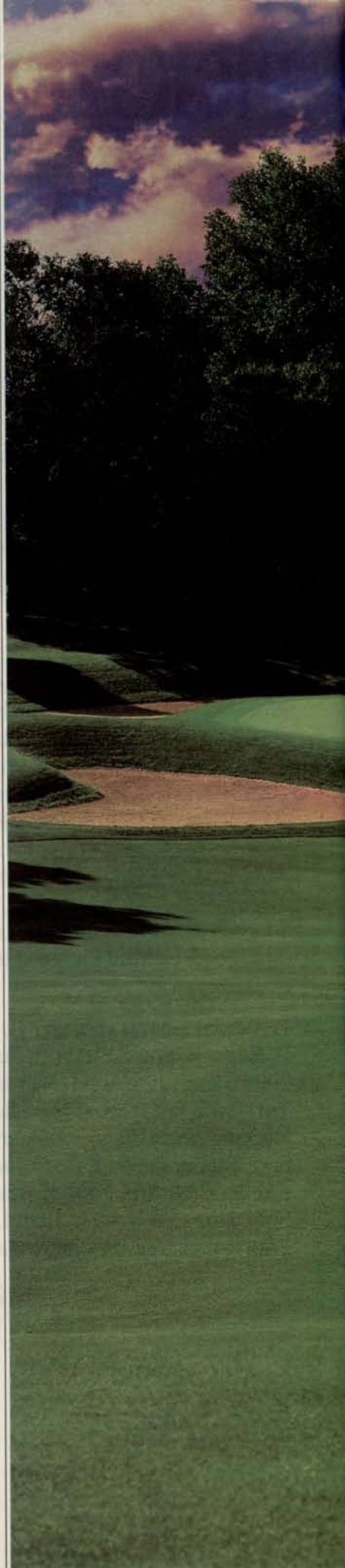
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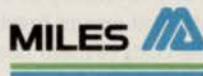


Our new water soluble packets give you consistency in formulation and control.

Which is all good reason to treat your entire course with BAYLETON. Especially your fairways, since it keeps your customers from tracking disease up to your tees and greens.

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

It may be the most consistently rewarding choice you make.



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DECIPHERING INCOME STATEMENTS

By being able to read them effectively, you can chart the course and future of your business.

by Dan Sautner
Padgett Business Services

■ The statement on this page can be called an income statement, a statement of operation, a profit-and-loss (P&L), or the simple revenue and expense. They all tell the same thing: financial results of operating the business for a specified period of time.

The second line uses the phrase "for the 5th month Ended 05/31/91." This phrase gives you the period of time under consideration. The statement shows the current period (May) and the year-to-date totals. In an annual statement, you may see this year and last year, which titles will note.

Sales—Statements always start with sales, followed by expenses. "Sales" lines tell you the composition of the business in terms of gross dollars.

In the example, sales are essentially based on providing services rather than products. You might ask yourself, "Can the company do better with product sales?" or "Is that an area that can be expanded?" or "Should we ignore product sales altogether?" The low product sales should also indicate a low inventory of product. The sample statement groups together the supplies and the costs of these sales.

Expenses—In this sample, expenses are organized by type. On some state-

ments, they can be listed alphabetically; on others, from largest to smallest in dollar value.

Expenses are aligned into three types:

Variable costs vary with the level or volume of business. Labor, for instance, is included here.

In our sample, the year-to-date labor expenses, as a percentage of sales, is higher than the current period. It would seem that the volume is reaching a level where the labor costs are incremental. This means that we have passed the base sales and the expense should fluctuate with volume. If the percentage is erratic, or constantly shrinking, it could mean that you are under- or over-staffed.

Labor is the largest item on this income statement; that alone means we should examine the return on this expense very closely.

Fixed costs tend to remain the same, within certain wide ranges of volumes. The rent expense, for example, is unlikely to change until such time as more space is needed.

Look at the fixed components of cost to determine the base level of sales that this business can be supported on. Look also in terms of the highest level of business that can be done before an expansion of fixed costs is necessary.

Discretionary costs occur as the result of a specific purpose. In our example, advertising is listed as discretionary. These

Income Statement For the 5th month Ended 05/31/91			
	Current Period	Year-to- Date	
Sales:			
Services	2,800	93.3	10,000
Products	200	6.7	550
Total Sales	3,000	100.0	10,550
Expenses:			
Variable:			
Wages	1,050	35.0	3,950
Supplies	410	13.7	1,450
Maintenance & Repair	25	0.8	85
Fixed:			
Rent	250	8.3	1,250
Depreciation	200	6.7	1,000
Accounting & Legal	100	3.3	500
Telephone	60	2.0	300
Utilities	25	0.8	145
Discretionary:			
Advertising	150	5.0	400
Memberships	125	4.2	175
Total Expenses	2,395	31.2	9,255
Income from Operations	605	20.2	1,295

costs should be reviewed in terms of their ability to help the company grow.

What the amount will not show you is how effective the expenditure was. When reviewing these lines, try to understand why the money was spent and what it was meant to achieve. Think in terms of long- and short-term effectiveness.

Compared to most income statements, the one on this page is simple. In this statement, we have shown clear-cut divisions among the three types of expenses. The reality is that every expense is inter-related.

The bottom line—Here is where the sum of activity shows. Is the company profitable? If the statements says "yes," make sure to recognize that this is an accounting profit. Adding back depreciation will give you a close look at cash profits. By better understanding your tax situation, there may be a third type, the taxable profit.

At any rate, strive to be profitable and let accountants sort out the rest.

—Dan Sautner is chairman of Padgett Business Services, Atlanta, Ga. This article is one in a series he is writing specifically for LANDSCAPE MANAGEMENT.

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Whether your world is municipal park land or a thousand-acre sod farm, your mower has to be able to cut it—day in and day out. Which means you can't rely on just any machine. Fact is, you need a Batwing.

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Insect control, cool-season turf

By monitoring your pest problems, you can combine IPM and conventional control measures.

by J. Kevin Mathias, Ph.D.
University of Maryland

Effective insect control programs rely on an integrated approach which includes integrated pest management (IPM) practices.

The components of an IPM program are: accurate field diagnosis or monitoring, an understanding of economic or action thresholds, and selecting an appropriate control action.

Monitoring and proper identification of the pest and/or its damage symptoms are essential. Sampling methods may consist of both active and passive techniques which provide accurate and timely information on pest activity. Examples of active monitoring practices are visual observations by a trained individual or the use of flotation or irritant sampling techniques

to determine thatch-inhabiting insects. Passive techniques may include pitfall traps for the adult billbug or black light traps for cutworm and sod webworm moths. (Table 1)

Control actions may include only one or a combination of the following:

- chemical insecticides;
- biorational insecticides;
- establishing endophyte-enhanced grasses;
- conserving beneficials;
- adjusting primary cultural practices to minimize insect damage.

Insecticides labeled for control are listed in Table 1.

Two new chemical insecticides recently released or soon to be released are Lesco's Mainstay 2G and Merit, from Miles, Inc.

Mainstay contains the same active ingredient as Crusade (fonofos) but is formulated as a 2% granular. Fonofos has been shown to provide excellent (more



Endophyte-enhanced grasses provide excellent control of surface-feeding insects.

than 90 percent) control of white grubs, with a broad spectrum of activity.

The current labeling for this new formulation of fonofos will expand its use to lawn and commercial turfgrass sites.

Merit (imidacloprid) is expected to be released on a limited basis this spring. It is a chloronicotinyl insecticide having a broad spectrum of control. It has provided excellent control of white grubs in U.S. field trials and will be labeled for white grub control and for several sucking insects.

Biorational controls—Five biorational insecticides can be used for turfgrass insect control.

Biorational insecticides consist of materials derived from living organisms such as bacteria (Steward, Doom and Dipel), nematodes (Exhibit) and plant extracts (Turplex Bioinsecticide). These materials are specific to the insect pest, thus having minimal adverse effects on humans, the environment and beneficial insect predators and parasites.

The major disadvantage to the biorationals are high cost and high application rates.

Fungal endophytes (*Acremonium* sp.), which convey insect resistance, provide another important control option for the turfgrass professional. Endophyte-enhanced resistance has been reported in tall fescue, perennial ryegrass and the fine fescues for several surface-feeding insects such as chinch bug, sod webworm, billbug

Economic/aesthetic thresholds

The **economic threshold** level is the minimum number of insects which will cause turf or economic loss. Variation in the economic threshold level can occur. It may be due to changes in environmental conditions and/or cultural practices.

Aesthetic threshold is often used in ornamentals where the damage level, as perceived by the customer or the professional, is unacceptable. The aesthetic threshold is often set at 15 percent loss of plant foliage.

Billbugs—6-8 larvae/sq. ft., or 2-5 adults/day in pitfall traps

Black turfgrass Ataenius—30-40

grubs/sq. ft. for annual bluegrass and creeping bentgrass turf; higher threshold for other deep-rooter turf.

Chinch bugs—15-20/sq. ft.

Cutworms/armyworms—1-3 larvae/sq. ft.

Sod webworms—4-6 larvae/sq. ft.

Grubs

Japanese beetle—6-10/sq. ft. in Kentucky bluegrass; 8-15/sq. ft. for tall fescue

Masked chafer—8-15/sq. ft.

European chafer—10-15/sq. ft.

Asiatic Ganel beetle—18/sq. ft.

Greenbug aphid—no thresholds yet established

and cutworm.

Predation—insects eating other insects—has ranged from 60 to 75 percent mortality in field studies. Indiscriminately using broad spectrum chemical insecticides will adversely affect beneficial predators such as ants, spiders and ground bee-

ties within a turfgrass stand. As new biorational insecticides are developed and released, they will give turfgrass professionals additional means of natural control.

For successful insect control, the turfgrass professional must rely on an inte-

grated program. This type of control strategy will result in better control at less cost and greater environmental safety.

—Dr. Mathias is turfgrass lecturer at the University of Maryland, Institute of Applied Sciences.

Cool-season insect control strategies

Pest	Monitoring program	Control action
Billbugs	Adults move into turf in April-May. Use pitfall traps to gauge Spring activity. Grub damage visible by June on Kentucky bluegrass, fine fescues and zoysiagrass.	Preventive applications if pitfall traps show high adult counts. Use Dursban, Tempo and Scimitar for adult control in April to mid-May. For grub control use one of the following: Sevin, Oftanol, Diazinon, Crusade, Mainstay, Triumph. Cool, wet summers favor a fungal disease outbreak of <i>Beauveria sp.</i> which reduces populations. Plant endophyte-enhanced grasses.
Black turfgrass Ataenius	Adults move into turf in late March-April. First generation damage by late June; 2nd generation damage by late July-early Aug. Serious golf course problem in annual bluegrass and creeping bentgrass.	Preventive applications if past history dictates, with Dursban in April. Soil insecticides such as Proxol/Dylox/Turcam, Crusade, Triumph, Mocap, Oftanol and Mainstay are recommended in June-Sept. time frame.
Chinch bugs	Prefer warm, sunny spots. Emerge as temperatures reach 70°F. Flotation sampling is effective.	Preventive applications in April-mid-May for habitual problem sites. Dursban, Diazinon, Sevin, Triumph, Tempo, Oftanol, Mainstay, and Turcam labeled for control. Cool wet summer favors fungal pathogens which control chinch bugs. Plant endophyte-enhanced grasses. Big-eyed bug a beneficial predator.
Cutworms Armyworms	Five species may be seen (caterpillars, adults) from May-September. Turf thins due to defoliation. Irritant sampling techniques flushes pests to surface. Common on bent green. Adults like light.	Labeled for control are: Sevin, Dursban, diazinon, Proxol/Dylox, Scimitar, Tempo, Crusade, Triumph, and Mainstay. Biorational products include Steward, Dipel, Exhibit and Turplex. Light irrigation may be required to work material into thatch. Plant endophyte-enhanced grasses.
Sod webworms	More than 20 species exist in U.S. Defoliation damage visible from May-Sept. High damage in July-late Sept. Irritant sampling techniques will flush larvae to surface.	Refer to insecticide list (biorational and chemical) for cutworms and armyworms. Also may use Oftanol, Turcam and Orthene. Plant endophyte-enhanced grasses.
Grubs	White grub species feed on roots. Damage appears as brown turf, easy to up-root.	Soil insecticides will give good to excellent control if watered in with half-inch of water. Labeled products include Dylox/Proxol, Turcam, Mocap, Mainstay, Crusade, Oftanol, Sevin, Diazinon and Triumph. Apply in mid-August-Sept. or in April-May. Milky spore disease(Doom) for Japanese beetle larvae only is recommended for community-wide treatments.
Greenbug aphid	Kentucky bluegrass major host; worst outbreaks occur after mild winters followed by cool, wet springs.	Orthene, Dursban and Diazinon for control in June-Sept. period. Treat if turf turns yellow.

Triumph only for use by commercial lawn pest control personnel, and only on golf course greens, tees and aprons, and on sod farms. Crusade only for use in professional turf areas such as golf course and commercial sod. Diazinon may not be used on golf courses or sod farms.

Source: Dr. Mathias

Insect control, warm-season turf

Learn to anticipate pest problems and spot situations conducive to pest outbreaks.

by Beverly Sparks, Ph. D.
University of Georgia

■ Managing the numerous insect and mite pests found in landscape situations is a challenging and often frustrating task. Due to the variety of plant landscapes, many different species of insects and mites can be found. However, remember not every insect or mite is a potential problem.

Learn the common pests, and become familiar with common plant materials in your area. Next, learn about the insect and mite problems associated with these plants. Learn to recognize these pests and the damage they cause. While some plants

are relatively pest free, others are pest prone and require a lot of maintenance to keep them healthy and pest free. Once the pests are identified, collect information on their lifecycle and identify environmental conditions which favor a rapid increase in numbers.

Sucking insects pests damage plants by removing sap from plant tissues. Symptoms of infestation:

- wilting plant tissues;
- curling or distortion of new growth;
- chlorotic spots or stippling of leaf surface;
- sticky substance or black fungal growth on upper leaf.

Common insects and mites causing this type of damage: aphids, scale insects, lace bugs, whiteflies and spider mites.

Chart on page 44



Damage done by feeding beetles.

insects causing this type of damage include tent caterpillars, webworms, bagworms, shadetree borers, and other beetles.

Tent caterpillars are attractively-colored caterpillars that reach about 1½ inches in length. They have a few long hairs on their bodies, mostly along the sides. They are commonly seen in the early spring, closely associated with the webs or "tents" they construct in the crotch of small limbs on their host plant. This tent serves as a refuge for the larvae during the night and during rainy weather. They have only one generation per year.

Webworms are about one inch long when full grown and are pale yellow or green in color. There is a broad, dusky stripe running down the back, bordered on each side by a yellow stripe. They are covered with tufts of long whitish hairs. They are found inside unsightly webs at the terminal ends of branches on their host plants. There are three to four generations per year in the southern U.S.

Bagworms build and live in a 1- to 2-inch tough, tear-shaped portable silken case. These bags are the insect's most easily seen and identifiable feature. Outside, the silken texture of the bag is somewhat concealed with layers of leaf, twig and bark fragments. The bag has an opening at the larger end that allows the worm to partially crawl out to feed and make repairs to its bag.

Shadetree borers: Many insects boring or living in the wood of shade trees are the larval or grub stage of beetles. Most of these pests attack trees or shrubs that are already weakened or injured by transplant shock, drought, flooding, soil fills, mechanical damage or disease. These larvae or grubs are 1/4 to 2 inches long, yellowish white, legless with either a fleshy, rounded head area or a large flattened area behind the head. They are found burrowing or tunneling under the bark of infested trees.

Common warm-season pests

■ About 1½ inches in length, **aphids** are soft-bodied insects that vary in color from green to yellow to black. Some are winged during certain times of the year. Generally, aphids can be recognized by their cornicles, a pair of tube-like structures projecting from the rear of their bodies. They are frequently found in large numbers, clustered together on the backs of leaves or on the stems of new growth.

Scale insects are very small, soft-bodied pests that secrete a protective covering over their bodies. These coverings vary in color from white to red to black. Some are flattened while others are more turtle-shaped. This covering protects the scale and makes control difficult. Scale insects are most easily controlled when insecticide applications are timed for egg hatch when the "crawler" stage of the scale is present.

Lace bugs get their name from the appearance of the area behind their head and the wing covers. The area forms a lacelike covering over the body of the insect. They are 1/8 to 1/4-inch long, and are partially transparent. Lace bug damage to the upper leaf surface appears as white to yellow chlorotic spots and the lower leaf surfaces

will be cluttered with black spots and the old cast skins of immature lace bugs.

Whitefly adults resemble small gnats. They range in size from 1/16 to 1/10 inch and have four broad, delicate, milk-white wings. Immature whiteflies are found on the underside of leaves and resemble scale insects. They are oval, flattened and yellow to almost transparent. Whiteflies often occur in tremendous numbers and when they are disturbed, the air is filled with a white cloud of insects.

Spider mites: Often called "red spiders," these are most often found on the backs of leaves. They are so small they can barely be seen with the unaided eye. The adults are oval-shaped and have eight legs and no antennae or wings. Expect rapid increase in spider mite populations during periods of hot, dry weather.

Chewing insect pests cause damage by consuming plant parts such as leaves and stems, or by burrowing in plant tissues to cause damage to the host plant. Symptoms of chewing insect pests include holes in leaves, silverying of leaf tissue, complete removal of leaf tissues, burrowing in or around stems, branches or trunks of plants. Common



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Superintendent
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Kingwood, Texas

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Warm-season insect control strategies

Pest	Host plants	Control practices
Aphids	Many types of trees, shrubs, ground-covers, bedding plants.	Inspect plants often; watch for lady beetles and other beneficial insects associated with aphids. Aphids can be "washed" off with strong stream of water when populations are light, or beneficial insects are present. For chemical control, use a product registered for aphid control and labeled for use on the host plant. Follow label directions. Apply to ensure good coverage of new growth and undersides of leaves. Two to three applications may be needed to control larger numbers.
Scale insects armored scales soft scales	Many species of trees, shrubs and groundcovers.	When possible, use plant materials not prone to scale infestation. Inspect susceptible plants frequently for scale insects. Examine infested plants for lady beetles and other beneficial insect populations associated with scale insects. Prune out heavily infested plant parts when possible. Treat with horticultural oils during the dormant season or with conventional sprays in spring and summer when crawlers are actively moving on the plant. Cover both sides of leaves and all twigs and branches. Make two applications at 14-day intervals to control heavy scale infestations.
Lace bugs azalea lace bug hawthorn lace bug	Azalea, laurel, pyracantha, sycamore, hawthorn, quince, elm, apple, oaks.	Beginning in early spring, inspect susceptible plant every week for infestations. Wash light infestations off host plant with strong stream of water. Chemical control most effective during first generation in early spring. If treatment is made in late summer or fall, repeat applications at 10-14 day intervals may be needed to maintain effective control.
Whitefly	Gardenia, crepe myrtle, ligustrum, azalea and many other woody ornamentals and trees.	Monitor susceptible plants weekly for developing infestations. Place yellow wooden panels coated with a sticky substance near host plants to monitor for whiteflies. When insecticides are needed for heavy whitefly populations, choose a product registered for whitefly control and labeled for use on the host plant. Apply product per label directions. Apply to ensure good coverage of the undersides of leaves. Often, 3-4 applications at 5-7 day intervals are needed to control heavy populations.
Tent caterpillars	Plum, peach, apple, hawthorn, oaks, sweet gum and other trees.	Inspect trees for egg masses during winter pruning; remove and destroy egg masses. Prune out webs when first noticed; destroy webs and crush caterpillars. Time insecticide applications for presence of feeding caterpillars. Treat foliage of infested trees with labeled insecticide. In environmentally sensitive areas, use a product containing <i>Bacillus thuringiensis</i> and apply per label directions.
Webworms	Oak, pecan, hickory, other ornamental trees and shrubs.	Inspect trees in early summer for webs. Prune out and destroy webs, crush insects. Time insecticide treatment for presence of feeding caterpillars in webbing. Treat foliage in webs.

continued on page 48



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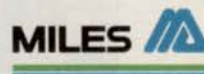
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Circle No. 118 on Reader Inquiry Card

WARM-SEASON INSECT CONTROL from page 44

Pest	Host plants	Control practices
Bagworms	Cedars, maples, arborvitae, cypress, elms, pines, willows, sycamores and other broadleaf and coniferous trees and shrubs.	During winter, remove and destroy all bags. Treat infested plants when bags are still small, in May to early June. When worms are larger, two sprayings at 7- to 10-day intervals may be necessary for control. Select a product labeled for bagworm control and labeled for use on the host plant. In environmentally sensitive areas, use a product containing <i>Bacillus thuringiensis</i> .
Shadetree borers	Ash, birch, elm, maple, dogwood, fruit trees and many other trees and woody ornamentals.	To prevent borers, follow proper watering, fertilizing and pruning practices. Remove stress factors from infested trees when possible. Protect weak or stressed trees from infestation or reinfestation by use of products containing chlorpyrifos (Dursban) or lindane. Apply first application in April and subsequent applications in late May, mid-July and late August. Spray trunk and lower branches to point of runoff.
Beetles elm leaf imported willow leaf beetle Japanese	Many woody ornamentals and shade trees.	Inspect trees often. Apply insecticides when young larvae are present, or before large numbers of adults are present. Products containing <i>Bacillus thuringiensis tenebrioides</i> or <i>San Diego</i> can be used in environmentally sensitive areas. Repeated insecticide applications may be needed to maintain control when beetles migrate in from surrounding areas.
Spider mites	Many woody ornamentals, trees and bedding plants.	Spider mites reproduce rapidly; inspect susceptible plants in early spring through fall. Several miticide applications at 5-7 day intervals may be needed to eliminate heavy mite populations.

Source: Dr. Sparks



Aphids gather in clusters.



Lucust borers live under tree bark.



Tent caterpillars appear in early spring.



Cushion scale are most vulnerable in the early "crawler" stage.



Spider mites are usually found on the underside of leaves.



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The environmental age weed control program being used by Roger Albrecht is typical of progressive turf professionals.

Albrecht is president of Nitro-Green Corporation, which has 38 lawn care franchisees scattered over 15 different states, and he manages two locations in California for his own hands-on experience.

"Our goal is to eliminate all broadcast spraying of herbicides on the ornamental turf we manage, and replace it with spot treatment as necessary," says Albrecht. "We want to be proactive on environmental issues and be able to assure our customers that we are using the absolute minimum requirement of chemicals."

Albrecht goes on to explain that such a program takes time to implement because

the turf needs to be so healthy and thick that weeds cannot easily germinate.

"The elimination of the broadcast applications of pre-emergent herbicides is the critical step," says Albrecht, "because, no matter what, some crabgrass is going to appear, and since crabgrass is a major cause of complaints, we must be able to eliminate it fast with no discoloration."

Trimec Plus provides the safety net that enables Albrecht to eventually eliminate broadcast applications of pre-emergent herbicides. "We have absolute confidence in Trimec Plus to handle any crabgrass or nutsedge that shows up," says Albrecht.

And, of course, the same spot sprayer filled with Trimec Plus that Albrecht uses to control crabgrass and nutsedge also controls the other grassy and broadleaf weeds that can germinate throughout the year. "Having one herbicide for all of our spot treatments is a major factor in our program," says Albrecht.

But if Trimec Plus is ideal for spot treatments, it is also unsurpassed for broadcast applications when the need exists. Listen to George Toma, the executive turf consultant for the Royals, Chiefs, and NFL:

"My son, Chip, the groundskeeper for the Truman Sports Complex, used broadcast applications of Trimec Plus on the out-of-sight, unirrigated perimeters of the complex which was loaded with every conceivable weed, and Trimec Plus

absolutely took out everything except the bluegrass."

According to Toma, it would have taken four different selective herbicides to do the job that Trimec Plus was able to do... but even more important, Toma says that Trimec Plus did a better job on all of the individual species than a narrow spectrum selective could have done.

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GOLF 'SCAPING

The business of dealing with greens committees

So some people think they know your job better than you do. How do you set them straight? These supers have some interesting opinions.

■ If you're in the market for real estate, the old saw tells you the three keys are "location, location and location."

Likewise, if you're a golf superintendent, the three keys to dealing with the greens committee are communication, communication and communication.

"That's what it boils down to," notes **Ron Wisniewski** of Flushing Valley Country Club, Flushing, Mich. "The more information you can give your greens committee, the better off you are."

He says that when asking for money for capital improvements, superintendents should:

- 1) be realistic about what you ask for;
- 2) don't sell yourself short; and
- 3) don't B.S. the committee.

"After a while, you get to know how much they want to spend," says Wisniewski, who has been at Flushing Valley for nine years.

Listen first—At Evergreen Country Club in Manassas, Va., **Dave Anderson** says "the entire membership is, more or less, the greens committee."

"I listen to them, across the board," he adds. "Besides writing monthly newsletter articles, I encourage two-way communication. I tell them to call me, stop me on the course, to jot it down." He gets about six requests per year from his ad hoc "greens committee."

If three or four comments are on any one aspect of the course, and he decides the suggestion is a good move for the oper-

ation, Anderson will go ahead with the project.

He also defined his own parameters before accepting the job two years ago.

"I made sure I was the one directing which way to go," he now notes. "I made sure the greens committee knew that I knew my business better than they did."

"In the past, board members were trying to micro-manage the course. I didn't want to get bogged down in the quagmire of club politics."

A changing guard—It's about the same for **Bill Gauwitz** of Mount Hawley Country Club in Peoria, Ill.

"You've got to keep the lines of com-

Wisniewski: don't B.S. the greens committee!



munication open," he comments. "The problem comes from the board level—not the greens committee—because it changes every year. The greens committee understands the realm of management within the dollars, but the board does not. So I have to justify what I'm doing almost yearly."

Anderson says new greens committee chairmen are always a challenge.

"I try to spend at least a half a day with new chairmen or presidents to let them know what-all is involved with my work," he admits. "I try to relate it to them in their terms, whether they're a banker or lawyer or whatever."

Gene Daniel of River Hills Country Club in Lake Wylie, S.C., has also had to handle a

variety of different greens committees with different personalities and different styles in his 15 years with the course.

"The main thing I try to do is inform them," he says. "It's more informal. I see them riding around the course and I talk to them. Or I'll stop by the greens committee chairman's house, or he'll come down to the shop."

When it comes to the membership, communication is easy because River Hills is affiliated with a retirement village. "Word of mouth is the fastest way to communicate around here," Daniel says. "You tell one person, and everyone knows it the next day."

Routing requests—Gauwitz handles small requests from the greens committee or even members immediately. "Large requests—and mostly they're verbal—either come to me or a member of the board to vote on."

While the others depend on informal communication, Wisniewski likes his to take a more formal format. He makes members put suggestions in writing to either him or the greens committee. The greens committee then discusses the member's proposal and votes on it. The decision is passed on from the committee to the member who made the suggestion.

While no one contacted by **LANDSCAPE MANAGEMENT** had any extremely bad experiences (that they would admit publicly), there is no doubt that the problems between superintendents and their greens committees occurs. The lounge talk following countless local superintendents meetings indicates so.

"The horror stories are out there," says Anderson. "But everyone's starting to realize that you have to be communicative and flexible and realize that your greens committee and your members are your customers. Everybody nowadays is in the customer service business—and it is a business."

—Jerry Roche

USE YOUR CAMCORDER!

■ Mike Mongan of Arcola Country Club in Paramus, N.J. has been very successful at communicating with members and the greens committee through video presentations.

"Membership and governing bodies have situations where they ask you, 'what have you done for me lately?'" Mongan said at the annual GCSAA Convention. "They have short memories.

"I've gained a lot of respect from the membership for the grounds crew because I've been able to demonstrate that we're not just grass-cutters and we don't just sit around drinking coffee in the winter. You get to show them things they wouldn't normally see. We can show things that are being done on a timely basis, in-house with our own staff."

Mongan says you can use a videotape to document things like construction, the effects of nature on the course, and vandalism.

"You can also show (your greens committee) that your crew is well trained, and that they are willing to tackle problems," Mongan says. "The reporting aspect is essential. Being able to bring things to life is an integral part of communication."

Mongan has 10 commandments of video

taping, gleaned through four years of experience taping his course's development:

- 1) Identify a subject or project.
- 2) Be sure your battery is charged.
- 3) Keep the segments brief, just enough to give a flavor or whet the appetite.
- 4) Keep the day/date mechanism on the camera turned on.
- 5) Refrain from quick movements.
- 6) Keep reference points the same during time lapse photography of the project.
- 7) Use the fade button for more professional results.
- 8) Narrate during your presentation to the governing body, not while taping.
- 9) Don't tape golfers up close, or their faces.
- 10) Solicit comments from the governing body during the presentation.

—J.R.



Use video cameras to record golf course renovation projects.

Controlling summer patch

■ Summer patch is a disease that affects annual bluegrass on golf course greens, tees and fairways in the northern U.S., according to Dr. Bruce Clarke of Rutgers University. The scientific name of the pathogen is *Magnaporthe poae*.

Several methods of cultural and chemical control are now available, Clarke says.

"Cultural management (i.e., aerification, fertilization, lowering soil pH) will reduce disease severity and thus reduce the amount of fungicide needed to control summer patch," he further notes.

Aerifying will reduce the disease's harmful effects on turfgrass. "It doesn't matter whether it's shallow- or deep-tine aerification," Clarke says, "Springtime aerification, however, is most effective in reducing disease severity."

Fertilizers can help superintendents cope with summer patch. For instance, Clarke states, an acidifying fertilizer will reduce the severity of the disease by lowering soil pH. "This is a long-term approach in which results don't become apparent until the third year," he further notes.

Sulfur-coated urea, ammonium sulfate and ammonium chloride will reduce the disease. However, certain fertilizers should be avoided. Calcium nitrate and potassium nitrate will actually accentuate

summer patch.

Clarke further notes that superintendents can decrease the probability of damage from summer patch and other root diseases by making sure the soil pH is between 5.5 and 6.0, which is more acid than the normally-accepted 6.5.

If you must use a fungicide to control disease outbreaks, Clarke says that foliar applications of the fungicides in the

accompanying chart work best. Use full label rates until proper cultural practices (i.e. fertilization and aerification) reduce disease development.

He adds that high rates of water—four or five gallons per 1000 square feet—should accompany fungicide application. "But if you can't apply that much water, irrigation does enhance control slightly," he says. One-eighth to one-fourth of an inch of irrigation is ideal.

continued on page 54



Summer patch thrives in soils with higher pH factors.

Courtesy DowElanco



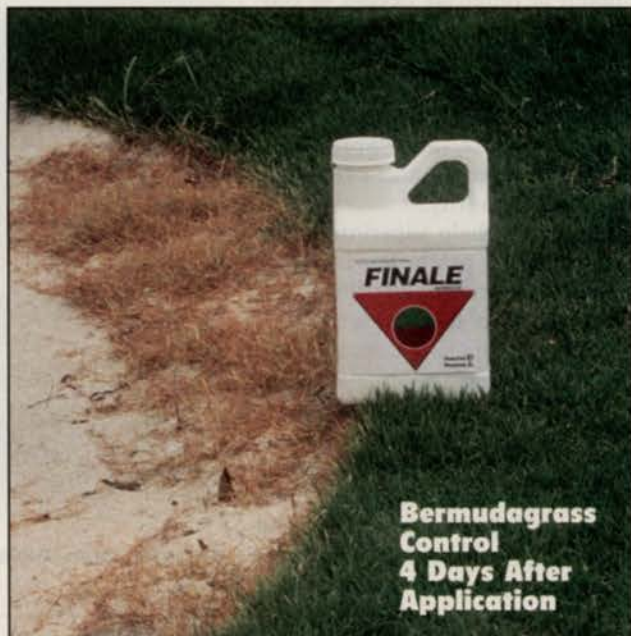
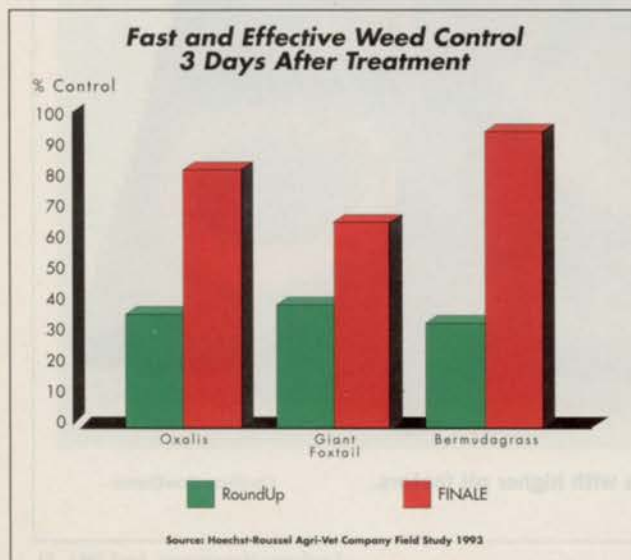
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SUMMER PATCH from page 51

The *Magnaporthe poae* fungus needs a soil temperature of at least 60 degrees at a two-inch depth to infect roots. This means that the soil temperature will have to be 60 degrees for four or five days in a row before it will begin the infection process. Therefore, the first fungicide application should not be made until this time. For optimum control, repeat two to three times at 21- to 28-day intervals.

To summarize Clarke's approach to effective summer patch management:

- aerify and improve drainage;
- raise mowing height during heat stress;
- overseed with perennial ryegrass, tall fescue or bentgrass;

- fertilize with ammonium sources or SCU; avoid nitrate sources;
- keep pH between 5.5 and 6.0; and/or
- apply systemic fungicides in 4-5

gal. water/1000 sq. ft.

Clarke made his observations at the GCSAA Convention in Dallas two months ago.

—Jerry Roche

FUNGICIDES FOR SUMMER PATCH CONTROL

DMI/sterol inhibitors

Product	Rate
Banner 1.1E.	4 oz./1000
Bayleton 25DF	4 oz./1000
Rubigan 1AS	3 oz./1000
Sentinel 40WG	1/4 oz./1000

Benzimidazoles

Product	Rate
Cleary's 3336 50W	8 oz./1000
Fungo Flo 4.5F	8 oz./1000
Tersan 1991 50W	8 oz./1000

I.D. weeds: start with weed type

- Weed identification begins with classifying the weed type.

Broadleaves, or dicotyledonous plants, have two seed cotyledons (young leaves) at emergence and have net-like veins in their true leaves. Broadleaves often have colorful flowers. Examples of winter broadleaf weeds include clover, lawn burweed, henbit, speedwell and chickweed.

Grasses, or monocotyledonous plants, have only one seed cotyledon present when they emerge from the soil. Grasses also have rounded hollow stems with nodes (joints), and parallel veins in their true leaves. Annual bluegrass is an example of a winter grass weed.

Sedges and rushes generally favor a moist habitat and have stems which either are triangular and solid (sedges) or round and solid (rushes). Although many sedges are perennial and live through the winter, frost usually causes sufficient shoot dieback. Sedges therefore are not usually noticed at this time.

Most winter weeds germinate in late summer through early fall, grow throughout the winter months, and flower or produce seedheads during late winter and early spring. For most observers, winter annual weeds are not usually noticed until spring when growth sprouts, along with seedheads and flowers, produce a ragged-appearing turf.

In the past, weed identification has frustrated turf managers because of the lack of an adequate turf weed identification guide. "Weeds of Southern Turfgrasses" is a highly recommended identification guide published recently for turfgrass managers. It is available from either the Florida, Georgia or Alabama state cooperative extension offices. County agents, lawn care operators and industry representatives are also helpful in identifying troublesome weeds.

—Dr. Bert McCarty,
University of Florida

Native plant is defined

- What is a native plant? According to Tom Smith, who is on the board of directors of the Wildflower Association of Michigan, the definition goes back a long way.

Smith says the correct definition, according to the fall, 1992 issue of "Wildflower" magazine is "a plant that grew in an area prior to European settlement." The definition appeared in an article by Mark V. Wilson, David E. Hibbs and Edward R. Alverson entitled "Native Plants, Native Ecosystems and Native Landscapes."

Smith writes: "Many of our introduced or 'exotic' plants now occur 'naturally in a region' and are 'ideally suited to grow there' as the definition in the article states. That does not make them native. If they can reproduce in nature in an area, then they are considered 'naturalized' but not native."

Smith is president of Grass Roots, East Lansing, Mich.

Primo receives New York label

- The New York Department of Environmental Conservation registered Primo, a growth management tool, to be used on turf in the state beginning March 18th. Primo was labeled for use in the rest of the nation in February, 1993.

Primo, manufactured by Ciba Turf &

Ornamental, is registered for golf courses and highly-maintained commercial and residential turf. When used at standard rates, Primo reduces turf growth and clippings by approximately 50 percent for four weeks during prime growing periods, Ciba says.

The product may be used on all

major warm- and cool-season turf species, including bahiagrass, common and hybrid bermudagrass, centipede-grass, St. Augustinegrass, zoysiagrass, bentgrass, Kentucky bluegrass, red and tall fescue and annual and perennial ryegrass.

For more information, call the Primo information line, (800) 395-8873.

LAWN CARE INDUSTRY

PLCAA courts regional/state groups: ARAs gain momentum

Allied Regional Associations are growing in numbers and influence—and providing leaders.

■ Robert Ottley doesn't wear the crusader's mantle comfortably. He's a more deliberate and soft-spoken individual as president of One Step Tree & Lawn, North Chili, N.Y.

Ottley admits he didn't realize what he was getting into when he said "yes" to a request that he chair PLCAA's Allied Regional Association (ARA) Committee. Even so, he's determined, in his soft-spoken way, to steer the committee toward a written document that spells out the relationship between the Professional Lawn Care Association of America and ARAs. More on that later.

ARAs: what are ARAs, you ask?

Surprise. If you're a member of any one of 19 state or regional lawn care/pesticide user organizations, you're also a member of an ARA. You may not know this because none of your dues goes to the PLCAA, and your membership in the state organization is entirely separate from PLCAA.

But your state or regional association communicates and cooperates with PLCAA. It keeps PLCAA informed of state and local issues, usually regulatory or leg-

islative, and PLCAA lends support where it can. The partnership, actually just worked out the past three years, hasn't been that perfect. But that's the plan.

That's what Ottley has been stressing too—more communication and cooperation between PLCAA and ARAs.

"I think there's been a feeling on the PLCAA board that, yes, we really want the ARAs out there. But, on the other hand, maybe we don't," says Ottley.

This is significant because:

✓ The combined membership of the 19 ARAs exceeds 3,000 companies, about three times larger than PLCAA's membership.

✓ ARA numbers are growing faster than PLCAA's.

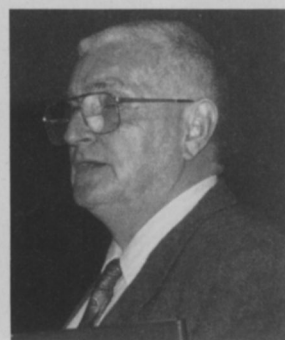
✓ Local and state pesticide-use issues have had a more immediate and direct affect on LCOs' businesses than national issues, particularly evident since the U.S. Supreme Court, in its interpretation of FIFRA, ruled against federal pre-emption in 1992. (See related article on pre-emption.)

✓ PLCAA's leadership, itself, gets drawn from ARAs.

PLCAA, of course, literally grew out of its skin in the first six or seven years of



Robert Ottley, center, meets with Henry (Pat) Voges and his wife, Patricia, during ARA meeting in Washington D.C. The Voges represent the Nassau-Suffolk Landscape Gardeners Association, a Long Island-headquartered ARA.



Don Tannehill, Tridon Lawn Service, Inc., Olathe, Kans., ARA liason from Kansas told PLCAA that 14 hort groups in state are measuring impact of green industry there.

its existence, until about 1986. Membership climbed, staff grew, so did the services it offered.

Then, figuratively, PLCAA hit the wall. It quit growing.

Its membership continued to sag alarmingly through the late 1980s. Until then, PLCAA's attention only fleetingly focused on state associations. What little attention they did receive seemed tinged with PLCAA's wish that state groups, somehow, bend toward becoming PLCAA chapters.

After all, PLCAA was *the* voice for the lawn application industry, and projections that it could attract 2,000 members by 1990 didn't seem unreasonable.

But the industry's continued maturation and consolidation stopped PLCAA's growth.

Faced with a growing membership and
to page 58

ELSEWHERE

Complete list of allied associations, page 58

LCO battles local regulations, page 59

Counting many pre-emption successes, page 62

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ARAs from page 55

financial crisis four years ago, the PLCAA board lured executive director Ann McClure from the Irrigation Association, chopped PLCAA's staff, and launched into annual self-examinations. These measures, coupled with more persistent membership marketing, stabilized the trade group.

About 1990 also, PLCAA 'rediscovered' state and regional lawn care groups which it eyed as potential "chapters."

PLCAA, after inconclusive debate, tacitly backed board member Robert Andrew's efforts to help grow a new crop of state lawn care associations.

Andrews, who owns The Greenskeeper, Carmel, Ind., hit the road and succeeded admirably, particularly in his home state but also in Wisconsin, Pennsylvania, and Ohio. (The Ohio Lawn Care Association, in just four years, has 400 members alone.)

But how many of the member companies that belong to ARAs also participate and pay dues to PLCAA? Proportionally, not many.

Still, Andrews feels PLCAA could form state chapters, particularly where ARAs

don't already exist. (Texas and Illinois are obvious choices.)

"Perhaps, PLCAA can go in and, using its membership base in those areas, begin a true chapter concept. It would help get the state organization off the ground. Also, if it's worked right, it can generate additional members for PLCAA," says Andrews.

Regardless, Andrews says ARAs certainly haven't harmed PLCAA. That's because PLCAA deals with national issues, ARAs with state and local issues, a clear division.

"I've never believed the old argument that state groups detract from PLCAA. Now, after having served on the PLCAA board and as PLCAA president and after having started some of these groups, I feel even more strongly about it," says Andrews.

Mona Bond of the Iowa Professional Lawn Care Association, says ARAs still need "a more defined, structured" relationship with PLCAA. The flip side: PLCAA deserves more support, including financial support from ARAs. An ARA pays only \$150 annually to PLCAA.

"In my view, we reap a lot more benefits from PLCAA than that," says Bond

who, along with 23 others, met with Ottley this past February in Washington D.C.

Dale Amstutz of Northern Lawns, Omaha, Neb., was at that meeting. A charter member of the Nebraska Professional Lawn Care Association (NPLCA) and a PLCAA board member, he supports the growing link between ARAs and PLCAA.

"We got tremendous support from Norm Goldenberg (board member and TruGreen/ChemLawn vp) and Tom Delaney (PLCAA government affairs). They helped us put together a sample bill," says Amstutz of NPLCA's effort to get FIFRA into Nebraska. "PLCAA is most valuable in the legislative arena."

Not coincidentally, Amstutz, Andrews, Ottley—even PLCAA's president, Lou Wierichs of Appleton, Wis.—joined PLCAA's board after participating in ARAs.

Board members won't be too surprised when Ottley, on recommendation of this committee, asks for stronger ties with ARAs. But he's going to ask that ARAs take work harder to entice member companies to also participate in PLCAA.

—Ron Hall

Allied Regional Associations

(U.S. states in **boldface**)

Association of **Montana** Turf & Ornamental Professionals, Dennis Roberts, P.O. Box 90331, Billings, MT 59108; (406) 256-9499.

Association of Turf & Ornamental, Kermit Throckmorton, 8511 Walnut Hollow Cove, Cordova, TN 38018; (901) 753-6481.

Colorado Association of Lawn Care Professionals, Judy Maurer, P.O. Box 102502, Denver, CO 80250-2502; (303) 777-1578.

Grounds Management Association of **Wisconsin**, Lou Wierichs, Jr., P.O. Box 566, Appleton, WI 54912; (414) 739-5615.

Indiana State Lawn Care Association, Pat McGrady, P.O. Box 143, New Castle, IN 47362; (317) 836-4866.

Interstate Professional Applicators Association, Dan Behey, Eastside Spraying Service, P.O. Box 681, Kirkland, WA 98033; (206) 823-2600.

Iowa Professional Lawn Care Association, Mona Bond, 1051 N.W. Greenwood, Ankeny, IA 50021; (515) 963-1395.

Kentucky Turfgrass Council, Dwight Barkley, Eastern Kentucky University, Richmond, KY 40475; (606) 622-2228.

Lawn Care Association of **Pennsylvania**, John D. Wanner, 908 Second St., Harrisburg, PA 17102; (717) 236-2050.

Lawn Services Association of **Michigan**, Kay Ruffino, P.O. Box 608, New Baltimore, MI 48047; (810) 598-7158.

Massachusetts Association of Lawn Care Professionals, Karen Connelly, 1620 Sudbury Road, Suite 6, Concord, MA 01742; (509) 287-0127.

Nassau/Suffolk Landscape Gardeners Association, Patricia Voges, P.O. Box 489, Brightwaters, NY 11118; (516) 665-2250.

Nebraska Professional Lawn Care Association, P.O. Box 1197, Hastings, NE 68902; (402) 462-6161.

New York State Lawn Care Association, Robert Ottley, 4343 Buffalo Road, North Chili, NY 14514; (716) 594-1095.

North Central Turf Grass Association, Betsey Smith, P.O. Box 10444, Fargo, ND 58106-0444; (701) 232-0215.

Ohio Lawn Care Association, Ken Guenther, 2999 Silver Drive, Suite 200, Columbus, OH 43224; (614) 261-1221.

Professional Lawn Care Association of Mid-America, Olivia Golden, P.O. Box 35184, Kansas City, MO 64134; (816) 765-7616.

Professional Lawn Care Association of Ontario, P.O. Box 375, Mount Brydges, Ontario, N2C 2K6 Canada; (519) 471-2620.

Professional Lawn Maintenance Association of **Connecticut**, Gary Steward, P.O. Box 11, Watertown, CT 06795; (203) 274-0608.

Vermont firm lives with city regulation

Peter Harrison opposed Burlington, Vermont's pesticide regulations, but they passed anyway. Then he grew his Lawnmark site in spite of the roadblock.

■ If they didn't plow Main Street in Burlington, it would make an incredible ski jump. Launch from the picture-postcard hill of the University of Vermont campus and rocket down through a mile of bustling, European-style stores and shops. *Whoosh*, given a stout heart and a steady backwind, who knows, even the green, quiet hills of New York across frozen, blue Lake Champlain seem almost reachable.

But at least one person in this community in northern Vermont—expert skier that he is—says things could be better.

Peter Harrison, 33, is learning to live with a ridiculous pesticide-use ordinance. A slightly built, athletic, intense man with bristling energy, Harrison manages the Lawnmark operation in Burlington, one of several Lawnmark locations in the Northeast and New England purchased by, and being folded into, \$100-million-a-year Barefoot Grass very soon.

Harrison—it's his Yankee upbringing—doesn't mince words.

"It's a real pain in the butt," says Pete of the ordinance the city adopted, over his strenuous objections, prior to the start of the 1993 season. "The ordinance says we have to pre-notify, by letter and at least 24 hours in advance, any abutting neighbor of any property we're going to treat."

Even so, the company he manages grew last year.

The regulations, in fact, cover *anybody* applying pesticides within Burlington, leading to the curious spectacle of one of the ordinance's chief sponsors himself being discovered breaking the law. "Can you believe it?" asks Harrison rhetorically.

Many homeowners, says Harrison, disregard the ordinance. But Harrison says his branch won't test the law. He intends to work within its requirements. He keeps records to prove that he does.

He says he warned his 500 or so customers inside the city limits that the ordinance, if passed, would result in higher prices. "I sent two letters to our customers



and informed them about the ordinance and what it meant. I asked them for their support, and for them to voice their concerns too," he recalls. But the controversy stirred little community interest. Efforts to raise a pesticide users group never really materialized either.

Few customers within the city seemed to care at all—that is, until Harrison informed them that he had to charge \$8.75 more per application to fulfill the requirements of the ordinance. The company, then known as Nature's Helper, had to do all the paperwork and extra mailings by hand, says Harrison. Once it had been acquired by Lawnmark and computerized, however, he could drop the extra cost down to \$2 extra per application.

"Vermonters won't waste money," says Harrison, a native himself and a 1983 graduate of University of Vermont. "They definitely want to see some value when they spend their money."

As if the prenotification clause weren't bother enough though, the ordinance also prohibits using any pesticides within 500 feet of Lake Champlain. Some of the city's nicest homes sit on the scenic lakeshore. Homeowners there can select an all-natural program, a fertilizer-only program, or they can do their own lawn care.

Harrison says the city added the provision in spite of being informed of research done by Dr. Tom Watschke at Penn State (and others) documenting turf's role as a biological filter.

In spite of the turmoil of the ordinance, the branch that Harrison manages remains healthy and growing, with sales of

Snow usually doesn't leave the University of Vermont campus until late in spring. When it does, Peter Harrison and his Lawnmark crew arrive at day-break to fertilize and treat the UVM Commons before a.m. classes start.

\$½-\$1 million. That's in spite of three name changes involving two different owners the past three years. Consider also that Harrison, in lawn care nine years, converted the program from liquid to primarily granular.

Harrison's branch market extends northeast over Lake Champlain to Plattsburgh, N.Y., and to Montpelier about 40 miles in the other direction. Harrison says his seven employees (including two office workers) cover a lot of hilly, rural territory.

He credits the growing popularity of the company's tree and shrub program, and stronger commercial sales for the branch's success. Most of all, he says the branch thrives because of the "tremendous effort" of its employees.

"Everybody puts in more than their time," says Harrison who, himself, regularly logs 14-hour days once the season starts. (The last two years his location couldn't even start its first round because of snow until April 20.)

That's another reason why neither he, nor his comrades, could defeat the pesticide laws. They were stretched too thin.

"It was a learning experience," he admits with a shrug. "I got to see how the political process works. I found out you need all the help you can get."

—Ron Hall

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a lot less and still get excellent results.

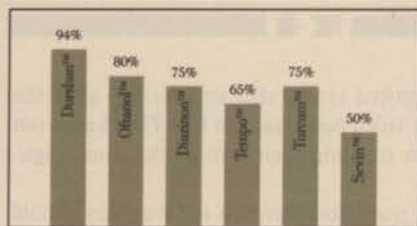
Here's an example. Mixing insecticide with insecticidal soap can reduce the amount of insecticide you need on your ornamentals by about 50 percent. Soap controls

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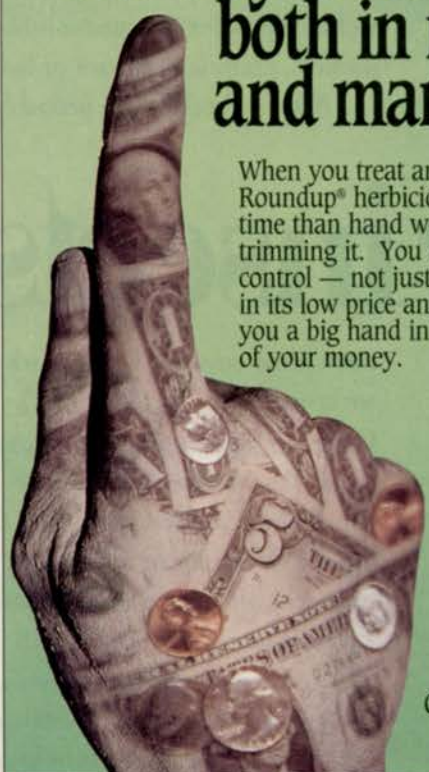
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User coalitions score with pre-emption ruling in Washington state

■ When the King County Board of Health tried to regulate commercial lawn and landscape applicators just over a year ago, it didn't expect much of a tussle.

After all, the Interstate Professional Applicators Association (IPAA) isn't a household word in the Seattle area. It has only about 40 members in the entire state of Washington, about that number in Oregon, and its new chapter in Idaho has, maybe, a dozen members.

But just before this past Christmas, the tiny IPAA filed a lawsuit in Superior Court seeking to overturn the health board regulations. Members vow to oppose the regulations, and resolve the issue even before the suit is heard.

"We tried to convince the Board of Health that it didn't have the legal authority to regulate landscape applicators," says Ed Walter, Washington Tree Service, a leader in the legislative fight for the IPAA. "In fact, the state attorney general even wrote that the state has primacy in this matter. We feel the King County prosecutor's office will come to its senses and write us out of the ordinance."

Adds Dan Behey, Eastside Spraying Service, Kirkland, Wash.: "If King County can get away with this, the next step is that every little jurisdiction in the state will also want to write their own regulations."

This legislative brushfire in the Pacific Northwest mirrors

dozens of others ignited (some still simmering) after the U.S. Supreme Court ruled two years ago that FIFRA does not preclude states from enacting their own pesticide-use regulations.

The trouble was, many local officials felt that they should be able to regulate pesticide use, too.

State governments in all but about 10 states have since ruled that localities don't; they've decreed that the final say on pesticide-use regulations resides in state capitals.

These successes resulted when coalitions of pesticide-user groups worked with and educated state lawmakers, says Thomas Delaney, legislative affairs director for the Professional Lawn Care Association of America (PLCAA).

Wisconsin passed pre-emption this past December, and Michigan in January. Pooling their efforts in Michigan were the 90-member Lawn Services Association of Michigan and the 300-member Michigan Pest Control Association.

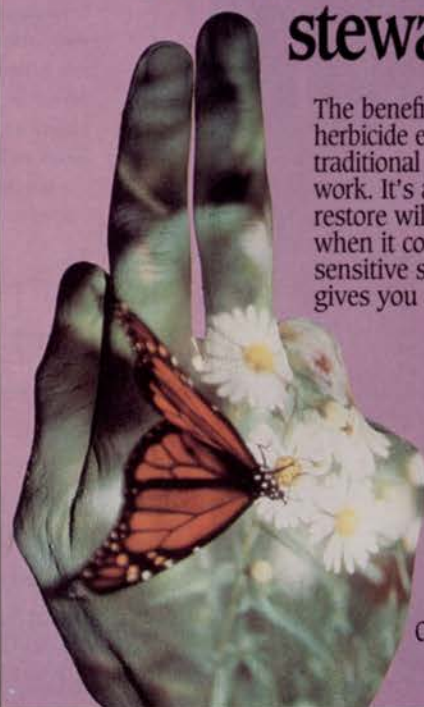
Pre-emption efforts continue in Kentucky (already in place for agriculture but not lawn care), Idaho, Utah, Massachusetts and Maryland.

Here, and probably elsewhere as well, lawn/landscape applicators will continue finding themselves bumping heads with local lawmakers convinced of their *right* to pass pesticide legislation, sometimes in conjunction with the anti-pesticide factions that the green industry has long debated, says Delaney.

"Some people do see it as a home-rule issue. Then it to page 63

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PRE-EMPTION from page 62

becomes an emotional issue," adds Karen Connelly, director of the Massachusetts Association of Lawn Care Professionals (MALCP).

In these instances, it's wiser to start with education rather than confrontation, she believes. Sometimes local authorities aren't even aware of state and federal pesticide regulations already in place. Usually they don't even know much about the industries they're thinking about restricting.

But even Connelly admits this doesn't always work. Case in point: Mansfield, Mass., where several LCOs, several years ago, spent dozens of hours trying to reason with sponsors of restrictive pesticide laws. When this failed, the LCOs spent tens of thousands of dollars in legal fees before being vindicated. Winning carried a high price.

But MALCP, with its 85 members, is just one of a dozen or so participants in a statewide Green Industry Alliance. Other pesticide-user groups round out the coalition. All add their collective expertise and weight to local issues.

Recently, some of these pesticide users met with officials of Boxford and Wellesley, Mass. Both local health boards are mulling pesticide-use regulations.

"We were pleased to be able to gather a large grassroots organization to meet with them," relates Connelly. "Fortunately, most of the people (board members) were open to reading the literature and research material we provided them."

In spite of these efforts, and the strong informational ties

the green industry has to Massachusetts state government, it remains one of about 10 states still unwilling to forbid local governments from passing pesticide laws.

"We (MALCP) know what our focus is," adds Richard Ficco, president, Partners Quality Lawn Service. "It's to lobby for our big bill, the pre-emption bill."

—Ron Hall

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JOB TALK

Garden is a challenge of historic proportions

■ As the oldest and perhaps the finest landscaped garden in America, South Carolina's Middleton Place exemplifies Southern low country plantation life and style of the 18th and 19th centuries. Classic gardens designed with geometric precision and logic are the highlight of this pastoral plantation near Charleston.

As horticulturist for the historic site, Sidney Frazier is guardian of a 250-year tradition of landscaping excellence. Whenever possible, Frazier emphasizes preserving that history by using species that were part of the garden's original designs.

Frazier's maintenance methods, honed over 20 years, are labor intensive.

"It all has to be weed-free, passable and presentable," he says. "The paths have to be hand-raked, sometimes twice a week, and many of the shrubs have to be pruned for shape, fertilized and sprayed three times a year. The lake and ponds have to be kept up as well. That's a lot of maintenance."

Color philosophy—In the garden proper, color is a vital detail in which Frazier strives to be historically correct and set a proper mood and tone.

"When you have hot and cold colors in the same bed, you feel tense and stressed, and you don't really know why," Frazier explains. "That same tension is totally absent here. It's a completely peaceful experience in every dimension."

Frazier is firm in his philosophy of hues. "We try not to use any hot colors in the summer. You won't see any red or orange, except where we want to highlight a central point," he says. "In the wintertime, it's just the opposite: bright and warm. We just trade off on the seasons."



Keeping a first-class appearance at Middleton Place requires an aggressive—yet fairly low-cost—maintenance program, Frazier is quick to point out.

Aggressive maintenance—Maintaining the right look requires aggressive maintenance. January, for example, starts with azalea planting, path repairs and mole treatments. In February, lawn care begins, along with regular plant pruning and rose replacement. Frazier also uses Casoron to control vine-like weeds in shrubbery and juniper beds then.

Garden maintenance is intensive, March into September. Spraying begins on the flowers and weeds. Any instances of azalea petal blight are treated with Bayleton.

March duties include trims to the bouquet wall, the rice mill hedge, pampasgrass and boxwood, and spraying camellias and azaleas. Spring also means controlling grubs and mole crickets in the turf and peach tree insects with Diazinon.

Roses are sprayed twice weekly for insects with Orthene starting in May, along with Daconil for Fungi. Camellias are pruned continuously. June work includes controlling scale, tea scale, white flies and mites on camellias and azaleas with Cygon.

July and August are particularly difficult months for lace bugs on the Azaleas. The azuyu worm, too, is a serious problem over the summer. Frazier finds Orthene the best remedy for rose pests such as beetles, earwigs, nematodes and spider mites.

Camellias and azaleas are sprayed again in November or February with an oil. At that point, the work starts to wind down. December and January are breaks from spraying.

Cutting labor—At one time, four people were needed to work three days a week just weeding walkways. On alternate weeks, those workers would spend three days pulling weeds from mulch beds. That has changed.

"By using Roundup, it takes only one person to do the same amount of work on the walkways and on the beds. Each area can be done in just one day," says Frazier. "That's 12 times less expense in labor required, plus I've made time for other workers to do different projects. You get more done with the presentations using Roundup."

No matter what the challenges, however, Frazier finds great reward in his work for Middleton Place. "We spend \$10,000 a year on pesticides—only a fraction of what a golf course would spend," he boasts.



Sidney Frazier (right) confers with Sara-Edi Livingston, who designed a nearby wildflower plot.

HOT TOPICS

Sandoz/Gallup poll finds industry becoming safer

'Partnerships' between end users and manufacturers of pest control products are key to public education.

WASHINGTON—A national Gallup Poll commissioned by Sandoz Agro reveals that green industry professionals who apply pest control products are using safer products and application practices.

More than 59 percent of the respondents in all groups applying the products said they are doing things differently compared to five years ago, and increased public concern is one of the main reasons.

The poll surveyed more than 2,000 users of pest control products, including 200 lawn care companies and 200 golf course superintendents, nationwide. Also included in the poll were small animal veterinarians, farmers, structural pest control operators, mosquito district managers and roadside vegetation managers.

"It's pretty clear that these professionals share the public's concerns and are interested in developing partnerships with the public to further improve safety to people and the environment," says David Whitacre, Sandoz's vice president of development. "They're listening and responding, sometimes in ways that go beyond what is required by law."

Other statistics from the survey:

- More than 67 percent said the safeguards in place are sufficient to ensure safety to the environment, the public, animals or wildlife, and product users. They said overwhelmingly that education is the best way to reduce the public's concern.

- Approximately one-fifth of all respondents (except veterinarians) always notify their neighbors when applying products. And almost half believe it is a good idea.

Max Larsen, executive vice president of the Gallup Organization in Lincoln, Neb., sees a common thread running through the survey. "They believe manufacturers have primary responsibility for educating the public and fixing environmental problems, but they see themselves as partners in the process. They want to do the right thing."

The telephone survey was conducted in December, 1993. Results of some questions posed to the lawn care and golf segments of the survey are reproduced here.

SANDOZ NATIONAL ENVIRONMENTAL POLL

QUESTION	LAWN	GOLF
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1. What is the most serious issue associated with the use of pest control products in your industry?

SAFETY	32%	33%
ENVIRONMENTAL IMPACT	21%	29%
PROPER APPLICATION	18%	12%
PUBLIC PERCEPTION	20%	10%
EFFECTIVENESS	4%	5%
REGULATIONS	16%	8%

2. In comparison to five years ago, is there more, less or about the same amount of public concern over pest control and the environment?

MORE	71%	77%
LESS	6%	1%
ABOUT THE SAME	20%	18%

3. What is the most common complaint you hear from the public, your neighbors or customers relating to pest control products?

QUESTIONS ABOUT SAFETY	24%	9%
ENVIRONMENTAL CONCERN	9%	5%
EFFICACY	4%	0%
SMELL/ODOR	14%	15%
LACK OF INFORMATION	6%	3%

4. Who do you think has primary responsibility for correcting problems associated with pest control products?

MANUFACTURERS	31%	37%
USERS/APPLICATORS	24%	28%
GOVERNMENT	26%	21%
CONSUMERS	3%	1%

5. Has your personal concern associated with pest control increased, decreased or stayed the same over the past five years?

INCREASED	51%	47%
DECREASED	6%	4%
STAYED THE SAME	43%	49%

more on page 66

ELSEWHERE

Endophytes get common names, page 66

Correcting winter damage, page 70

Paul Harvey on pesticides, page 70

Posting for Wisc. homeowners?, page 70

SANDOZ POLL from page 65

QUESTION

LAWN

GOLF

6. Why has it increased?

PERSONAL AWARENESS	36%	32%
PUBLIC AWARENESS	21%	17%
SAFETY	12%	7%
ENVIRONMENTAL IMPACT	11%	15%
MORE GOV'T. REGULATIONS	4%	11%
INCREASED USE	3%	6%

7. Do people in your industry use safer pest control products when available?

ALWAYS	50%	70%
SOMETIMES	37%	27%
NOT USUALLY/NEVER	3%	3%

8. Do people in your industry wear protective clothing?

ALWAYS	50%	65%
SOMETIMES	36%	33%
NOT USUALLY/NEVER	11%	1%

9. Do people in your industry dispose of containers properly?

ALWAYS	62%	78%
SOMETIMES	26%	20%
NOT USUALLY/NEVER	7%	0%

10. Do people in your industry follow labels closely?

ALWAYS	71%	93%
SOMETIMES	23%	6%
NOT USUALLY/NEVER	4%	1%

11. Do people in your industry attend educational classes?

ALWAYS	55%	59%
SOMETIMES	33%	36%
NOT USUALLY/NEVER	8%	3%

12. How important is it that people near the application area be informed, if the products are applied properly?

VERY IMPORTANT	26%	29%
SOMEWHAT IMPORTANT	26%	35%
NOT VERY IMPORTANT	26%	17%
NOT IMPORTANT AT ALL	16%	12%
DEPENDS ON PESTICIDE	4%	4%

QUESTION

LAWN

GOLF

13. Compared to five years ago, are you making fewer applications?

YES	72%	67%
NO	26%	30%

14. Have you used an integrated pest management (IPM) program?

YES	77%	77%
NO	23%	23%

15. Compared to five years ago, what are you doing differently regarding the use of pest control products?

USING SAFER PRODUCTS	33%	37%
BETTER APP. METHODS	20%	16%
USING LESS PRODUCT	30%	33%
PROTECTIVE CLOTHING	3%	7%
EDUCATING CUSTOMERS	5%	3%
DISPOSING/STORING PROPERLY	4%	5%
ENCOUNTERING REGULATIONS	7%	2%
GETTING BETTER TRAINING	7%	2%
NOTIFYING THE PUBLIC	5%	6%

16. Do you think some products are knowingly applied improperly?

YES	58%	39%
NO	38%	53%

17. If yes, do you think this occurs frequently or occasionally?

FREQUENTLY	35%	9%
OCCASIONALLY	62%	90%

18. What area should be regulated more to prevent unsafe practices?

APPLICATION	29%	21%
HOMEOWNERS	28%	21%
EDUCATION	5%	8%
ENFORCING REGULATIONS	3%	4%
DISPOSAL	1%	5%

19. Do you feel that the safeguards already in place are sufficient to ensure safety to the environment?

STRONGLY AGREE	20%	24%
AGREE	56%	65%
DISAGREE	18%	7%
STRONGLY DISAGREE	4%	1%

Researchers now naming endophytes

SANDUSKY, Ohio—Dr. Rich Hurley of Loft's Seeds says researchers are getting so familiar with endophytes they're starting to select and name specific types like the Rose City endophyte from Oregon.

Hurley described endophytes as "true biological insect control" to almost 100 lawn/-landscape managers here, wrapping up a three-city tour with Dr. A.J. Powell of the University of Kentucky and Dr. Ed McCoy of Ohio State University, this past February.

An endophyte, said Hurley, is a fungus that lives within the tissues of certain crops and plants. Starting just over a decade ago, breeders also began incorporating them into turfgrass seed to give cer-



Dr. Hurley: hunt continues for endophytes in Kentucky bluegrass

tain varieties of turfgrass increased insect resistance. Actually, the endophytes themselves don't control insect pests, it's the alkaloid toxins the endophytes produce. The fungi, found in leaf sheaths and

lower crown areas of turfgrass plants, have yet to be discovered in turfgrass roots.

That's why the fungi control above-ground insect pests and not grubs.

"So far we've done the easy stuff in just finding and identifying endophytes," said Hurley.

In answer to a question from the floor, Hurley cautioned anyone still holding 1993-crop turfseed with endophytes to use it this spring. Its effectiveness decreases with time, he said.

Also, he said that dollar spot control in high-endophyte fine fescue is now documented.

Work on endophytes, including efforts to find them in Kentucky bluegrass, will continue, Hurley said.

—Ron Hall

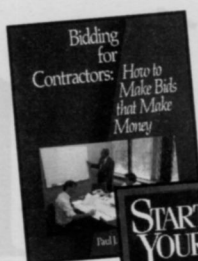
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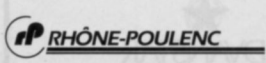
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Pruning, fertilization needed to repair cold damage

STATE COLLEGE, Pa.—This winter's record-breaking low temperatures, deep snow and ice storms took a toll on landscapes in many parts of the country, says Dr. J. Robert Nuss, professor of ornamental horticulture at Penn State University.

"(You) can expect damage from the cold and precipitation as well as injury caused by animals feeding on stems and trunks," says Nuss.

Plants are injured to some extent during all winters. "This winter, however, temperatures have dropped to -20° F or lower in many areas," says Nuss. "The deep snow has provided some insulation from the cold, but the hardiness limitations of many plants have been exceeded.

"During the past decade of mild winters, homeowners have planted more broadleaf evergreens and plants that may not have the hardiness tolerances for this winter's conditions. Don't be surprised if

these plants die," Nuss continues.

Low temperatures can kill leaf and flower buds, and destroy the tips of stems or the entire length of branches not covered by snow. Marginally hardy plants may be killed down to the soil line even though the stems and trunk may be snow-covered. In extreme cases, the root systems of delicate shrubs and trees may be destroyed.

Pruning is the only remedy for plant parts that have been chewed, broken or killed by the winter. Branches snapped by snow and ice should be removed immediately, and additional pruning can be done later in the spring to restore appearance.

"Don't try to prop broken parts back in place," says Nuss. "This only results in improper healing of the wounded area once growth begins in the spring."

Pruning low-temperature injuries must be done when buds fail to open. "Prune back to undamaged live wood, and if loss

of limbs and stems is severe, thin back remaining healthy stems to reshape the plant," says Nuss.

To reduce further stress and help rejuvenate surviving plants, give them a light application of a complete fertilizer early in the spring. Nuss recommends 5-10-10 at a rate of 1 lb./100 sq. ft., applied on the soil around the base of the plants, about six inches from the trunk.

"If it doesn't rain within a few days after fertilizer application, water the area well. Add a two- to three-inch layer of coarse textured mulch, such as shredded wood bark, over the entire rootzone."

Spring is also a good time to determine the quality of surviving plants. "Severely injured plants may never recover enough to be a useful landscape feature," says Nuss. "It may be better to replace them with new specimens or ones of a different variety."

Wisconsin eyes posting for homeowners

MADISON, Wis.—The Wisconsin Board of Agriculture on Feb. 22 began planning public hearings to allow cities to regulate lawn care pesticide applications by homeowners. Specifically, the regulations could require posting whenever homeowners (including a renter) make a pesticide applications to their residential properties.

Posting would be needed to indicate homeowner pesticide applications to lawns, trees, shrubs and other vegetation growing in turf areas. Excluded are applications to houseplants, flower or vegetable gardens, greenhouses or nurseries. Also outside the scope of the regulations are: sub-soil injections, forest pest control, public health pest control, and injections to trees.

"In those municipalities that adopt ordinances, it will presumably increase customer demand for the free placards which pesticide dealers are currently required to offer persons buying landscape pesticides," says a memorandum from the Wisconsin Ag. Dept.

On Dec. 14, 1993, the state preempted most local government regulation of commercial pesticide applications, but homeowners weren't apparently covered by the state regulations. Stay tuned. That could soon change.

Paul Harvey continues pounding away at golf courses, 'pesticide poisoning'

CHICAGO—Radio commentator Paul Harvey, whose show is syndicated all across the country, again criticized golf course superintendents and their use of pesticides.

"Two years ago, you and I talked about the pesticide poisoning so many birds that our golf courses face a silent spring," Harvey began.

He then cited University of Iowa research (see last month's "Hot Topics"), drawing this conclusion from it: "Not only are golf course pesticides killing the birds, but they're killing golf course superintendents also."

Harvey finished his brief verbal assault with: "A moral needs to be underscored: we and the beautiful wild things live in harmony together, or we perish together."

Harvey's commentary, which was heard on flagship station WGN here on Feb. 8, drew an immediate response from RISE (Responsible Industry for a Sound Environment) and the principal investigator for the University of Iowa study, both of which wrote letters to Harvey.

"Your commentary is inaccurate and misleading with respect to our study," Dr. Kross wrote. "I am very concerned

about your mis-representation of our study. The public does need to be informed about important environmental and occupational health issues. The media are important partners in disseminating accurate results of research studies. I request that you broadcast a corrected version of your commentary about our study."

The letter to Harvey from RISE dealt with some of the statements Harvey specifically made, but also issued a general response:

"You again make quantum leap assumptions regarding health and pest control on golf courses. Shame for using your popular program to raise unwarranted fears with erroneous and unsupported comments.

"What (the specialty pesticide industry) cannot welcome—nor should you be guilty of—are efforts to elevate highly preliminary unproven research into speculative assumptions that raise unwarranted fears among golfers—or any segment of our population."

The letter was signed by RISE executive director Allen James.

Harvey, as this issue went to press, had not yet responded on the air to Dr. Kross or RISE.

INFO CENTER

Selected books and videos for the industry

VID SCHOOL FOR SUPERS...A new hands-on golf course superintendent's video-based training series, designed to enhance staff training and managerial skills, was introduced at the Golf Course Superintendent's International Show in Dallas. Contributing to the program is 30-year superintendent veteran Paul R. Latshaw. The first two tapes, "Creating the Knowledgeable Operator" and "Greens Care Orientation and Tips," available this month, cover basic equipment and mowing routines. Training tapes come with written support materials and basic testing or performance assessment guidelines. For a free preview tape, write or call: Epic of Wisconsin, 2334 Stonebridge Circle, West Bend, WI 53095; (800) 938-4330.

GREENS RENOVATION..."The Whys and Hows of Greens Renovation," by Dr.

Richard Hurley, explains the three main reasons for considering greens renovation, and describes the basic procedures and steps to complete the project successfully. Dr. Hurley believes the information is needed as bentgrasses reach higher levels of performance. The brochure is free from Lofts Seed. Contact Andrea at Lofts Seed, (908) 560-1590.

WASTEWATER REUSE...for golf course irrigation is covered in a book sponsored by five major golf associations, including USGA and GCSAA. Written by leading researchers and practitioners, it covers a wide range of technical and regulatory aspects of how and why to irrigate golf courses with reused wastewater. Water quality, conservation, regulations, rights, delivery, system design, monitoring, retrofitting for recycled water, and case

study examples are included. Price is \$55, plus \$7.50 shipping/handling. Contact: Lewis Publishers, 2000 Corporate Blvd., NW, Boca Raton, FL 33431.

SAVE MONEY..."Save Your Business a Bundle," by Daniel Kehrner, gives 202 ways to cut costs and boost profits. The book's suggestions can work for any size company, and are alternatives to laying off workers to save money. Tips include use of Zip Code +4, phone bill savings, and electronic data interchange. The author is an award-winning magazine editor, author and business owner and executive. The book costs \$22. To order, call Simon & Schuster at (800) 223-2348.

FOREMAN TRAINING...The National Landscape Association offers "Talking Over Foremanship," a book to help landscape foremen become better, more competent employees. "Talking Over Foremanship" features 22 independent 30- to 60-minute training sessions, conducted by the owners, manager or supervisor, which help sharpen the "person-to-person" skills of

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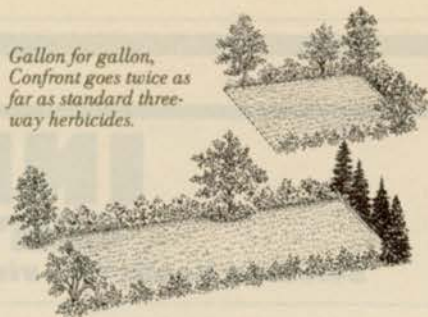


The thing we're trying to help you avoid is overkill. Because if you can control weeds, isn't that

the EPA), and you'll get very good results. It sounds simple, but it's one of the most effective ways to use less herbicide.

Also, calibrate your equipment frequently, and use the

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



At last. A herbicide that like eradicate, eliminate

enough? So here's a less aggressive approach to managing weeds. A few things you can do to use less post-emergence herbicide to get the weed control you need.



A Young Weed Is A Vulnerable Weed.

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

First, look for weedy areas before applying herbicide. That way, you can use spot treatments instead of broadcast applications (a practice recommended by



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

It's important to select a

postemergence herbicide that does the job well the first time you apply it. Confront* herbicide is a good choice. Nothing controls tough broadleaf weeds longer or better. It delivers the fastest

keep weeds from coming back in cool or warm season turf-grass. It's also a good choice for your sensitive accounts where you prefer a herbicide without dicamba, 2,4-D or MCPP.

and that doesn't use words or destroy.

action you can find on clover. Confront gets to the roots to

Of course, there isn't room here to outline an entire weed control program. That's why we created The Turf Manager's Guide To Responsible Pest Management.



Careful scouting helps you get effective weed control using less herbicide.

It's 44 pages on the latest techniques for controlling weeds, insects and turf diseases.

For a free copy return the coupon, or call our toll-free number. After all, why use any more herbicide than it takes to do the job?



Send me the following Management Guide(s):

- ☐ Cool Turf
☐ Warm Turf
☐ Nursery and Landscape.

Mail To: DowElanco, P.O. Box 33489, Indianapolis, IN 46203-0489. Or call: 1-800-770-4514

Name _____

Company _____

Business Category:

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☐ Landscape Contractor ☐ Golf Course

Address _____

City _____ State _____

Zip _____ Phone (____) _____



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Circle No. 102 on Reader Inquiry Card

INFO-CENTER from page 71

landscape foremen. The material includes detailed instructions on how to conduct each session, and has complete answers to the various discussion questions and issues. Price for members of the American Association of Nurserymen is \$25; \$55 for non-AAN members. Contact the NLA at 1250 I Street, NW, Suite 500, Washington, DC 20005; (202) 789-2900.

HOW GREENS EVOLVED...The American Society of Golf Course Architect's popular booklet, "Evolution of The Modern Green," is now available in its third printing. The comprehensive publication, written by ASGCA past-president, Dr. Michael Hurdzan, covers all aspects of the design, construction and maintenance of the modern green. \$5 per copy; \$3 each for five or more copies (prices include postage). Send check to American Society of Golf Course Architects, 221 N. La Salle St., Chicago, IL 60601.

SPORTS TURF ARTICLES...The Sports Turf Managers Association (STMA) has published its first "Sports Turf Topics: A Compendium of STMA Articles." The book is a collection of articles from 12 months of STMA writing. Subjects include: general sports turf management, sports turf cultivation practices, fall sports turf management, weed control in sports turf and fertility and irrigation. Contact STMA at (312) 644-6610.

GROWER INFORMATION..."The Greenhouse and Nursery Handbook" contains 512 pages of practical information for commercial growers. The book is written to help growers produce plants easily and economically. Softcover costs \$53.95; hardcover is \$63.95. To order, contact Andmar Press, P.O. Box 217, Mills, WY 82644; (307) 472-3107.

GREEN INDUSTRY EVENTS

**What's going on
in the industry**

APRIL

14: Chesapeake Chapter, STMA, Field Day, Camden Yards, Baltimore. Phone: Art Downing, (410) 313-7254.

20: Landscape Risk Management Realistic Lawsuit Prevention seminar, Riverside Convention Center, Riverside Calif. Phone: (909) 787-7950.

23-24: California Landscape Contractors Assn. Certified Landscape Technician tests, Pierce College, Woodland Hills, Calif. Phone: Kin Heckes, (916) 448-2522.

27: Landscape and Nursery IPM Workshop, Waltham, Mass. Phone: Kathleen Carroll, (413) 545-0895.

MAY

1-3: Menninger Sunbelt Tree Conference, Hotel Royal Plaza, Lake Buena Vista, Fla. Phone: Florida Nurserymen and Growers Assn., (407) 345-8137.

17: Landscape and Nursery IPM Workshop, Waltham, Mass. Phone: Kathleen Carroll, (413) 545-0895.

GREEN INDUSTRY SHOWCASE

Dethatcher has changeable shafts

The Encore Pro-Line now comes with two dethatcher options.

Both shafts are interchangeable on the same machine.



The Power-Thatch shaft is a heavy-duty dethatcher built to handle rugged commercial work.

The unit features 28 self-cleaning, flail-type cutting fingers. Its blade design prevents the unit from throwing rocks and debris.

Encore's revolutionary new Power Comb shaft removes all the thatch and passes over underground sprinkler heads without damage.

This shaft is designed with spring tines molded into a rubber mounting.

The combination of rubber and high carbon wire gives the tines an exceptional lifespan.

The Power-Comb rotates in the direction of travel to eliminate tearing grass while removing thatch.

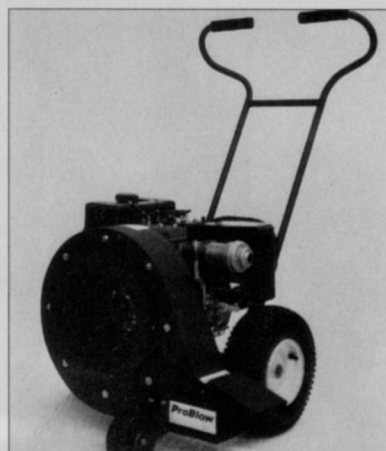
The standard Power-Comb has 24 tines. Optional hardware is available to increase the shaft to 48 tines.

Circle No. 191 on Reader Inquiry Card

Two new debris blowers built to be operator friendly

Walk-behind and user-friendly horizontal debris blowers are two new products from Selbro.

The walk-behind ProBlow line features



fully adjustable and reversible handles to accommodate a variety of operators.

The ProBlow horizontal blower allows the operator the choices of blowing from the right or left side without compromising air velocity. It also drastically reduces vibration, and its balance is unmatched by any other blower, Selbro contends.

Circle No. 192 on Reader Inquiry Card

New durable mower has a wider cut

The Kubota CW1336 is a 12.5 hp walk-behind mower with a 36-inch cutting width.

The mid-sized CW1336 is designed to offer the commercial user durability, performance and ease in operation.



With a 4-cycle, air-cooled, overhead valve engine, the CW 1336 offers better fuel and oil consumption with less vibration.

A 5.5 gallon fuel tank capacity and fuel gauge provides hours of sustained performance.

Smooth operation at one of its five forward speeds and one reverse speed is enhanced by double idler belt tensioners for the least belt slippage under all conditions.

A step-down blade and an adjustable cutting height ranging from one to four inches, in increments of 1/4 inches ensures precision performance.

The long-lasting, welded heavy gauge steel deck is beveled for easy avoidance of obstacles.

A large-diameter front tire affords easy steering of the CW1336.

Circle No. 193 on Reader Inquiry Card



For those who've tired

It's simple. Fewer hydraulic lines mean fewer chances of leaks or failures. That's why the John Deere 2243 Professional Greens Mower is the logical choice for work on your most precious ground—your greens.

The 2243 uses a single hydrostatic transaxle instead of multiple wheel motors. It replaces traditional hydraulic motors, hoses and fittings with a single, sealed component.

In addition to reducing

hydraulic lines, the transaxle delivers quick machine response and built-in dynamic braking on slopes.

Add the advantage of the 2243's patented offset cutting units that reduce perimeter

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of the same old lines

compaction and you begin to see how the John Deere 2243 separates itself from the rest. For the name of your nearest distributor, or free literature, call 1-800-544-2122.

Or write John Deere, Dept. 956, Moline, IL 61265.



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Circle No. 114 on Reader Inquiry Card

PRODUCT REVIEW

Three turf varieties coming in autumn

Pennington Seeds is releasing Shining Star perennial ryegrass, Yuma dwarf seeded bermudagrass and Duster tall fescue this fall.

Shining Star was developed by Dr. Bill Meyer of Pure Seed Testing. It originates from selections of attractive plants out of the variety Birdie II. It is early maturing, resistant to stem rust and leaf spot, and very dark green in color.

Yuma is a cold tolerant variety that is lower growing and has a finer textured appearance than seeded bermudagrass on the market, Pennington contends. Its cold tolerance allows use "well above the current bermudagrass area of the U.S." It is excellent for golf fairways, sports turf and lawns.

Duster has a deep forest green color, fine texture and low growth habit. Other characteristics: good resistance to net blotch, brown patch and rust; excellent drought tolerance; excellent turf quality.

Circle No. 194 on Reader Inquiry Card

New pallets protect hazardous chemicals

A new line of portable secondary container pallets, known as Envirostor covered vaults and open dikes, offer extra physical and environmental protection to drums of hazardous material.

Available in both two- and four-drum modular sizes, and made of either polyethylene or steel, they offer both a material choice and a capacity range to match any chemical storage need.

A modular storage approach results in greater flexibility and lower cost than construction of special buildings or diked areas.

These same units also provide an extra measure of hazardous materials safety for in-process use, during transit within or outside of a facility and for satellite storage.

The pallets are coated on both sides with a two-part polyurethane for added resistance to chemicals, says the company, Environmental Container Corp.

Circle No. 195 on Reader Inquiry Card

Decontamination kit portable, for worker safety

Precision Laboratories' decontamination kit complies with the latest EPA standards for agricultural personnel, yet is



suitable for use by lawn care industry personnel.

The kit includes two poly containers to hold 2½ gallons of potable water, plus two, 32-oz. bottles of eyewash; four ounces of liquid soap, three extra-large disposable towels; disposable coveralls; and two 32-oz. bottles of sterile, buffered, isotonic eye-wash.

Circle No. 197 on Reader Inquiry Card

Insecticide protects pine seedlings from beetle-pest

Pounce 3.2EC insecticide, from FMC Corporation, is being used to protect pine seedlings from the Pales weevil, a flying, beetle-like pest that can wipe out a new pine planting.

Seedling planted on recently logged sites are particularly attractive to the Pales weevil, which can destroy thousands of seedlings a season.

A Special Local Need label allows nurseries to treat nursery seedlings up to two weeks before they are lifted for planting.

Tests show that treated seedlings will repel or kill the Pales weevil throughout the first growing season.

Pounce has an odor that is less-offensive than an organophosphate material, according to FMC.

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

Mowers fly through large acreage

Woods Equipment Company has a new line of high-performance, durable flexwing turf finish mowers for golf course, sod farms, parks and other large acreage turfgrass applications.

The Turf Batwing Finish Mowers are available in three models: 9144; 9180 and 9204. They have 12-, 15-, and 17-ft. cutting swaths, respectively, and are rated to cut up to 8.8 acres per hour at a speed of five miles per hour. Each offers the combined benefits of durable, dependable tow-behind mowing with a flexwing construction for easy transport. Each features three cutting decks. Cutting height ranges from 1.5 to 5 inches.



Tapered roller bearings are used in several key components, such as pneumatic gauge wheels, blade spindle assemblies and the gearbox, which Woods manufactures.

A positive-stop, automatic wing lock-up lets the driver stay seated while locking or releasing the wings from the transport position.

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

PRODUCT REVIEW

Reel is self-sharpening, adjusting

A spring-loaded bedknife and exclusive chevron-shaped blade are part of the patented technology of the self-sharpening, self-adjusting Ferris Reel.

The reel has a spring action to maintain a uniform, constant pressure between cutting blades and bedknife, virtually eliminating the need to adjust, back-lap or grind the reel, Ferris says.

Additionally, the V-shape design ensures that part of the blade is always in contact with the knife, and is sharpened with every turn.

The New York company offers Ferris Reel retrofits for many competitive mowers and will unveil a line of commercial walk-

behind mowers that feature the Ferris Reel later this year.

The new reel was shown for the first time during 1994 GCSAA Conference and Trade Show in Dallas.

Circle No. 199 on Reader Inquiry Card

Erosion control blanket aids seed germination, growth

Weyerhaeuser has a new erosion control product, described as a "bonded fiber matrix."



Weyerhaeuser says the blankets prevent soil loss and water runoff and help foster plant germination and growth.

Soil Guard is a blend of wood fibers, a natural binding agent and a mixture of organic and mineral activators. It is non-toxic and biodegradable. After growth has been established, the blanket biodegrades into substances plants can assimilate.

Circle No. 200 on Reader Inquiry Card

Lighting fixture illuminates various landscape settings

Intermatic's new low-profile CL506 floodlight is designed for use in a variety of settings, to enhance landscaping and



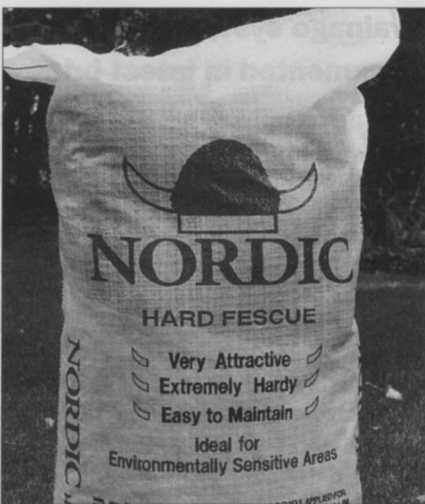
architectural features and increase security around the home.

Made of heavy-duty cast aluminum, the fixture has an electrostatically applied, baked epoxy, black enamel finish for extra durability.

Circle No. 201 on Reader Inquiry Card

Hard fescue grown for enviro-sensitive areas

Nordic, a hard fescue from Zajac Performance Seeds, was developed specifically for environmentally sensitive areas



where other grasses perform poorly.

Though hard fescues are traditionally shade tolerant, Nordic also grows well in open, sun-drenched sites under a wide range of soil types and acid levels, and in low-fertility, well-drained areas, Zajac notes.

Nordic is naturally resistant to disease and insects, and tolerates heat, drought, summer stress, winter temperatures and snow cover. Irrigation, fertilizer and chemical control are only minimally required, according to the company.

Circle No. 202 on Reader Inquiry Card

Absorbent dispenser design easy to use and compact

The Sorbent Dispenser, from 3M Company is compatible with all existing 3M sorbent rolls and rugs: simply load a roll of sorbent on the dispenser, pull the amount you need and slide the cutter across.

The 3M Sorbent Dispenser offers these added advantages:

- durable, heavy gauge steel construction will withstand everyday industrial use;
- precision-made cutting wheel cuts all 3M sorbent rolls and rugs cleanly and easily without tearing in either direction;
- cutting blade and surface are easy to replace;

PRODUCT REVIEW

● the dispenser holds a combination of roll and rug widths up to 38-inches wide.

Large wheels on the container make it easy to maneuver. It can be stored and used vertically, taking up less floor space.

Circle No. 203 on Reader Inquiry Card

Drainage system installation documented in latest brief

A new drainage system has been installed at the soccer field at Mills College in Oakland, Calif. using a drainage system by Contech Construction Products.

The new drainage system consisted of 7,500 feet of six-inch TerraFlow 100 and 170 feet of six-inch smooth-wall pipe, installed by Contra Costa Landscaping of Martinez, Calif.

Three, six-inch pipe trunk drains were connected to the completed TerraFlow installation which discharged all collected groundwater into existing street storm sewers.

During the first winter following installation, 30 inches of rain fell on the new field, depositing as much as two inches of water.

The TerraFlow 100 geocomposite drainage system worked well, collecting and discharging the excess winter rain.

For a free copy of the application brief written to coincide with the project, contact Contech Construction Products, Dept. GICH, 33 Greenwood Lane, Springboro, OH 45066; (800) 338-1122; in Ohio, call (800) 752-8899.

Circle No. 204 on Reader Inquiry Card

Company gets go-ahead to run engine in California

Kohler's Command 25-hp horizontal shaft engine has been certified by the Californian Air Resources Board (CARB) to meet that state's 1995 emissions standards.

Under those standards, utility engines with a displacement of 225cc or larger must limit carbon monoxide emissions to more than 300 rams per horsepower hour.

Oxides of nitrogen combined with hydrocarbons cannot exceed 10 grams per horsepower hour.

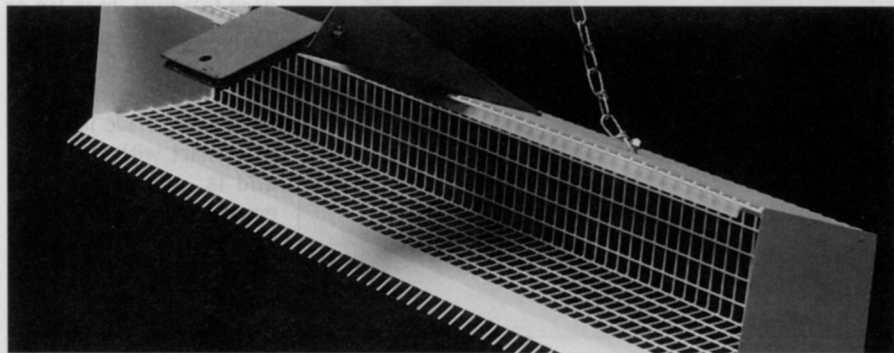
Kohler's Command 18- 20-, and 22-hp engines are all certified by CARB.

Circle No. 205 on Reader Inquiry Card

Renovator for golf sand traps

The Sand Trap Renovator from Master of the Links can be attached to existing sand trap rakes, including Toro, Smithco, John Deere and others.

The four-foot-wide Renovator has a mesh cage for large raking jobs. It can also be used in park district sand playlot areas to clean up broken glass and thus lessen liability concerns, according to James R. Burdett of Master of the Links.



Also available from the company are the Divot Seed & Soil tee bucket and the "Scatter" (carts) sign/log.

Circle No. 206 on Reader Inquiry Card

New tractor/backhoe a powerful addition to fleet, and its mobile

Kubota Tractor Corporation's new L35 tractor-loader-backhoe is built to be a powerful and mobile machine.

Powered by a 35-gross hp engine, the L35 is equipped with a full-scale backhoe and loader specifically designed to handle heavy excavation and fill work, particularly in narrow spaces.

The L35 features a 3-cylinder Kubota E-TVCS diesel engine that delivers high output, powerful low-speed torque and a high torque rise.

The engine is quiet, and meets strict emissions regulations.

The Glide Shift Transmission increases productivity by permitting clutchless shift-on-the-go, through all eight speeds in forward and reverse, without the power loss common to other types of transmissions.

Kubota's L35 is equipped with a powerful 17.3 gpm, dual-pump hydraulic system to provide ample volume for loader and backhoe operation.

Circle No. 207 on Reader Inquiry Card

Rubber-based amendment reduces compaction

Rebound is a new soil amendment made from crumb rubber and organically composted materials.

It is used to make athletic fields more resilient.

According to Jai Tire Industries of Denver, Rebound will aid divot recovery, and reduce ground-related player injuries in contact sports.

According to Jai Tire, Rebound will also reduce soil compaction, resulting in

increased root mass, depth and improved drainage.

The company says turf grown in Rebound-amended soil is less susceptible to disease, and requires up to 30 percent less water, fertilizer and pesticides.

Rebound was used for the Montreal Expos' new spring training field in Kantana, Fla.

Circle No. 208 on Reader Inquiry Card

SHOWCASE PRODUCT REVIEW

New package comes in response to this country's environmental concerns

To better address the environmental concerns of its customers, American Cyanamid Company's Specialty Products Department has designed a new, water-soluble bag for Pendulum WDG herbicide.

The water-soluble package has been designed to eliminate container disposal problems, provide pre-measured quantities in an easy-to-use packet, and eliminate product exposure during mixing and loading.

The packets are made of inert ingredients that completely dissolve within minutes after being added to the tank.

"We've worked closely with our customers to develop an effective, economical, easy to apply product," says Curtis Clark, product manager for American Cyanamid.

Pendulum WDG is a pendimethalin-based product, highly effective for controlling most annual grasses and certain broadleaf weeds as they germinate, before they become a problem.

Pendulum should be applied only to established plants, and is not to be used on seedbeds, transplant beds or liners until plants have become well-rooted.

Circle No. 209 on Reader Inquiry Card



Growth regulator OK for Calif. ornamentals

Sumagic, a plant growth regulator from Valent U.S.A. Corporation, has received a state registration in California for use on container-grown ornamentals.

The product acts as a growth retardant for commercial greenhouse, lathhouse and shadehouse use.

Sumagic's broad label enables it to be used on a variety of plants, from chrys-

themums to poinsettias. It works by controlling the growth hormone that stimulates stem elongation, thereby resulting in more attractive, compact plants that are easier to ship.

Valent says Sumagic lengthens plant shelf life and causes foliage to darken, even with fewer applications.

Circle No. 210 on Reader Inquiry Card

New sunscreen dispenser is now available

SBS Products, Inc. has introduced two new packages and dispensing systems for Deflect Occupational Sunscreen: 1-oz. tubes and a 50 fl.oz. dispenser cartridge.

The new packaging will make the product more convenient and easier to use. The small tubes can be carried on the job. The Paxon 1500 cartridges can be attached to a locker room or restroom wall.

Deflect is an SPF-15 formulation (15 times the skin's natural protection from ultraviolet rays).

The product is waterproof, and, according to SBS, will not run off, even with heavy perspiration, yet will still allow the skin to breathe.

The formula is greaseless, dries completely, and will not cause problems gripping tools or equipment.

Deflect contains aloe vera gel and vitamins A, D and E to help alleviate the drying effects of the sun. Recommended for landscape/golf course workers.

Circle No. 211 on Reader Inquiry Card

Activator enhances efficacy by modifying pH, water

Terra International, Inc. has added Riverside AMS Plus to its line of control products.

AMS Plus enhances herbicide, defoliant and desiccant performance by modifying factors such as pH and hard water.

It is a liquid ammonium sulfate activator containing phosphate ester of polyglycoethers, a blend of ammonium salts and formulation aids.

AMS Plus is recommended for use with Diquat, Endothal, Gramoxone, MSMA, Poast, Roundup, Roundup RT, Jury and other products where an ammonium sulfate activator is required.

Herbicide efficacy is improved, says Terra, because AMS Plus improves herbicide uptake.

Users are instructed to add AMS Plus first when preparing a spray mix. It is recommended for use in ground and aerial application, and comes in a 32.5-gallon jug or mini bulk.

Circle No. 212 on Reader Inquiry Card

Blankets protect against cold, promote germination

Tyvar Turf Blankets are an effective, durable and inexpensive way to protect turfgrass from freezing and desiccation.

The blankets are made of spunbonded polypropylene, and come in two weights:

- the white, 1.9 oz./sq. yd., for temporary freeze protection for turf in cold- and warm-season areas;

- the black, 3 oz./sq. yd. blanket, to protect warm weather grasses with temporary winter greens in the transition zone.

The Tyvar blankets retain warmth and moisture, creating an environment similar to that in a greenhouse. According to the company, university testing has shown that both soil and surface temperatures will be 3-15 degrees Fahrenheit higher than uncovered turf.

The blankets can also be used for turfgrass growth and germination. Golf course superintendents use them after seeding, sprigging or sodding, which results in early green-up.

Circle No. 213 on Reader Inquiry Card



IF YOU'VE FORGOTTEN HOW WELL WE CONTROL MOLE
CRICKETS AND NEMATODES, CONSIDER THIS
A REFRESHER COURSE.



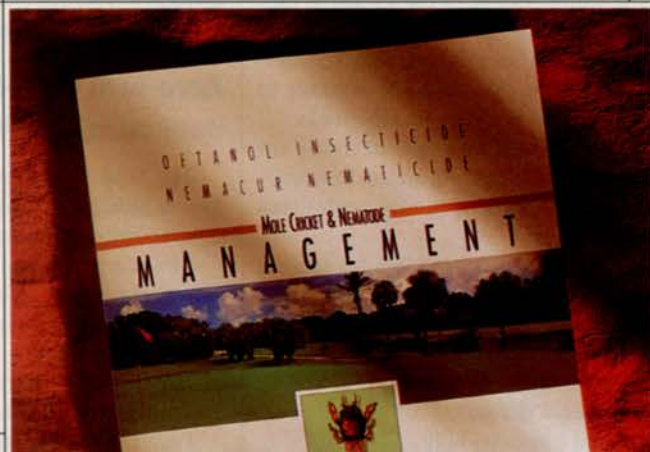
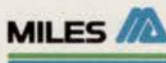
We wrote the book on mole cricket and nematode protection. Now we'd like to send it to you.

In it, we'll show you why there's nothing better for controlling mole crickets than **OFTANOL®** insecticide. It gives you excellent residual control. It costs about 30% less per 1,000 square feet than the closest competitor. And it stops mole crickets. Plus, it controls fire ants, too.

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Examine the information. Then apply it. And you'll have a course everyone will study.



SHOWCASE

PRODUCT REVIEW

Another growth regulator gets Golden State go-ahead

The California Department of Food and Agriculture has approved the registration of Bonzi plant growth regulator from Uniroyal Chemical Company, Inc., for use on ornamental plants.

Bonzi is an important tool in the production of compact plants for the ornamentals market. It is used to reduce internode elongation in plants grown in greenhouses, shadehouses, nurseries and interior landscape designs. The approved use list includes poinsettias, geraniums, chrysanthemums and a wide variety of bedding plants, including impatiens, vinca and pansies.

Bonzi can be applied as a bench spray. It penetrates into plant stems and is translocated to the terminal, where it reduces internode elongation. It can be applied at any time.

When used as a drench application, Bonzi provides optimum control of plant height, says Uniroyal. It is readily absorbed by plant roots and translocated to the terminals.

Drench applications generally provide longer and more-uniform height control than foliar applications.

Circle No. 214 on Reader Inquiry Card

Cabinet safely stores, organizes turf products

Justrite Manufacturing Co. now sells the "Cabinet Organizer," with optional drawer assemblies.

The option applies to the 45-gallon cabinet with manual closing doors.

Two-, three- and four-drawer configurations are available, allowing workers to customize the cabinet to storage needs.

Worker safety and productivity are enhanced by maximizing access to important safety equipment in one centralized location.

The drawer units are ideal for storing easily misplaced containers.

Available as:

2 shelves, 2 drawers;

2 shelves, 3 drawers;

2 shelves, 4 drawers;

2, 3 and 4 drawers only.

Circle No. 215 on Reader Inquiry Card

Engines feature clean PTO muffler, splash-type lube

Kawasaki's FE120D and FE170D horizontal shaft engines now have redesigned muffler for clean power take-off.

The FE engine series has an overhead valve design and superior performance to meet the most demanding uses.

Both are single cylinder, air-cooled, four-stroke engines, fitted with recoil start and automatic compression release. They employ a dual element air cleaner and splash-type lubrication with low-oil shut-off.

The engines serve many applications in light construction equipment.

Circle No. 216 on Reader Inquiry Card

Deep root feeder blends nutrients for trees, shrubs

Webster Corporation makes a deep root tree and shrub feeding system that drills and fills in one operation.

The system makes deep root feeding with dry fertilizer and nutrients around homes and at commercial establishments safe and economical.

The TC-300 Deep Root Tree Fertilizing Machine drills and fills perfectly-shaped holes at uniform depth between the stem and drip line.

Operators can easily handle up to four holes per minute for typical tree feeding operations.

The Webster system places custom-blended fertilizer and nutrients in four-oz. rates at a depth of 12 inches below the soil surface.

Circle No. 217 on Reader Inquiry Card

Zero-turn walk-behind has dual pump/motor drive

The Scap SWZ Zero-Turn walk-behind mower reduces cutting time by 20-40 percent, according to Scag.

The mower is built with a patented dual pump/motor drive system for independent power to each wheel, for no-scutt, zero-radius turning.

Just a squeeze of the handles moves the SWZ from forward to neutral to reverse.

Forward speeds are controlled with a single, patented lever, and can be changed

while moving.

A new electric blade brake clutch engages the blades.

Cutting decks range from 32 to 72 inches, and engines range from 12.5 to 20 hp.

A mulch kit is also available.

Circle No. 218 on Reader Inquiry Card

Fountain/aerator beautifies ponds, raises oxygen level

The new Toro Fountain/Aerator adds visual interest and rejuvenates by increasing dissolved oxygen levels.

The aeration provides circulation and maintains aerobic conditions throughout the water column.

A pump draws cold, dense oxygen-deficient water from below the water surface.

The water is projected into the air in the form of a decorative spray pattern.

While in the air, water droplets absorb oxygen, which is then dispersed as the water falls back into the pond.

Four decorative spray patterns are created from totally interchangeable nozzles.

Circle No. 219 on Reader Inquiry Card

Pin placement by color with multi-hued nylon flags

Superintendents looking to add more color to greens can try the new hole marker system from Standard Golf.

The Royaline Cup-Spitter System provides a complete nine-hole pin system in red, white and blue.

The company says the Royaline Flag Sticks are the most popular pins in the Standard Golf catalog.

Striped in the three colors, they're built with the strength and resiliency of straight, solid fiberglass.

At the bottom of each pole is a precision-cast aluminum ferrule which fits snugly in the cup.

The red, white and blue nylon flags are very visible.

The pins are available in both gromment and tube-lock configurations.

Each marking system includes nine flag sticks, three red flags, three white flags and three blue flags.

Circle No. 220 on Reader Inquiry Card



Nothing extinguishes fireants faster than ORTHENE® Turf, Tree & Ornamental Spray. In fact, ORTHENE T.T.&O. can eliminate an entire mound in less than a week.

And it's economical to use, no matter how big your emergency.

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MARKET SHOWCASE

Rates: \$226 per column inch for 1x insertion; \$215 for 3x insertion; \$204 for 6x insertion; \$194 for 9x insertion; \$183 for 12x insertion (one inch minimum). Frequency based on calendar year. For ads using a Reader Inquiry Number, add \$35 to the total cost of the ad per issue. For ads using a second color standard red, blue, green or yellow only, add \$75 to the total cost of the ad per issue.

Send ad copy with payment to: Bill Smith, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, Ohio 44130, or call (800) 225-4569 ext. 670 outside Ohio; (216) 891-2670 inside Ohio; FAX (216) 826-2865. VISA, MASTERCARD and AMERICAN EXPRESS accepted.

EQUIPMENT FOR SALE

FOR SALE

Get a step ahead of your competition
with a

TURBO TURF HYDRO SEEDING SYSTEM SEED FASTER, BETTER, AT LESS COST



- ➔ Seed-mulch-fertilize in one fast step.
- ➔ Also repair & renovate fast and better.
- ➔ No messy straw.
- ➔ Great results and faster germination.
- ➔ Very attractive green appearance.

150 Gal. Systems (2000 sq. ft.)	\$2795.00
300 Gal. Systems (4000 sq. ft.)	\$3995.00
500 Gal. Systems (6600 sq. ft.)	\$4795.00
750 Gal. Systems (1/4 acre)	\$7995.00
1000 Gal. Systems (1/3 acre)	\$2795.00

BADGER ASSOCIATES 1-800-822-3437
1108 Third Ave. New Brighton, PA 15066

TRUCKCRAFT



PICKUP INSERT DUMPER
For FREE brochure, call toll free 24 hr.
1-800-755-3867
WE SHIP NATIONWIDE

COMMERCIAL EQUIPMENT



30'x40'x10'
\$4,195

BUILD IT YOURSELF AND SAVE MONEY. 5,000 SIZES, ALL STEEL.
CALL TODAY FOR BROCHURE AND PRICE QUOTE.

HERITAGE BUILDING SYSTEMS
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LAWN ASSISTANT

#1 #1



To get a FREE 90 page information booklet on the #1 software for the lawn and tree care industry

Call Toll Free:
1-800-422-7478

Real Green Computers
1970 Winner Street, Walled Lake, MI 48390

Circle No. 180 on Reader Inquiry Card

**Reserve Your Space in
Landscape
Management's
Marketshowcase
Today!**
**Call Bill Smith at
216-891-2670**

COMMERCIAL INSURANCE FOR LAWN CARE FIRMS "GREEN INDUSTRY SPECIALISTS"

M.F.P. Insurance Agency is dedicated to providing comprehensive insurance programs to the Green Industry at competitive prices. We back up this dedication with a staff of professionals who understand every facet of your business, from marketing to customer service. We know how to properly insure your company whether you're a sole proprietor or a multi-state operation.

Just as your customers look to you for lawn care advice, people come to us for insurance advice because they do not want to become insurance experts themselves. If you want good advice, the right coverage, and competitive rates, please contact:

Richard P. Bersnak, President

Jill A. Leonard, V.P.

1-800-886-2398

FAX: 614-221-2203

M.F.P. Insurance Agency, Inc.
50 West Broad Street, Suite 3200
Columbus, OH 43215-5917

Circle No. 181 on Reader Inquiry Card

**Use our Blind Box Service
for Confidential Responses
to your Classified Ads!**

RATES: \$1.45 per word (minimum charge, \$46). Bold face words or words in all capital letters charged at \$1.75 per word. Boxed or display ads: \$226 per column inch-1x (one inch minimum); \$215-3x; \$204-6x; \$194-9x; \$183-12x. (Frequencies based on a calendar year.) Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add \$23 to total cost of ad per issue. Send ad copy with payment to **Bill Smith, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130** or call **216-891-2670**. Fax Number 216-826-2865. VISA MASTERCARD and AMERICAN EXPRESS accepted.

BOX NUMBER REPLIES: Mail box number replies to: LANDSCAPE MANAGEMENT, Classified Ad Department, 131 W. 1st St., Duluth, MN 55802-2065. Please include box in address.

BUSINESS FOR SALE

Landscaping & Irrigation, Lake George New York Resort Area. Excellent opportunity for right person. Established 35 years. Gross \$120,000 sacrifice price due to illness \$80,000. Owner will assist in transition. Turn key operation. 518-668-2146. 4/94

CENTRAL FLORIDA, East Coast: 10 year old lawn maintenance company. 55 year old owner retiring from business. 20 customers, 1993 gross sales: \$145,000. Asking \$99,000. Write to Commercial Mowers, Inc., 599 El Dorado Ave. S.E., Palm Bay, FL 32909 or call (407)727-0020. 4/94

ESTABLISHED LAWN CARE AND IRRIGATION service with branch locations **FOR SALE.** Located in northern Minnesota. Largest operator in market area with few competitors. \$200,000 annual revenue. Priced to sell. Call 218-435-1882. 3/94

BUSINESS OPPORTUNITIES

EXCELLENT BUSINESS OPPORTUNITY. FOR SALE: APPROXIMATELY 6000 MEXICAN FAN PALMS CERTIFIED FOR USE IN CALIFORNIA. HEIGHTS RANGE FROM 4'-18", AVERAGES APPROXIMATELY 11". FOR MORE INFORMATION WRITE OR CALL: BMF PARTNERSHIP, PO BOX 1568, SCOTTSDALE, ARIZONA 85252, 602-968-8549. 4/94

NOW ...LEARN PROFESSIONAL LANDSCAPING AND GARDENING at home. Accredited program provides thorough training in all phases of commercial and residential landscaping. Diploma awarded. Free brochure describes program and opportunities in detail. Call 1-800-326-9221 or write Lifetime Career Schools, Dept: LF0144, 101 Harrison Street, Archbald, PA 18403. 4/94

FOR SALE

BREATHABLE NURSERY TARPS: Stock and custom sizes, reinforced edges - grommets every 3 feet. Competitive prices - Free Delivery - Fast Service. We accept Visa/Mastercard. 1-800-888-9669, ask for Dept. LM394. 5/94

For Sale: Thriving southern California landscape co. Millions annually, with growth potential. Excellent location, complete maintenance and construction with trucks, tools, yard and office. Busy year around. Sacrifice at \$430,000. Landscape Industries 818-790-1502. 12/94

BUCKET TRUCK: Hi Ranger 65', 57', 50'. Skyworkers with chip boxes. Asplundh brush chippers. Bean 55 gal. sprayers. Pete Mainka Enterprises, 633 Cecilia Drive, Pewaukee, WI 53072. 800-597-8283. 12/94

EDUCATIONAL OPPORTUNITIES

CAREER TRAINING IN HORTICULTURE! New York Botanical Garden offers a two year program of practical field work and academic classes in botany, horticulture and landscape design. Write School of Professional Horticulture, New York Botanical Garden, Bronx, NY 10458, or call (718)817-8797. 6/94

ORGANIC LANDSCAPE MAINT

REDUCE AGRICHEMICAL USE. BUGS FLYER, the premier environmental landscape quarterly, tells you how. Discover the latest environmentally sound landscape products, techniques, and resources. Professional subscriptions \$18.00. **BUGS, Dept. LM, PO Box 76, Citrus Heights, CA 95611.** 5/94

EQUIPMENT FOR SALE

REINCO HYDROGRASSERS and power mulchers in stock. Opdyke Inc., (Philadelphia Area) 215-721-4444. 12/94

BUCKET TRUCKS: Straight Stick, Corner Mount and Knuckle Boom Cranes. Brush Chippers: New Morbark Disc and Drum Style. New Rayco Stump grinders. Best prices anywhere. Used Chippers: Asplundh, Morbark, etc. 2 to 8 usually in stock. Sprayers, Dumps, Stakes, Log Loaders, Crew Cab Chip Box Dumps, Railroad Trucks, 50 in stock. Sold as-is or reconditioned. We also buy your surplus equipment. Opdyke's, Hatfield (Philadelphia Area). 215-721-4444. 12/94

PIPE LOCATOR INEXPENSIVE! Locates, traces underground drain, water pipe lines of clay, PVC, ABS, steel, cement. Finds sprinklers, valves, clogs. Bloch and Company, Box 18058, Cleveland, Ohio 44118. (216)371-0979. TF

Brouwer 24 inch Sod Harvester, Ford 3910 diesel, 400 hrs. Excellent condition! Lights but no roof. \$20,000.00. Phone 517-332-8410. 6/94

SPRAY TRUCK: '76 Ford 1-ton with 600 gal. Tuflex tank, new Hannay hose reel, Honda motor with Hypro pump. Ready to work, \$5,000.00. Will separate truck and spray equipment. Call Jack at 614-335-7368. 4/94

1987 FINN 2500 GALLON HYDROSEEDER. John Deere Diesel Engine. Hydraulic Control, 200' hose and reel. Mounted on 1982 Mack 10-Wheeler, 300 six speed low hole transmission. Homelite Pump. Ready to work. Excellent condition. Call 508-897-7244. 4/94

FINN HYDROSEEDERS AND MULCH BLOWERS- NEW AND USED LARGE PARTS INVENTORY- SAME DAY SERVICE. WOLBERT & MASTER, INC. 1-800-234-SOIL. 12/94

EQUIPMENT FOR SALE

For Sale: Brower 5 gang Verti-cut, like new, \$5,300.00. Turf Sweeper 12 ft. fast load/unload, nice machine, \$4,200.00. Spyder Forklift, new Koler engine, Extend-A-Fork, nice and straight, ready to go, \$11,500.00. 719-683-2262. 4/94

HELP WANTED

Maintenance Managers & Supervisors: One of the nation's largest and fastest growing full service landscape companies has an immediate need for experienced maintenance managers and superintendents, as well as entry level maintenance supervisors in the Midwest, Southwest, Mid-Atlantic, Northeast and Southeast states. The company seeks energetic, team oriented college graduates with proven leadership, communication and interpersonal skills. The company offers full-time positions, excellent advancement opportunities and exceptional compensation and benefits with an industry leader celebrating 54 years of uncompromising customer service. For immediate confidential consideration, please send or fax your resume to: The Brickman Group, Ltd., Corporate Office, 375 S. Flowers Mill Road, Langhorne, PA 19047, 215-757-9630, EOE 4/94

MAINTENANCE/CONSTRUCTION: Mid-size company looking for qualified, career oriented professionals in San Francisco Bay Area. Outstanding opportunity for aggressive, self motivated individuals for Maintenance Area Supervisor position and for Construction Foreman position. Send resume to: D.C.L., 4300 Bettencourt Way, Union City, CA 94587. 4/94

JOIN HOUSTON'S FASTEST GROWING LANDSCAPE COMPANY: We are currently seeking aggressive career minded individuals. Landscape and Maintenance Foreman/Supervisory positions available immediately. Send resume with salary history to: Personnel, PO Box 840596, Houston, TX 77284-0596. 4/94

LANDSCAPE MAINTENANCE SUPERVISOR: Largest landscape maintenance company in the nation is seeking individuals with 3-4 years experience. Must be able to make decisions, be creative, self-motivated, organized with strong supervisory skills. Ventura County area. EOE. Please send resume to: Environmental Care, Inc., 2910 Sherwin Ave., Ventura, CA 93003. 4/94

GREENSWAY GOLF COMPANY, a Golf Construction Employment Service. We specialize in short and long term placement. If you specialize in Golf Course Grading and Shaping, Irrigation, or Construction Management, send your resume today and join the fastest growing data base of available Golf Course Construction personnel. Overseas and domestic jobs available. Mail or Fax resume to: GreensWay Golf Co., Attn: Chris Johnson, 101 S. Kraemer Blvd. Suite 132, Placentia, California 92670, FAX 714-524-7255. 4/94

HELP WANTED

LANDSCAPE SUPERVISOR: AN EMPLOYEE OWNED COMPANY IN SUNNY ARIZONA has an immediate opening for an individual with 2-3 years exp. Successful applicant must be self-motivated, organized and a people person with strong supervisory skills. Bi-lingual (Eng/Span) preferred. Must have valid drivers license and be certified with state pest control within 1 month. Excellent salary and benefits package. Please send resume to 3159 W. Buckeye, Phoenix, AZ 85009. Attn: Branch Manager. EOE/MFDV. 4/94

Attention Employers and Job Seekers! Employers submit current job openings to the quickest, least expensive and most comprehensive job listing publication in landscaping, grounds/golf course maintenance & related horticulture fields. Ad deadlines are the 3rd & 17th of each month. \$14.95 for unlimited detail and nationwide exposure. Call for vacancy notice form. **Job Seekers** subscribe to the freshest source of national job openings in the fields of horticulture, 6 issues (3 mos.) for only \$19.95. MC/Visa. Call 1-800-428-2474, Fax 1-800-884-5198. Ferrell's JOBS IN HORTICULTURE, 154 E. Chapel Ave., Carlisle, PA 17013-3435. 4/94

MAINTENANCE PROFESSIONALS: Michigan's leading provider of the finest in Horticultural Services is currently accepting applications from experienced GroundsCare Foremen, Turf & Ornamental Applicators, and Pruning Specialists. Send resume in confidence or call **TORRE & BRUGLIO, INC.**, 850 Featherstone, Pontiac, MI 48342, Attn: David Drolshagen, 810-452-9292. EOE. 4/94

POSITIONS WANTED


Grounds Superintendent, Arborist Superintendent Commercial, Campus, or Utility Company. Northeast region. A.S. Arboriculture, MA, CONN Certified Arborist 20 years commercial building and grounds maintenance experience. Vast supervisory experience. Contact: DFH, 50 LUDLOW STREET, WORCESTER, MA 01603 or 508-737-7866. 4/94

CGCS is seeking assistant superintendent position at quality club where current superintendent will be retiring in the next 1-2 years. Would like opportunity to work with superintendent to fully understand member expectations before assuming responsibilities. Experienced north/south regions. Bob 904-223-7760. 4/94

POSITION WANTED: Golf Course Construction/Grow-in Superintendent. Will relocate worldwide. 18 years experience on high caliber projects throughout the U.S. Education in Turfgrass Management and certified by the G.C.S.A.A. Available April 1994. Call 618-281-6769 for more information. 4/94

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- ✓ EFFECTIVE
- ✓ ECONOMICAL

 **Send a Classified Advertising message...
...write here.**

(Please Print) _____

1. Number of insertions: (circle) 1 3 6 12 TF (Till Forbid)
2. Start with (month) _____ issue. (Copy must be in by 1st of month preceding).
3. Amount enclosed: \$ _____ (To keep our rates as low as possible, payment must accompany order)

SIGNATURE _____ DATE _____

NAME _____ COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

PHONE NUMBER _____

Mail ad copy to: Bill Smith, **Landscape Management**, 7500 Old Oak Blvd., Cleveland, OH 44130 or call 216-891-2670.

RATES: \$1.45 per word (minimum charge \$46). Boldface words or words in all capital letters charged at \$1.75 per word. Boxed or display ads \$226 per column inch, one time; \$215, three times; \$204, six times; \$194, nine times; \$183, twelve times (one inch minimum). (Frequencies based on a calendar year.) For ads using blind box number, add \$23 to total cost of ad per issue.

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PO BOX 5054
PITTSFIELD MA 01203-9698

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IF MAILED
IN THE
UNITED STATES

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LANDSCAPE
MANAGEMENT
Reader Service
Card to receive
FREE
information on
products
and services
advertised
in this issue.

NAME _____
TITLE _____
FIRM _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

TELEPHONE () _____
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HAVE A SALES REP CALL ME 18 ☐ (A)

101	118	135	152	169	186	203	220	237	254	271	288	305	322
102	119	136	153	170	187	204	221	238	255	272	289	306	323
103	120	137	154	171	188	205	222	239	256	273	290	307	324
104	121	138	155	172	189	206	223	240	257	274	291	308	325
105	122	139	156	173	190	207	224	241	258	275	292	309	326
106	123	140	157	174	191	208	225	242	259	276	293	310	327
107	124	141	158	175	192	209	226	243	260	277	294	311	328
108	125	142	159	176	193	210	227	244	261	278	295	312	329
109	126	143	160	177	194	211	228	245	262	279	296	313	330
110	127	144	161	178	195	212	229	246	263	280	297	314	331
111	128	145	162	179	196	213	230	247	264	281	298	315	332
112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
114	131	148	165	182	199	216	233	250	267	284	301	318	335
115	132	149	166	183	200	217	234	251	268	285	302	319	336
116	133	150	167	184	201	218	235	252	269	286	303	320	337
117	134	151	168	185	202	219	236	253	270	287	304	321	338

NAME _____
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FIRM _____
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108	125	142	159	176	193	210	227	244	261	278	295	312	329
109	126	143	160	177	194	211	228	245	262	279	296	313	330
110	127	144	161	178	195	212	229	246	263	280	297	314	331
111	128	145	162	179	196	213	230	247	264	281	298	315	332
112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
114	131	148	165	182	199	216	233	250	267	284	301	318	335
115	132	149	166	183	200	217	234	251	268	285	302	319	336
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117	134	151	168	185	202	219	236	253	270	287	304	321	338



APRIL 1994

This card is void
after June 15, 1994**1. BUSINESS & INDUSTRY**MY PRIMARY BUSINESS AT THIS LOCATION IS:
(PLEASE MARK ONLY ONE IN EITHER A, B OR C)**A. Landscaping/Ground Care at one of the following types of facilities:**

- 01 ☐ 0005 Golf courses
02 ☐ 0010 Sports Complexes
03 ☐ 0015 Parks
04 ☐ 0025 Schools, colleges, & universities
05 ☐ Other type of facility (please specify) _____

B. Contractors/Service Companies/Consultants:

- 06 ☐ 0105 Landscape contractors (installation & maintenance)
07 ☐ 0110 Lawn care service companies
08 ☐ 0112 Custom chemical applicators
09 ☐ 0135 Extension agents/consultants for horticulture
10 ☐ Other contractor or service (please specify) _____

C. Suppliers:

- 11 ☐ 0205 Sod growers
12 ☐ Other supplier (specify) _____

Which of the following best describes your title:
(mark only one)

- 13 ☐ 10 EXECUTIVE/ADMINISTRATOR
14 ☐ 20 MANAGER/SUPERINTENDENT
15 ☐ 30 GOVERNMENT OFFICIAL
16 ☐ 40 SPECIALIST
17 ☐ 50 OTHER TITLED AND NON-TITLED PERSONNEL (specify) _____

I would like to receive (continue receiving)

LANDSCAPE MANAGEMENT each month: YES ☐ NO ☐

Signature: _____ Date: _____



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LANDSCAPE MANAGEMENT each month: YES ☐ NO ☐

Signature: _____ Date: _____

NAME _____
 TITLE _____
 FIRM _____
 ADDRESS _____
 CITY _____
 STATE _____ ZIP _____

TELEPHONE (_____) _____

FAX NUMBER (_____) _____

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112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
114	131	148	165	182	199	216	233	250	267	284	301	318	335
115	132	149	166	183	200	217	234	251	268	285	302	319	336
116	133	150	167	184	201	218	235	252	269	286	303	320	337
117	134	151	168	185	202	219	236	253	270	287	304	321	338

**LANDSCAPE
MANAGEMENT**

APRIL 1994
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 16 ☐ 40 SPECIALIST
 17 ☐ 50 OTHER TITLED AND NON-TITLED PERSONNEL (specify) _____

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LANDSCAPE MANAGEMENT each month: YES ☐ NO ☐

Signature: _____ Date: _____



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**LANDSCAPE
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INCORPORATING LAWN CARE INDUSTRY

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 PITTSFIELD MA 01203-9698



NO POSTAGE
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 IF MAILED
 IN THE
 UNITED STATES



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FIRST CLASS MAIL PERMIT NO 950 PITTSFIELD MA

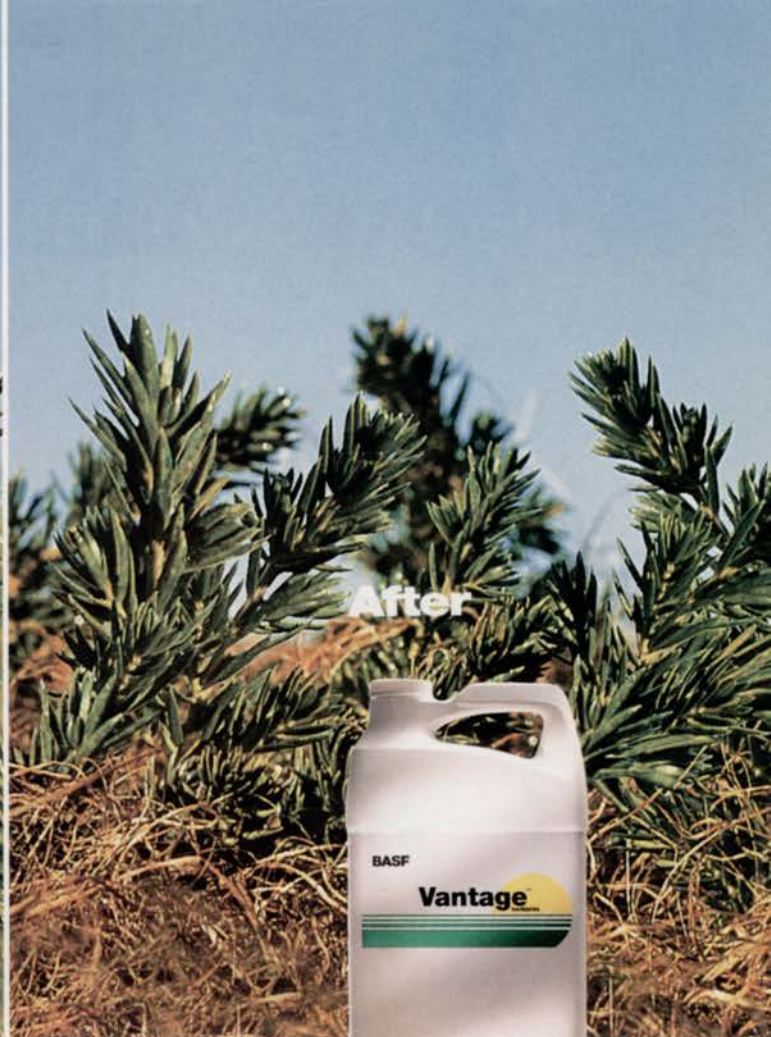
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**LANDSCAPE
MANAGEMENT**
INCORPORATING LAWN CARE INDUSTRY

ADVANSTAR COMMUNICATIONS INC
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