

**LM REPORTS: CHAIN SAWS**

APRIL 1992 • \$3.00

# **LANDSCAPE MANAGEMENT**

**INCORPORATING LAWN CARE INDUSTRY**



**BECOMING  
'INSURANCE  
LITERATE'**

**Niemczyk, Cobb  
on insect control**

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**The magic of mulch**

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**Estimating II:  
Project take-offs**



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and tear up your tees.*

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

**Responsible Industry for a Sound Environment**, 1155 15th St. NW, Washington, D.C. 20005; (202) 296-6085.



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## AS WE SEE IT

RON HALL, SENIOR EDITOR



## Next stop: Capitol Hill

*Monday a.m., Feb. 24.*

The bus creeps out of New Haven while the town sleeps; even the southbound traffic on I-95 is sparse and drowsy.

It's 5:15 a.m. and Washington D.C. is a far piece down the road. So, who can be chipper so early? Not even Paul McDonough. And he brought the coffee.

The driver's a pro; you can see that. As much emotion as he shows, this could be a drive in the park for him, except he's a bit concerned about New York City. He wants to enter and escape that city's orbit before the commuters get a chance to tie themselves into knots.

Bridgeport. Norwalk. Stamford. The bus gobbles up Connecticut in a hurry. It's a small state—even for a small state.

The morning finally gains a foothold on a wintry sky that looks like somebody tried to smudge it out with a dirty eraser. New York's skyscrapers grow, then shrink, then dissolve into rain and lowering clouds. Uhm, that's easy.

*Hello New Jersey; good-bye New Jersey.*

*Philadelphia, you're looking kinda grey, kinda solemn this morning.*

The riders' spirits, buoyed by box lunches packed aboard by Lesco, rise.

The 26 Connecticut lawn care company owners and managers are at the door to the Hotel Washington before noon. They're almost cheery. Sandoz supplied the bus. DowElanco is preparing a tasty spread for them and other lawn care professionals arriving to participate in PLCAA's "Day on the Hill '92."

In all, 130 lawn care business owners and managers show up, most from mid-Atlantic and mid-east states. The Connecticut contingent, the one that comes by bus, is the largest from any one state.

*Tuesday, 9:30 a.m. February 25.*

Sen. Joe Lieberman doesn't arrive right away. When he does walk into his own office, his eyes widen. His lips seem to form the words—"Oh, my God!" But he

doesn't say it.

His surprise is evident. At least to some of the 26 lawn care professionals zippered into his office on this raw, drizzly Tuesday morning, yes, he seems surprised. Maybe even a little amused.

Lieberman (D-Conn.) regains his composure and smiles broadly. He comments about how unusual it is for his constituency to arrive in mass (or something very much like that).

But, for whatever reason, he's in fine mettle, downright genial.

Is this the same Sen. Joe Lieberman that took the chemical lawn application industry to task on Capitol Hill last May? (And may or may not do so again this spring.) *You bet.*

The same Sen. Lieberman who proposed legislation to—what many in the lawn care industry insist—hamstring chemical lawn applications? *You bet.*

But, his demeanor on this Tuesday morning is saying—*these are constituents and business people, people I represent.*

Several of the lawn care professionals outline their concerns. Conversation is abbreviated. Pointed. Polite.

Lieberman is attentive, inquisitive, but he makes no promises.

*Tuesday evening.*

Conversation from the tired riders is muted, but upbeat. They went to the capital to convince lawmakers of the importance of their work. In the process, they receive an education of their own.

It's been a long couple of days; miles of walking, a pow-wow with an aide to Sen. Christopher J. Dodd (D-Conn.), and meetings with several U.S. Representatives and their staff members too.

The headlights of the northbound bus slice through the drizzle of the moonless, starless night.

New Haven, next exit.



In the South, where weeds are a problem most of the year, you don't get much of a break from using herbi-



cidicides. So Southern turf stays strong and healthy.

And Surflan lasts up to a month longer than other herbicides. Just two or three applications gives you year-

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Surflan is also very gentle on off-target plants. In fact, it can be

# People use a herbicide. Mild usually

So the milder your herbicide is to turfgrass, off-target plants and the environment, the better off you are.

That's why you should seriously consider Surflan® herbicide for your weed control program.



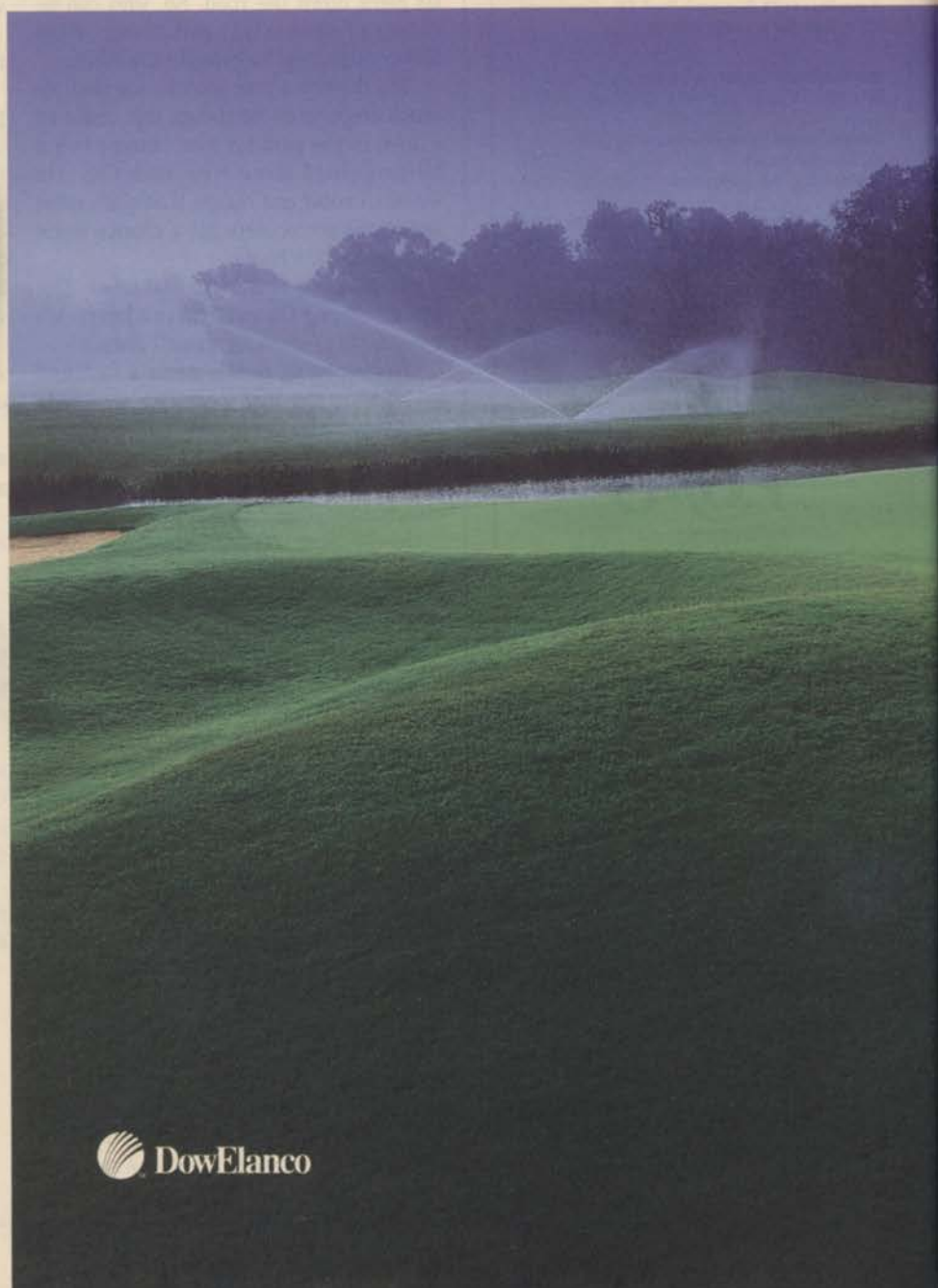
## How To Keep Weeds From Sneaking Up On You.

University studies show crabgrass and goosegrass germinate when soil at 2" reaches the following temperatures for three consecutive days: loam 50-52°F, heavy wet clay 53-57°F, sand 49-51°F. Measuring soil temperature allows you to predict germination, and time your herbicide application for maximum control.



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Surflan is very mild on all warm season grasses. When used properly on established turf, university





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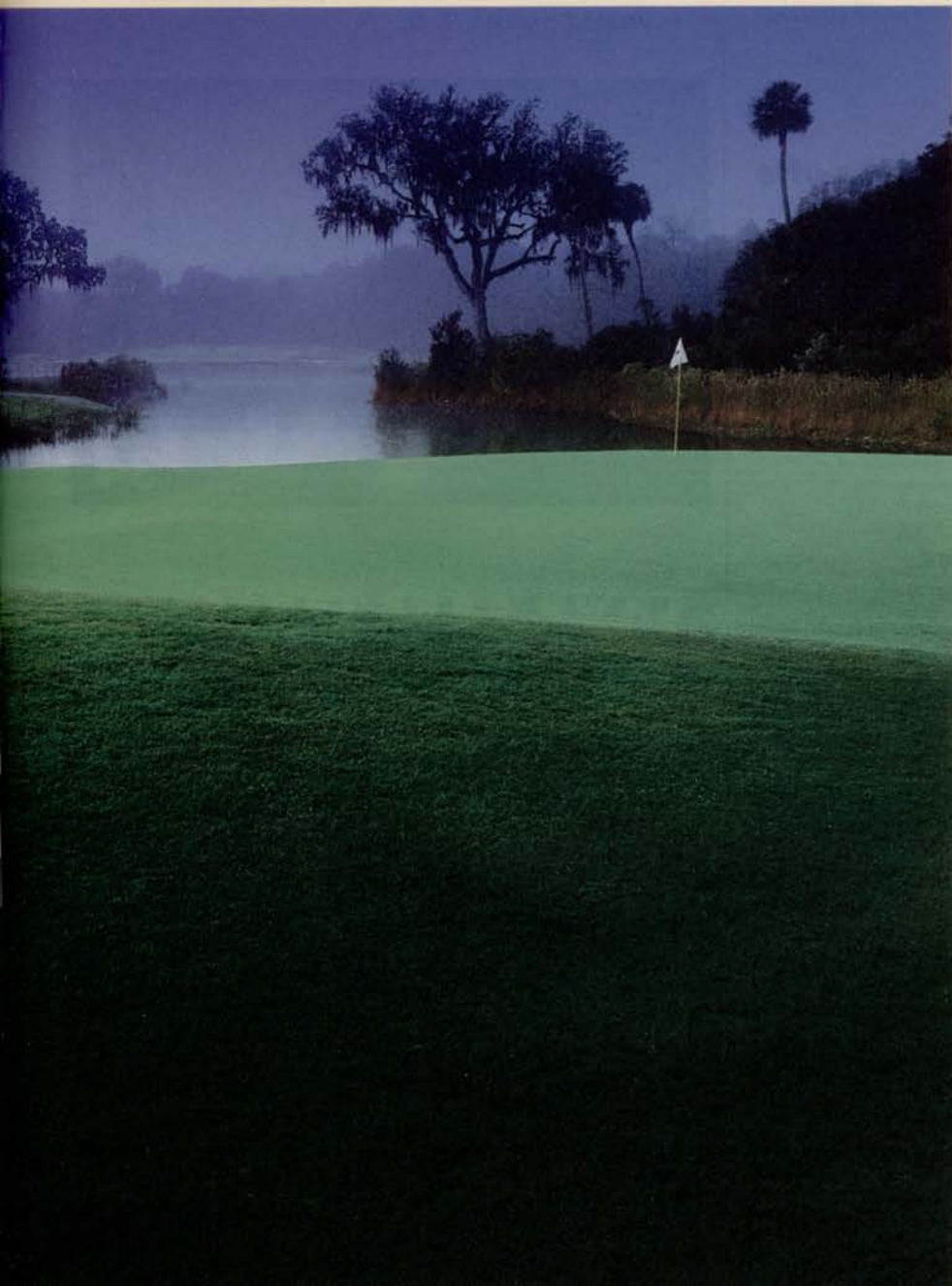
or flowers. Surflan is available as a sprayable and on fertilizer. If you prefer a granular form, there's XL\* herbicide (it contains the same active ingredient



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**The chemistry is right.™**

Surflan is available as a sprayable or on fertilizer. Not labeled for use on greens.

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# LANDSCAPE MANAGEMENT

INCORPORATING LAWN CARE INDUSTRY

APRIL 1992 VOL. 31, NO. 4

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*Ron Hall*





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*ON THE COVER: The Oregon Graduate Center, maintained by Teufel Commercial Landscape Co., Portland. Photo by Demoulin/Waddell, Inc.*



# ASK THE EXPERT

DR. BALAKRISHNA RAO



## When to plant evergreens

**Problem:** When does the planting season for evergreens like pines and spruce begin? How late can we plant in the fall? (Michigan)

**Solution:** Generally, evergreen planting can be started as soon as the early summer growth has become hardened. Plant pines and spruce when the annual growth is complete and has hardened, and the terminal buds are firmly set. During dry periods, it is better to wait until there is some good rain and soil moisture, usually in early September.

Most of the plantings should be performed from late summer to early fall or from early September to late October. Planting would be risky after this time because of potential injury to plant parts from exposure to low temperature. Evergreens such as rhododendron and azaleas should not be planted after the above planting periods. These fall planted plants require sufficient care and proper follow-up to ensure good recovery from transplanting shock. Provide proper water and mulch.

As a general rule, plant about six to eight weeks before the soil temperature reaches 40° F in the fall. It would be risky to plant without having sufficient periods of warm soil temperature for proper root development and recovery.

With proper plant health care, you could plant until the end of October. Remember that different plants respond differently to planting. Most plants do better and are easier to transplant in the spring. Some others do better when planted in the fall. Late planted perennials should be covered with 2 to 3 inches of mulch after the ground freezes.

## Minimizing herbicide residue

**Problem:** In a residential property, a large number of shrubs and plants like rhododendron and azaleas were showing injury from lawn-applied herbicides. Symptoms appear to be caused by 2,4-D and/or dicamba-like material. Is there anything we can do now to minimize the injury from possible residue in the soil. Secondly, what can be done to the foliage? (North Carolina)

**Solution:** Improperly-applied lawn herbicides containing 2,4-D and dicamba mixtures can affect non-target desirable plant materials in the landscape.

The extent of damage may vary depending upon the rate, formulations of herbicide (amine vs. ester) and species involved. To determine whether the soil has residual herbicide, a soil test would be beneficial. In addition, plant a known number of radish seeds in the suspected areas for a bioassay. If there is any soil residual of suspected herbicide, the seeds will either not germinate or the seedlings will show growth distortion.

If possible, plant seeds in an unaffected area for comparison. If herbicide is present, incorporating activated charcoal into the soil would be beneficial. This material may be difficult to incorporate into soil near established trees. In this case, injecting activated charcoal using a liquid fertilization technique may be useful.

Prune and discard already affected plant parts. The new growth may not show the symptoms if the soil does not contain high doses

of herbicide. Often the affected plant parts can be left alone if growth distortion is not objectionable. The herbicide will gradually break down in plant tissues and not cause permanent injury.

## Medicaps and vascular systems

**Problem:** Can medicaps damage the vascular system of trees? (Missouri)

**Solution:** Medicaps implantation can cause some internal tissue injury. I have seen cross sections of treated trees showing extensive bluish-black discoloration of wood, suggesting the possibility of injury to xylem tissue. However, we seldom see adverse effects on the tree crown.

If the plant is suffering from iron deficiency, the risk of losing that tree from iron starvation is more likely than losing the tree because of injury from medicaps. It is true that whenever we drill holes to implant medicaps, we can see injury.

We need to compare the risk vs. the benefit to the tree. Ideally, trunk implantation is used to correct an existing nutrient deficiency followed by soil treatments to prevent a recurrence.

## On pH adjusting methods

*I appreciate readers' comments in response to my request in the November issue. Regarding pH-adjusting comments we ran in the February and November 1991 issues of LANDSCAPE MANAGEMENT magazine, we received the following comments from Dr. Walter S. Barrows, a consultant from California: "Use 5 lb. soil sulfur per 100 sq.ft. or 2-1/2 cubic yards of soil to lower 0.5 pH point over time. Or use aluminum sulfate at 1 lb. per 100 sq.ft. Soil must be leachable."*

*As I indicated in previous months, I am not familiar with these recommendations to lower or buffer the pH. Those who are interested in this should try this on a small scale and learn more about it before using in many areas.*

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

**Questions should be mailed 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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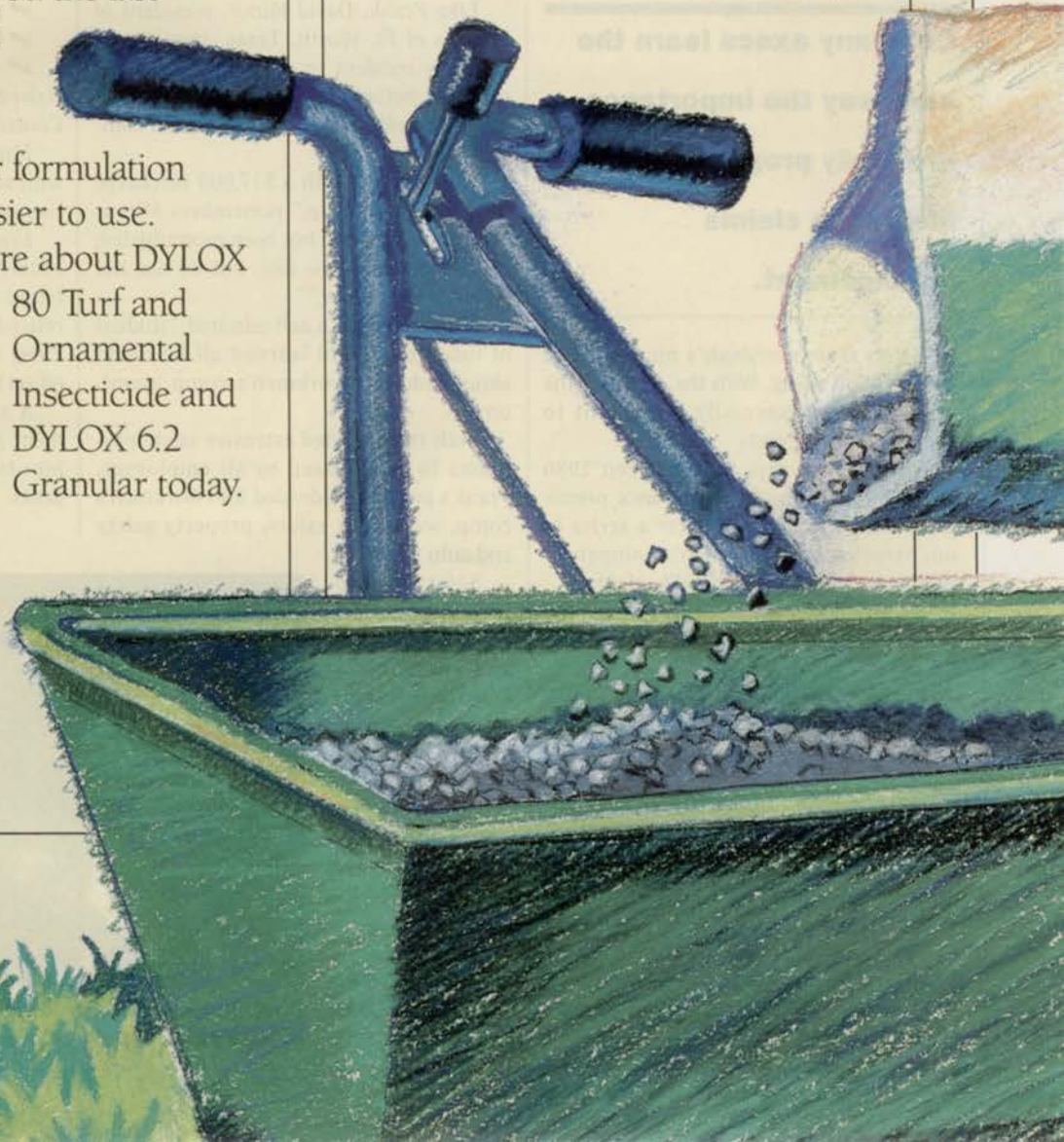
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**MILES** 



# After premium hikes, owners become 'insurance literate' and more safety-conscious

## Company execs learn the hard way the importance of safety programs and insurance claims management.

■ Safety is on everybody's mind as 1992 gets into full swing. With the economy the way it is, it's especially important to reduce insurance costs.

David Frank says that between 1986 and 1988 his company's insurance premiums doubled each year after a series of uncharacteristic workmen's compensation, auto, property and liability claims.

He says it was then that he realized the close relationship between insurance premiums and accident history.

Frank, president of David J. Frank Landscape Contracting, Germantown, Wisc., says the company's first concern was safety.

"We began an active safety and loss program," recalls Frank. Apparently, Frank's efforts are paying off, as the company recently had 120 days of no lost-time accidents, and good records in property as well.

He estimates the company saved \$100,000 in claims and premium charges in 1991.

Like Frank, David Minor, president of Minor's of Ft. Worth, Texas, says it only took one incident to convince him of the need for better claims management and accident reduction at his 150-person company.

"We were hit with a \$17,000 surcharge in workmen's comp," remembers Minor. "The comp rate had not been promulgated; we had gotten a base rate, but we had not received a 'modifier.'"

Minor became a self-admitted "student of insurance," and learned all he could about reducing workmen's comp premiums.

Both men enacted extensive safety programs to be followed by all employees. Frank's program is divided into workmen's comp, workplace safety, property safety and auto safety.

Safety is also influenced by proper selection and training of employees, and safety procedures are reviewed weekly.

Other plan elements at Minor's:

- ✓ a "get-back-to-work-soon" program;
- ✓ self-insurance on closed-end or first-aid-type claims;

- ✓ safety contests;
- ✓ better claims management; and
- ✓ adoption of safety standards established by the Associated Landscape Contractors of America (ALCA).

Minor's company became "obsessed with safety," and as a result saved "tons of money."

Under Minor's safety program, foremen receive a \$35 per month safety bonus based on accident-free periods. Safety-related meetings are held every two weeks. Every new employee has to read and sign-off on the safety program.

A safety manual for claims management geared for safety "officers" describes how to respond to a wide variety of accidents.

*continued on page 77*



**Dave Minor, right, and David Frank: Don't let 'someone else' in the office handle your company's insurance reviews.**



## Injury management requires company-wide commitment

Insurance industry figures show that construction workers experience occupational injury and illness at twice the rate of those employed in general industry.

The Occupational Injury Management (OIM) program developed by CNA Insurance, Chicago, is a system of proce-

dures used by employers and medical professionals to help injured employees return to work quickly and healthfully.

According to CNA, successful implementation rests on an active commitment from all levels of the company. All levels of management need to be held accountable

for results. From initial medical treatment and diagnosis to development of a treatment plan, and eventually the employee's return to full-time work, the focus needs to be on the philosophy of occupational injury management.

Of special importance in the CNA program is the function of the "team coordinator." This is the management level person responsible for maintaining contact with the injured worker.

Duties include:

- contacting employees in person or by phone within 24 hours of the injury;
- verifying their understanding of their injury, treatment or follow-up plans; and
- making certain employees understand available benefits—especially disability benefits—for work-related injuries.

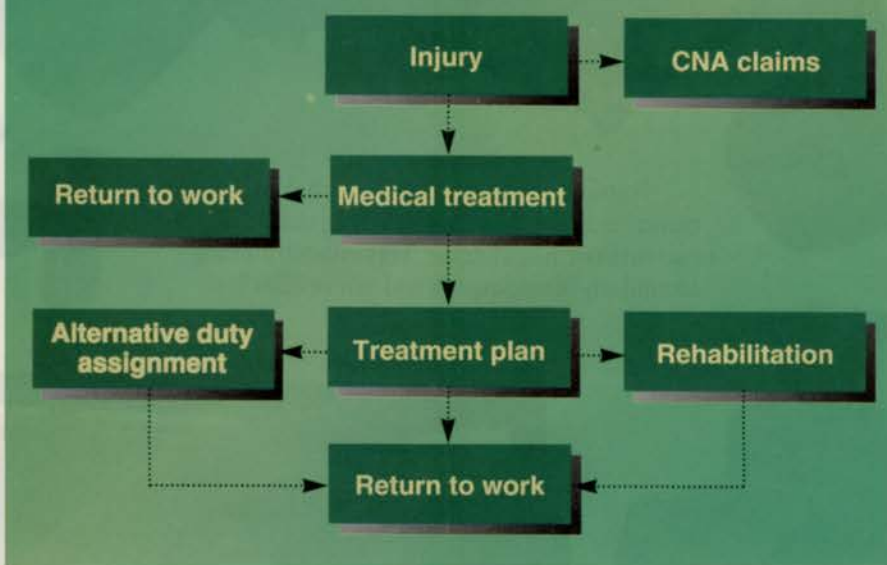
The Occupational Injury Management program also provides instruction on how to select primary care providers, job function evaluations and timely claims reporting.

Management must choose medical care providers so that workers are treated by professionals experienced in occupational injuries.

If your state does not permit employers to direct injured employees to selected primary care providers, you can still contain costs and help ensure quality care by developing a list of preferred providers.

—For more information, contact CNA at (800) 262-6241.

### Medical Case Management



## Lawn care clean-up insurance made affordable

A commercial pollution clean-up insurance program for the lawn care industry is now available, providing coverage for spills caused by a vehicle accident.

"We've worked out the details of the insurance coverage and negotiated a premium format which will allow even the smallest of operators to purchase the coverage at a reasonable price," says Richard Bersnak, president of Columbus, Ohio-based M.F.P. Insurance Agency, Inc., and himself the owner of a Barefoot Grass franchise.

This coverage is significant because in 1986, the property and casualty insurance industry revised the standard commercial

automobile policy used by most U.S. insurers, to exclude damages to the air, land or water caused by an automobile accident.

Bersnak says clean-up costs for even the smallest lawn care chemical spills can range from \$7500 to \$10,000.

"The largest spill we are aware of by a lawn care operator carried a \$75,000 clean-up fee," says Bersnak. "The average lawn care firm will struggle paying these costs, much less any fines and any other statutory charges by state and local governments."

Before this coverage was available, says Bersnak, policies would probably start in the \$7500 to \$10,000 premium range,



**Bersnak: insurance program relies on average-size companies.**


depending on the size of the operator. An individual contract will have a higher limit of liability and will require an expensive site or operation's study performed by an

*continued on page 77*




# This Time, We Did Competition, We Out

To make a dramatic turnaround in your productivity, put yourself behind the wheel of the machine that outmaneuvered them all: The new Groundsmaster® 220-D or the new gas-powered 224 from Toro. No other out-front rotary mowers are as maneuverable, as effortless to operate or provide as much trim productivity.



Fourlink power steering is your link to unmatched maneuverability. Now operators can make sharper, easier turns with less fatigue. This makes trimming around any obstacle quick and almost effortless.



To give you even more cutting control, Groundsmasters feature a single knob deck-to-tractor weight transfer system. A twist of the wrist is all it takes to balance cutting unit flotation to height of cut and traction needs. The result is better traction and better flotation without scalping.



When it comes to engine size, Toro gives you the power of choice. The new Groundsmaster 220-D features a 20 hp liquid-cooled, 3-cylinder Mitsubishi diesel engine. The new Groundsmaster 224 gives you the same engine in a gas model, providing you with the durability diesels are known for, but with more power. Both give you all the speed and power needed for the most demanding jobs.

The Groundsmaster 220 also is available with a 20 hp air-cooled gas engine.

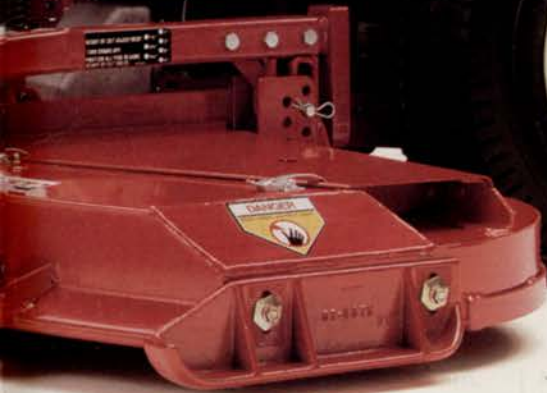




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A small, compact wheelbase provides a small uncut trim circle and tight turn-around enabling you to trim close around any obstacle. Just what you need to get into or out of tight areas.



A patented, heavy-duty carrier frame with floating cutting decks allow the cutting units to follow ground contours for a superb quality of cut. For added cutting control, there are three decks to choose from: 72", 62" or 52". And the 52" is available with an optional grass collection system.

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With all these performance features, it's obvious why the new Groundsmaster 220-D and 224 are so popular. And why Toro is the leader in out-front riding rotary mowers. To request a demonstration, call your local Toro distributor or contact Toro at the address below.

**TORO**

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That Keep You Cutting



# Starting the bid: project take-offs

## Part II of III: Professional estimators don't confuse quantity take-off with a separate assignment, pricing.

by Sylvia Hollman Fee

■ From practice to trial, knowing materials, methods and variable conditions will sharpen your estimating skills.

Experience can expand your profit margin in a given market. Your estimate and bid price are based on two factors: (1) your company's history and (2) the facts of the potential new job.

Some of the factors you consider each time are routine: travel costs, costs of bonds, specific site conditions, and specialties such as irrigation or required heavy equipment. Other factors may be special and unique to the job, such as the relationships between those parties involved.

Whatever the specifics, it is vital to map out the scope of work involved in the job and the key players to manage the project. If you discover inconsistencies in the work outline, you can take into consideration the costs that deviate from your own firm's standards. This holds true whether the specifications are given by architects and owners or proposed by the landscaper making the bid.

The Landscape Project Analysis form (Fig. A) provides a format for recording and evaluating vital aspects of the project estimate. When you have recorded all the elements of the project and decided that the job is appropriate for your firm, your systematic estimate is under way.

**Setting up**—To perform a unit price estimate, some unit of measurement must be assigned to every cost associated with a job. For example, portable toilets are required on a highway job, so the unit of measurement will be each portable toilet.

Some required items are mentioned briefly in requests for bids. You must be sure to obtain all the site drawings, specifications and information collected on-site.

A quantity take-off lists the materials, number of man-hours, equipment and any other items required to complete the job. Take your time. Keep in mind that this information-gathering is the basis for your pricing and bid. Accuracy is vital for your bottom-line profit.

The quantity take-off is a separate assignment from pricing; professional estimators do not confuse these tasks. You can guard against error by using a pre-printed form such as that shown in Fig. B.

**'Taking off'**—To do a take-off from a plan drawing, read and make notations in a planned sequence. This is done by making lists of all work and materials of the same type, such as all grass sod areas and all paved walkway areas of similar materials. Shade and color measured areas on plans as you go.

Areas may be measured in square feet, yards, linear feet, volume and so on, as long as

you record the unit of measure on the take-off form. Measure and record items for surface cover, or volume of materials, length of border, amount of time, etc. Remember the methods and amount of work to do a job all have an associated cost that must be recovered.

A systematic method is useful for future reference and/or communication with others. This listing includes all items such as work days for specific earth-moving equipment, man-hours for clean-up and other requirements.

DESCRIPTION	DIMENSIONS		Area	UNIT	Risers	UNIT	Length	UNIT	Volume
	L	W							
Bluestone									
Flaggings	20'	8.5'	170 SF						
	16.5'	5'	82.5 SF						
	12.5'	6.5'	81 SF						
	11.00'	8'	88 SF						
	9'	8'	72 SF						
5% Waste			141 SF						
Total			450 SF						
Steps									
Concrete Slab	5'	5'							
Gravel Base		4"	145 SF						
		4"	55 SF						
RR Tie									
Steps	14'	4'							
Edging	24'								
Retaining Wall	25'								
	4'	60"							
Fieldstone Edging	15'								
Crushed Bluestone	22'	5' 3"	117 SF						

Fig. B

Notice in Fig. B that the surface material measured by noted dimensions with irregular areas is accompanied by a waste allowance. The required depth of the concrete slab is listed, so volume of material may be priced later. The area of crushed stone is listed and then converted to a volume of material so that item may be priced correctly when costs are added.

—Sylvia Hollman Fee is owner of Sylvia Fee & Associates, Inc., Needham, MA 02192.

Figures reproduced from Means Landscape Estimating, by Sylvia Fee, R.S. Means Co., Inc. (800) 334-3509.

**LANDSCAPE PROJECT ANALYSIS FORM**

Date \_\_\_\_\_ To \_\_\_\_\_

Travel Time From \_\_\_\_\_ To \_\_\_\_\_

Travel Miles \_\_\_\_\_

Travel Minutes \_\_\_\_\_

Location \_\_\_\_\_

Project \_\_\_\_\_

Project Manager \_\_\_\_\_

Owner \_\_\_\_\_

Landscape Architect \_\_\_\_\_

Contractor: General \_\_\_\_\_

Building Type \_\_\_\_\_

Quality \_\_\_\_\_ Economy \_\_\_\_\_ Average \_\_\_\_\_ Custom \_\_\_\_\_ Luxury \_\_\_\_\_

Describe \_\_\_\_\_

Size: \_\_\_\_\_ S.F.

Ground floor area of building \_\_\_\_\_ S.F.

Outdoor surface parking \_\_\_\_\_ S.F.

Number of parking spaces required \_\_\_\_\_ S.F.

Lawn area \_\_\_\_\_ S.F.

Landscape planting area \_\_\_\_\_ S.F.

Other area \_\_\_\_\_ None \_\_\_\_\_ Other \_\_\_\_\_

\*Zoning \_\_\_\_\_ Residential \_\_\_\_\_ Commercial \_\_\_\_\_ Industrial \_\_\_\_\_

Zoning Requirements \_\_\_\_\_

**ESTIMATE DATA**

Budget due: \_\_\_\_\_ 19 \_\_\_\_\_

Schematic estimate due: \_\_\_\_\_ 19 \_\_\_\_\_ a.m./p.m.

Preliminary estimate due: \_\_\_\_\_ 19 \_\_\_\_\_

Bid/Final estimate due: \_\_\_\_\_ 19 \_\_\_\_\_

Working drawings \_\_\_\_\_

**LABOR MARKET**

Describe \_\_\_\_\_

TAXES Tax Exempt.  No  Yes % State \_\_\_\_\_ % County \_\_\_\_\_ % City \_\_\_\_\_ % Other \_\_\_\_\_

BOND  Not required  Required Type \_\_\_\_\_ Amount \_\_\_\_\_

BIDDING DATE \_\_\_\_\_

Open competitive \_\_\_\_\_ Start date \_\_\_\_\_ Construction duration \_\_\_\_\_ Filed bids \_\_\_\_\_

Selected committee \_\_\_\_\_ Negotiated \_\_\_\_\_

CONTRACT \_\_\_\_\_ Single \_\_\_\_\_ Multiple Describe \_\_\_\_\_ Yes \_\_\_\_\_

Multiple type assigned to general contractor \_\_\_\_\_ No \_\_\_\_\_

Fig. A

**NEXT MONTH:**  
Pricing the take-off



# LANDSCAPER'S CHOICE

## The Bobcat 2410 MTC Is The Ultimate Multi-Purpose Machine

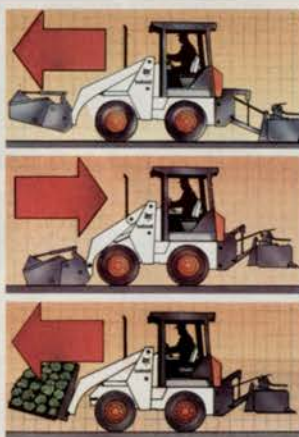
### Custom-tailor a Bobcat 2410 to fit your job.

You can custom-tailor your MTC (Multiple Tool Carrier) to fit your job, whether it requires excavating, landscaping, demolition, back-filling, loading, fertilizer handling, scrap handling, construction, or more.

**More Agile:** Full-time four-wheel hydrostatic drive provides the traction and flotation you need to work in rough terrain and muddy job sites. And the MTC's articulated design provides a tighter turning radius to help you work in those hard-to-get-at places.



**More Mobile:** The MTC is ready to move when you are. Its ease of transport will save you money by cutting transportation costs and expensive downtime of larger machines, which often wait for ground transport.



Save time on the job. Here's an example of how a landscaper can use the MTC with a box scraper going forward and with a landscape rake going backwards, without changing equipment... and in a matter of minutes, you can switch to a front-mounted pallet fork and unload sod.



**More Available:** The Bobcat dealer network is worldwide and there's a dealer near you. So why not stop in and see for yourself how **much more** you can do with a new multi-purpose Bobcat MTC.



**More Versatile:** The 2410 MTC features the exclusive Bob-Tach\* system (available front) and a rear quick attachment system for fast, secure attachment changes. Your MTC can quickly change function from a loader to a landscape rake, or from a demolition hammer to a backhoe to a 3-point loader, plus many more, for even more versatility.

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More than a backhoe.

\*Bob-Tach is the registered name for the patented front Bobcat attachment system.



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Insecticide/Miticide

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# Mulch: perfect for beauty in landscapes



If properly used, mulch products can improve the health of surrounding trees and shrubs, plus they are visually pleasing to the eye.

## Beware how mulch you use! Experts says it's not hard to actually over-mulch around trees and shrubs.

■ Mulch is an integral part of most award-winning landscapes—not merely for its practicality, but also for its appearance. In combination with the trees and shrubs around which it's used, mulch provides another way for designers to break up large areas in the landscape.

"Mulching started out as being purely practical," notes Al Rickert, owner of Wholesale Landscape Supply in Bradenton, Fla. "It's now become a part of the aesthetics."

The term "mulch" is defined by Dr. Donald Rakow of Cornell University as "any ground treatment that differs from the substrate (soil beneath), either physically or biologically." Many different types are available (see Table 1).

Rakow says wood chips are the most-often-used mulch. "They can serve a valuable role in the landscape if used properly," he notes.

The phrase "if used properly" is key.

"Piling too much organic mulch can rot the base of the tree and kill it," says Bonnie Lee Appleton of the Virginia Tech Cooperative Extension Service. "Back off! In most cases, we see no reason to exceed

two to three inches. If you need more, put a well around the tree base, keeping the mulch away from the tree.

"The finer the particles of organic material you use, the less you should use," she continues. "Weeds have a field day if you're using mulch over fabrics or polypropylene because it acts as a substrate."

Rickert says the types of mulch available to landscapers and golf course superintendents vary according to region.

"Cypress mulch is very popular from Kansas east because of favorable shipping rates. It dominates the market in the Midwest," he notes. "Pine bark is the old standby in the South, Southeast and Central Atlantic. Pine straw is more regionalized in the Southeast, but that's changing."

Though mulches have numerous benefits (see Table 2), there are disadvantages.

"Most mulches also make a wonderful winter home for mice," says Dr. Bill Fountain of the University of Kentucky. "And when warm spring weather arrives, they awaken with the hunger of a 16-year-old male. The closest food source is often the trunks of young trees."

Fountain says that raking the mulch away from the trunk for six to eight inches will discourage feeding by mice without reducing the mulch's benefits. "Hardware cloth around the trunk is also a very effective barrier to mice and rabbits," he notes.

—Jerry Roche

TABLE 1.  
Selected types of mulch:

- blackplastic/geotextiles/fabric
- cocoa mulch
- cypress mulch
- grass clippings
- gravel
- hardwood bark
- limestone
- marble chips
- natural recycle
- pine bark
- pine straw
- volcanic material

TABLE 2.  
Benefits of mulch:

- ✓ decrease phosphorus levels in plants
- ✓ improve manganese content in trees
- ✓ increase penetration of water into the soil
- ✓ insulate soil from extreme cold in winter
- ✓ keep soil more viable (looser)
- ✓ lower pH
- ✓ reduce chances of chlorosis
- ✓ reduce erosion
- ✓ reduce surface evaporation
- ✓ retard weed growth
- ✓ warm soil and accelerate growth in summer

TABLE 3.  
Mulch rankings:

### WETTEST:

- 1) herbicide-treated shredded pine bark
- 2) shredded pine bark

### DRIEST:

- 1) marble
- 2) red "Flower Rock"

### COOLEST:

- 1) chunk pine bark
- 2) red "Flower Rock" (large)

### WARMEST:

- 1) red "Mite-T-Lite" (small)
- 2) marble

### BEST WEED CONTROL:

- 1) marble
- 2) red "Flower Rock"

Source: Bonnie Lee Appleton  
VPI-SU



# Pick the right chain saw for specific applications

by Mark Michaels,  
Husqvarna Forest & Garden Co.

■ All chain saws are not created equal.

There are many types and sizes of chain saws, ranging from lightweight bucket saws to heavy-duty stump saws.

Choose the correct saw for your work. A small bucket saw doesn't belong in the ground work role. Conversely, a stump saw is too heavy for tree pruning.

Select a chain saw for your business based on these factors:

- What do you intend to cut?
- What type of wood (hard or soft) and in what environment?
- How often—and under what conditions—will the saw be used?

Buy from a reputable dealer who both sells and services chain saws. Request a "test drive." Many dealers will have test areas behind their stores.

When comparing different models, look for qualities that will make the saw comfortable, quiet and reliable. Features such as anti-vibration and noise dampening systems, good balance and well-designed handles will make your saw easier and safer to use.

Don't be misled by bar length. That can make very different saws seem the same. Instead, look at engine size, weight and engine speed at maximum power.

By the way, don't be alarmed if your new saw looks like it has already done some cutting; it's just a sign that the dealer

has taken the time to check the saw and make adjustments.

Here are some of the features you might want in your new saw:

- ✓ solid-state ignition—eliminates the need for ignition tune-ups;
- ✓ anti-vibration system—reduces operator fatigue;
- ✓ manual and inertia-activated chain brake—better protection from chain saw kickback, regardless of the cutting position of the saw;
- ✓ steel ball-bearing supported crankshaft—contributes to a smoother running, more powerful engine with higher cutting speeds; and
- ✓ gear-driven automatic oiler—assures bar and chain are well lubricated during extended operation;



**Look for safety features that reduce kickback: low-kickback chains, a chain brake and a guidebar with a small radius tip.**

—The author is product and forestry manager for Husqvarna Forest & Garden Co., Charlotte, N.C.





# CHAIN SAWS FOR THE GREEN INDUSTRY

<i>Manufacturer</i>	<i>Models</i>	<i>Displacement</i>	<i>Fuel cap.</i>	<i>Weight</i>	<i>Bar length</i>
<b>Ariens</b> Circle No. 300	CS320 CS400	32-40 cc	8.5-15.2 oz.	8.2-11.7 lbs.	12-16 in.
<b>Dolmar USA</b> Circle No. 301	11 models 100-143	33-95cc	13.3-34 oz.	8.1-13 lbs.	14/16-20/36 in.
<b>Echo</b> Circle No. 302	10 models CS280E- CS8000	27.9-80.7 cc	6.8-27.7 oz.	8.6-16.3 lbs.	12/14-20/30 in.
<b>Homelite</b> Circle No. 303	12 models XL-Super 1050	30-100 cc	8.5-49.3 oz.	8.5-22.4 lbs.	10/16-23/60 in.
<b>Husqvarna</b> Circle No. 304	21 models 35-3120XP	34-119 cc	9.6-42.4 oz.	9-22.9 lbs.	10/18-20/60 in.
<b>McCullough</b> Circle No. 305	22 models Mac 110- Double Eagle 80	32-82 cc	10.8-25.6 oz.	8.9-17.2 lbs.	10-20/60 in.
<b>Poulan/Weed Eater</b> Circle No. 306	27 models 1800-PP655	30-98 cc	11.5-31.8 oz.	7.8-19 lbs.	10/16-16/36 in.
<b>Redmax/ Komatsu</b> Circle No. 307	5 models G300 TS- G621AVS	28.5-62 cc	7.5-22 oz.	8.5-14.9 lbs.	14-20/36 in.
<b>Shindaiwa</b> Circle No. 308	5 models 300S-695	28.5-57.3 cc	11.8-23.7 oz.	8.6-13 lbs.	10/14-16/24 in.
<b>Solo</b> Circle No. 309	11 models 634-603	34-103 cc	16-29.3 oz.	9.2-17.4 lbs.	14/16-16/42 in.
<b>Stihl</b> Circle No. 310	26 models 009EQ- 084AVREQ	40.8-121.6 cc	9.8-42.2 oz.	9-20.1 lbs.	12/14-25/50 in.
<b>Tanaka</b> Circle No. 311	5 models ECS-320 ECS-655	32-63 cc	8.5-20.4 oz.	8.2-15.1 lbs.	12/14-16/24 in.

NOTE: Models and specifications listed low-end first, high-end second; intermediate models not listed on this chart because of space considerations.

Source: LM mail/phone survey, Feb. 1992



After selecting a chain saw, make sure you are properly dressed. Protective clothing can reduce injuries if an accident does occur. That includes work gloves, a protective hard hat equipped with vision and earmuffs, protective pants or chaps, a well-ventilated shirt or jacket and steel-toed boots. Chain sharpening guides are available from your local servicing dealer, and brief instructions on field filing make sharp saws a relatively easy task for landscapers. Though daily filing may not always be necessary, such maintenance helps keep the saw performing at maximum capability.

Photo courtesy Husqvarna Forest & Garden Co.



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## Insect control in cool-season turf

**There is little scientific data offering high marks on efficacy for organic, natural and biological insect controls.**

by Harry Niemczyk, Ph. D.  
Ohio State University

■ Interest in—and demand for—organic, natural, biological and bio-rational ways to control damage from insect pests of turf-grasses remains high.

The EPA, as well as other agencies and organizations, strongly encourages the use of some such insect control materials. *Collective scientific data* to date still provide relatively little encouragement where their effectiveness is concerned.

**Grub control**—Various species of insect pathogenic nematodes have been evaluated over the last eight to 10 years. While successful control is occasionally reported by researchers, no single species has provided consistent results. In the view of this author, nematodes and other forms of biological control will meet with limited success—at best—until equipment is developed to place these agents directly into the zone of grub habitation. The distance from the turf surface to the target is a formidable one for these agents to transverse. We are simply not there, *yet*.

**Cutworms and sod webworms**—Grass-eating, thatch-inhabiting sod webworms and cutworms are more readily reachable targets for biological control materials than are subsurface pests such as grubs.

Results with surface applications of

insect pathogenic nematodes such as Exhibit (*Steinernema carpocapsae*), a Ciba Geigy product for control of cutworms on golf course greens, have been somewhat encouraging. This writer encourages golf course superintendents to try them in 1992 and report their impressions and results to the company.

Further encouragement for control of this group of pests has been seen with the use of insect growth regulators (IGRs), some of which are natural extracts from the neem tree.

**Chinchbugs**—Few, if any, of the biological control materials have been effective against this thatch-inhabiting pest. Insect growth regulators show some promise for control when applications are made to the early developmental stages.

**Billbugs**—The fact that the larval stages of this—the No. 1 pest of cool-season lawns—feeds in the stems and crown of grasses, makes it a more reachable target for insect pathogenic nematodes and other biological control materials. Results of 1991 research have been encouraging, but broader field evaluation is needed to confirm effectiveness.

**Expectations**—Biological controls will not totally replace insecticides for control of insect pests of turfgrasses. Our

expectations for biological agents should be for them to act as suppressors of pest populations, not as complete control agents in themselves.

Knowledge about the lifecycle of pests in any specific area and the determination of the need for treatment based on evaluation of populations at vulnerable periods during the insect's life cycle remain the keys to successful control.

This guide points out the seasonal occurrence of the eight most important cool-season pests of this region and some of the insecticides that may be effective.



**Billbug damage is often mistaken for drought, disease or other stress. Examination of the grass removed and the root zone distinguishes billbug damage from that of other pests.**

No endorsement of products is intended, nor is criticism implied of those not mentioned.

—The author is Professor Emeritus and turf insect research coordinator at the Ohio State University's Ohio Agricultural Research & Development Center, in Wooster, Ohio.

### ELSEWHERE

**Warm-season  
insect tips,  
p. 31**

**Ornamental  
insect control,  
p. 34**



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Gallery-24 weeks

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control that's as good or better than you're getting now.

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## A Story Straight From Crooked Stick.

By switching to Gallery the superintendent at Crooked Stick Golf Club in Carmel, Indiana, reduced herbicide applications on his fairways from five a year to one. The notoriously picky PGA officials who inspected those fairways for the 1991 PGA Championship raved



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Okay, now for grassy weeds. A single application of Team\* herbicide gives you sixteen weeks of broad-spectrum control. It's very effective on crabgrass and goose-

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Balan\* herbicide.

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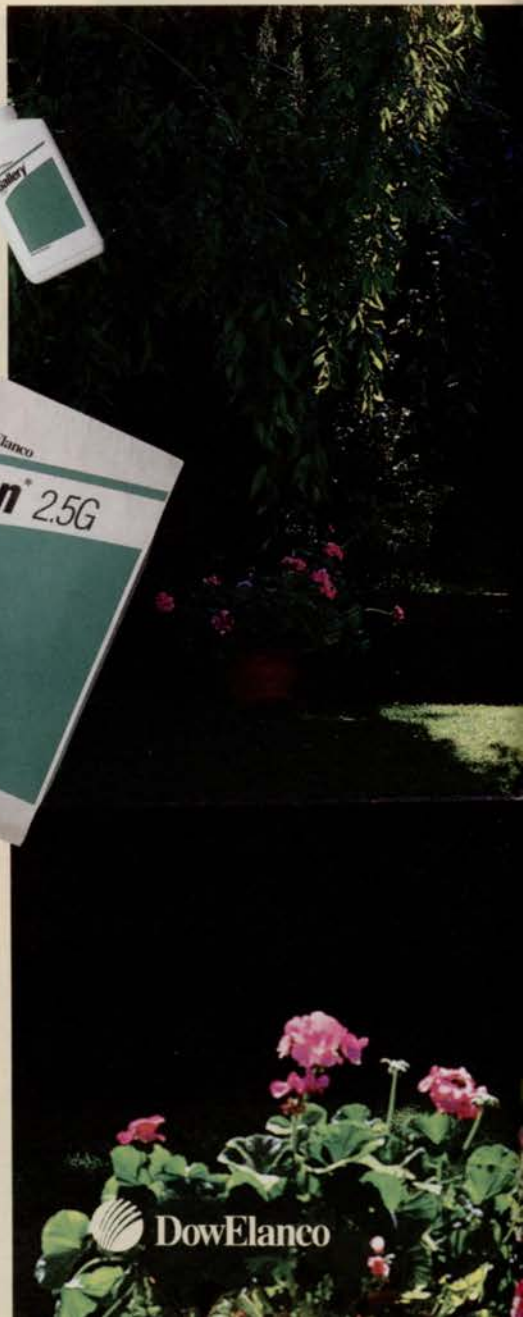
control. And, depending

on the rate you use, you can reseed as soon as

six weeks after you apply it.

Used according to label directions, Gallery, Team and Balan are gentle on all major turfgrass species. University studies show they don't harm root systems. And they won't leach into groundwater or harm nearby ornamentals and trees.

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# for people interested in





# Cool-Season Insect Control Strategies

Pest	Spring April-May	Summer June-August	Fall-early winter Sept.-Dec.
<b>Chinch bugs</b> 	When summer damage expected, preventive application of liquid or granular Dursban (1 lb. ai/A); Triumph <sup>1</sup> (1 lb. ai/A) may be used as soon as the insects become active. Applications of insecticides should be completed by first week in May.	Treat before injury is severe, with Dursban (1 lb. ai/A); diazinon** (2.5-5.5 lbs. ai/A); or other labeled insecticides.	Treat if necessary. Generally, infestation not high enough to warrant using insecticides.
<b>Billbugs</b> 	Same as for chinch bugs.	Treat at grub rates with Triumph <sup>1</sup> , diazinon**, Turcam, Mocap or Sevimol. App. in mid-late June most effective. Irrigate following application.	Treatment is usually not appropriate at this time.
<b>Sod webworms</b>	Overwintered larvae can cause damage in April or May. When necessary, apply diazinon** (5 lb. ai/A); Triumph <sup>1</sup> (1 lb. ai/A); Dylox or Proxol (6-8 lb. ai/A). Use flush of water/liquid detergent to scout for infestation level.	Apply when damage is seen, or larvae are present. Use Dursban (1 lb. ai/A), Triumph <sup>1</sup> (1 lb. ai/A); diazinon** (5 lbs. ai/A); Sevin-Sevimol (6-8 lbs. ai/A); Proxol-Dylox (6-8 lbs. ai/A), or other labeled products.	Larvae cause little damage at this time. Treat in Sept. to reduce spring population. 
<b>Cutworms</b>	Use insecticides that are effective against sod webworms. Apply late in afternoon. Do not irrigate after liquid applications unless specified on label.	Use Orthene (1-3 lbs. ai/A); Dursban (1 lb. ai/A); Triumph <sup>1</sup> (1 lb. ai/A); Proxol-Dylox (8 lbs. ai/A). Do not irrigate following liquid applications unless specified on label.	Same as for summer. 
<b>Greenbug aphid</b> 	Aphid numbers too low to detect.	Orthene (1 lb. ai/A); Dursban (1 lb. ai/A); diazinon** (2.5 lbs. ai/A)	Severe infestations may occur as late as Dec. Use the same insecticides as in summer.
<b>Grain mites</b> 	If treatment is necessary, use liquid diazinon** (2-3 lbs. ai/A) or Dursban (1 lb. ai/A). Avoid repeated use of Sevin-Sevimol.	If needed, use spring treatment.	If infestations develop in Dec. use summer treatment.
<b>Clover mites</b> 	Liquid diazinon** (2.5 lbs. ai/A) or Dursban (1 lb. ai/A) may be used.	Treatment usually not needed. Mite is in egg stage.	Treat as needed, with liquid diazinon** (2.5 lbs. ai/A) or Dursban (1 lb. ai/A)
<b>Grubs</b> 	If treatment of overwintered grubs is necessary, apply when all grubs are in the first two inches of surface soil. General or spot treatment with Triumph <sup>1</sup> (2 lbs. ai/A); Oftanol, Sevin-Sevimol or Mocap. Mocap (5 lbs. ai/A) or Turcam (2-4 lbs. ai/A) may be used. Irrigate as soon as possible after application. Green June beetle larvae are difficult to control at this time. Sevimol (2-4 lbs. ai/A) may be effective.	Existing grubs found in July or August may be treated with Triumph <sup>1</sup> , Dylox, Proxol, Turcam, Oftanol, Sevin-Sevimol or Mocap. Apply at label rates. If soil and/or thatch is dry, irrigate thoroughly before and as soon as possible after app. Treat green June beetle with Sevin (2-4 lbs. ai/A).	Treatment can be made as late as mid-late Sept., as long as grubs stay in first inch of surface soil. Triumph <sup>1</sup> , Mocap, Dylox, Proxol at labeled rates may be effective.
<b>Black turfgrass ateniensis</b>	Dursban (1-2 lbs. ai/A) applied to fairways in April for control of overwintered, egg-laying adults, reduces potential for summer larval infestations. Retreatment after two weeks may be necessary.	If preventive applications were not made, spot or generally treat with Triumph <sup>1</sup> (2 lbs. ai/A); Proxol-Dylox (8 lbs. ai/A); Turcam (2-4 lbs. ai/A) or Mocap (5 lbs. ai/A), as needed.	Undeveloped larvae die with development of ground frost.

<sup>1</sup> For use only by commercial lawn pest control personnel, and only on golf course tees, greens and aprons, and on sod farms. See soil restrictions.

\*\*Diazinon may not be used on golf courses or sod farms.

Source: Dr. Niemczyk



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monthly payment  
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Engine hp (kW) net	45.6 (34)	55.9 (41.7)	68.4 (51)
PTO horsepower (kW)	40 (30)	50 (37)	60 (44)
Aspiration	Natural	Natural	Turbocharged
Lubrication	Pressure system with full-flow oil filter		
Cooling system	Pressured, w/pump, thermostat, fixed bypass		
<b>Fuel tank capacity</b>	18 gal. U.S. (68.1 L)		
<b>Cooling system capacity</b>	10 qt. U.S. (9.5 L)		
<b>Transmission</b>	Collar shift, (9 F/3R speeds), positive park pawl		
<b>PTO</b>	Independent 540 rpm		
<b>Brakes</b>	Hydraulic, foot-operated, individually or simultaneously, disks run in cooled oil		
<b>Electrical system</b>	12-volt with 40-amp alternator		
<b>Hydraulic system</b>	Open center, tandem-gear pump		
<b>Steering</b>	Hydrostatic, power		
<b>Hitch</b>	Category 1 or 2, 3-point		





# Insect control in warm-season turf

**Close observance of pest populations is essential for maximum effectiveness of your various control efforts.**

by Patricia P. Cobb,  
Ph.D., Auburn University

■ Turfgrass professionals in the South are growing a variety of grasses and managing them better than ever before. Part of the price of this success is often increased "opportunities" for controlling a variety of insect pests.

Successful turfgrass managers, who are always concerned about the environment, continue to weigh all pest control options when developing new control strategies. This concern, coupled with increased pest pressure and control costs, has stimulated the same creative ingenuity that has been responsible for the best turf quality in the South's history.

Because pest pressure is often so great and so varied, integrating cultural and biological tactics as part of the control plan is nothing new. What *is* new, is an increased interest in determining factors that influence control efforts, and in using this information to develop safe, effective, well-balanced tactics as a part of total turf management programs.

Field testing on parasitic flies and insect-parasitic nematodes continues. First results of massive releases of nematodes for mole cricket control look promising for long-range suppression. Formulations of virulent strains of *Bacillus thuringiensis* (Bt)—such as Biobit and Javelin—enhance control programs for surface-feeding caterpillar pests.

**New subsurface technology**—Subsurface, "precision" placement of insecticides has focused on controlling mole crickets and grubs. Spray insecticides can be placed into the turf by high pressure liquid injection—with or without slicing, depending upon the system.

Subsurface applications of lower rates of chlorpyrifos (Dursban) and isazophos (Triumph) for mole cricket control and isazophos (Triumph) for grub control have been promising in many cases. Recent studies indicate that saturated and poorly

drained soil, and extremely hot and humid weather, influence the effectiveness of liquid injection applications.

Improvements continue in placing granular insecticides under the surface to control mole crickets and grubs. Shallow slits are cut in the turf, granules are deposited and covered—much like an overseeder but with less turf injury. Subsurface placement often results in the same level of control with half the rates of surface applications. Less surface residues decrease the potential for runoff and human exposure. Less potential for ULV breakdown and placement close to the pests provides control with less product.

**Weather considerations**—Winter weather, together with spring rains—or lack of rain—affects insect populations.

For example, the winter of 1991-92 was mild throughout most of the South. Fire ants were active in mounds during warm

winter days. Tawny mole cricket emerges from the previous season's hatch that are usually present in March in the mid-Gulf states were rare in 1991.

Winter mole cricket activity during the 1990-91 "mild" winter indicates that these pests probably matured during this time. Tropical sod webworms, longtime pests in central and south Florida, again infested coastal areas from the Florida panhandle to Texas. Monitoring turf for insect pests is always important. In the South, the mobility of many pests and the variation of weather patterns from year to year make monitoring a must.

Keeping a close watch on pest populations is essential to get the most out of cultural, biological and/or insecticidal efforts.

—The author is an associate professor of entomology at Auburn University.

## Tips for maximum efficacy:

- Mole crickets**
  - Map areas of spring activity
  - Monitor hatch time, apply as recommended to young nymphs.
  - Pre-water dry soil to move pests to surface, unless label states otherwise.
  - Treat late in the day.
- Grubs**
  - Map area to locate infestations.
  - Treat newly-hatched grubs, usually mid- to late summer.
  - Water before treatment unless label states otherwise.
- Fire ants**
  - Apply broadcast (area) treatments after spring mating flights (May-early June) before mid-summer, and/or fall when drought conditions do not exist. In high use areas, three to five days after broadcast bait applications, mound treat with a contact insecticide to quickly eliminate stinging worker ants.
- Chinch bugs**
  - Monitor early-season activity during warmer daytime hours.
  - Treat first generation nymphs in April-May.
- Spittlebugs**
  - Monitor turf areas for nymphs in spittle masses deep in the turfin May-June. Infested areas feel "squishy" underfoot.
  - Mow and water lawn before treatment.
  - Monitor landscape plantings for adults; movement between shrubs and turf is common, especially between Japanese or other "small leaf" hollies, and centipede grass.)
  - Dethatch turf if needed at proper time for grass type.
- Sod webworms**
  - Monitor spring moth flights of common sod webworms (April in most areas) and treat two to three weeks after peak flight (usually May).
  - Mow grass before treatment.
  - Watch for buildup of tropical sod webworms in coastal areas and Florida. Chewed grass blades are notched and ragged. Use lots of water when treating for tropical sod webworm (10 gals./1000 sq. ft.)

Source: Dr. Cobb



## 'Best Time' Uses of Some Common Turf Insecticides\*

INSECTICIDE/REGISTERED SITES	SPRING: March-May	SUMMER: June-August	FALL: September-December
B.t. (i.e., Biobit, Dipel, Javelin) GT		← Sod webworm (young larvae): see label →	
Crusade 5G, GC;S		← Mole crickets (nymphs): 4lb. ai/A →	← Grubs: 4 lb. ai/A →
Diazinon, L	← (adults) →	← Spittlebugs: 4lb. ai/A → ← Billbugs (larvae): 4lb. ai/A →	
Dursban, GT		← Fire ants (mounds): see label → ← Grubs: 4lb. ai/A →	← young grubs → ← Chinch bugs, sod webworms: 4lb. ai/A →
Dylox, Proxol, GT		← Cutworms: 1lb. ai/A → ← Chinch bugs, sod webworms: 1lb. ai/A → ← Fire ants: see label →	← Fall armyworm: 1lb. ai/A → ← Mole crickets: 75-150lb. bait/A →
Mocap 10G, GC;S		← Cutworms: 6-8lb. ai/A → ← Grub →	← Fall armyworm: 6lb. ai/A → ← 8lb. ai/A →
Oftanol 2, 5G, GT		← Sod webworms: 6lb. ai/A →	
		← Billbug (larvae): 5lb. ai/A → ← Mole crickets (nymphs): 7.5-10lb. ai/A →	← Grubs: 5lb. ai/A →
		← (Adults-oft.2) billbugs (larvae-5G): 2lb. ai/A → ← Chinch bugs: 2lb. ai/A → ← Fire ants: see label →	
		← Mole crickets (nymphs): 2lb. ai/A →	← Grubs: 2lb. ai/A →



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INSECTICIDE	SPRING: March-May	SUMMER: June-August	FALL: September-December
Orthene Turf, Tree & Ornament. Spray, L; REC	← (Overwintered) Mole crickets (nymphs): 2.6-3.5lb. ai/A	Fire ants: see label Fall armyworm: 1-21/2lb. ai/A Sod webworms: 6lb. ai/A	→
Carbaryl (i.e., Sevimol, Sevin SL), L; REC	← (adults) Billbugs see label	Cutworms: 2-4lb. ai/A Chinch bugs: 6-8lb. ai/A Fire Ants (mounds): see label	→
Tempo2, WP, L	←	Chinch bugs: 14lb. ai/A; sod webworms: .09lb. ai/A Fall armyworm: .09lb. ai/A	→
Triumph 4E, L; GC**, S**	← (Overwintered) (adults) Billbug (larvae): 2lb. ai/A	(young nymphs) Mole crickets: 2lb. ai/A Grubs: 1-2lb. ai/A	→
Turcam 2.5G, 76WP, GT	← Billbugs (larvae): 76WP: 3lb. ai/A	Chinch bugs: 1-2lb. ai/A Fire ants: see label Mole crickets (nymph): 3lb. ai/A	→
Fire Ant Baits Affirm (Ascend) Amdro Award (Logic), GT	←	See label	→

(————— = best choice application timing; - - - - - = 2nd choice timing.)

Registered sites: L = Home Lawns; GC = Golf Courses; S = Sod; GT = General Turf; REC = Recreational Turf

\*No endorsement or exclusion of specific products is intended.

\*\*Special registrations (24c) for golf greens, tees, aprons, sod in some states.

Source: Dr. Cobb



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# Ornamental insect control

**Pest invasions are symptoms of plant stress. Reduce stress, and ornamental insect problems will decrease.**

by David J. Shetlar, Ph. D.,  
Ohio State University

■ The extremes in temperatures and precipitation we have seen over the last several years push ornamental plants to their limits.

In 1991, many plants died or were killed by borers simply because they couldn't withstand the drought after having their roots rotted off in the wet soils of 1989 and 1990.

In 1992, you can expect to see additional trees and shrubs die from previous years' stresses. Many insects, especially borers, take advantage of these stressed plants. Remember that these pests are a *symptom* of plant stress, *not the cause* of the stress. Eliminate the plant stress and the pest problem will be greatly reduced or eliminated.

Cool, wet years see an increase in Japanese beetle populations and "cool-season" pests such as the spruce spider mite. On the other hand, hot and dry seasons seem to give the advantage to soft scales, borers, lace bugs and "warm-season" mites.

Remember: cool seasons cause pest activity to be delayed and spread out over a longer time; warm seasons cause pests to be active sooner in the season, and often they are present for a shorter period.

Bronze birch borers emerged in Ohio in mid-June in 1990 (a cool year) and in late May in 1991 (a warm year). If you had followed a "spray calendar" of June 5-10, you would have been okay in 1990—but too late in 1991.

Two ways of dealing with changes in insect and mite activity is to use pest monitoring tools and degree-days. Many ornamental pests can be monitored using pheromone traps, light traps and visual inspection. The activity of others can be predicted using the degree-days.

Pheromone traps are readily available for many of the clearwing moth borers.

**Scale control**—Most of the scales are dif-

ficult to control because we have always relied on a calendar to predict when the crawlers will be active. If pine needle scales, euonymus scales or soft scales are a problem, locate an infestation nearby your operation. Observe the infestation two to three times a week to determine when the crawlers are emerging. You usually have two to three weeks after the crawlers are first noticed to apply a control product and still get good results.

Almost all of the soft scales—pine tortoise, magnolia, European fruit lecanium, terrapin, cottony maple—enter the fall as an immature female. Recent evaluations have indicated that these females are very susceptible to insecticidal soaps and horticultural oils or these materials mixed with standard scale insecticides.

**Predators are beneficial**—Spider mites and aphids seem to be perennial pest problems in urban landscapes. These pests easily rebound from pesticide applications. In fact, the two-spotted spider mite is often a more severe problem *after* being sprayed.



Lilac borer adult.

The major reason for these "pest resurgences" is that the pesticides also kill the beneficial predators and parasites (the biological controls). By using the "softer" pesticides and targeted applications, these biological controls can be conserved and many of the resurgent pests will no longer be a problem.

Many entomologists now say that Integrated Pest Management (IPM) should be renamed Integrated Plant Management, with more emphasis on plant health and less on the pests. As an example, most pine trees do not get bark beetles unless they are under water stress. When their vascular system is not strong, bark beetle females are able to chew through the bark and lay eggs without being gummed up in the pitch. Therefore, the first method for control of bark beetles should be restoring the vascular system, not the spraying or injection of a pesticide. This may mean watering or mulching.

Of course, if the infestation has already occurred, a rescue treatment may be required before reverting to plant health care tactics.

—Dr. Shetlar is an assistant professor of entomology at Ohio State University.

## Pest Resurgence Prevention

### Pesticides/Insect Targets

<b>Bacillus thuringiensis</b> (microbial toxins, "Bt") 'Kurstaki' strains 'Tenebrio' strains	leaf beetles/foilage feeding caterpillars
<b>Oils</b> (mineral/botanical) Dormant (4-6%) Horticultural (1-2%)	insect and mite eggs; some scales; soft scales; scale crawlers; some aphids; mites
<b>Citrus</b> (d-limonene) usually with soap	soft-bodied insects and mites
<b>Fatty acid salts</b> soaps with insecticidal properties	soft-bodied insects (aphids, scales, caterpillars, lace bugs, mealy bugs, etc.) and mites
<b>Sodium aluminofluoride</b> a mineral which destroys insect gut linings (=kryocide, cryolite)	gypsy moth caterpillar, flea weevil, fuller rose weevil
<b>Pyrethrins</b> botanical insecticide (usually with piperonyl butoxide synergist)	aphids; caterpillars; white flies; thrips; etc.
<b>Azadiractin-neem extract</b> botanical insecticide with feeding inhibitor and growth regulator effects (= Margosan -O)	whiteflies, thrips, mealybugs, leafminers and caterpillars

Charts courtesy of: Dr. Shetlar

## Pheromones for Ornamental Insect Control

### Common name/Scientific name

**Bagworm** (*Thyridopteryx ephemeraeformis*)

### Clearing moth borers:

**Banded ash borer** (*Podosesia aureocincta*)  
**Lesser peach tree borer** (*Synanthedon pictipes*)  
**Lilac/ash borer** (*Podosesia syringae*)  
**Oak borer** (*Paranthrene simulans*)  
**Peach tree borer** (*Synanthedon exitiosa*)  
**Rhododendron borer** (*Synanthedon rhododendri*)

**Elm bark beetle** (*Scolytus multistriatus*)  
**European pine shoot moth** (*Rhyacionia buoliana*)  
**Gypsy moth** (*Lymantria dispar*)  
**Nantucket pine tip moth** (*Rhyacionia frustrana*)  
**San Jose scale** (*Quadraspidiotus perniciosus*)



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# LAWN CARE INDUSTRY

## Barefoot's stature as 'national' company grows with acquisitions

**Management team headed by Pat Norton sees continued expansion of Worthington, Ohio-based company through development of franchises, 'branchises' and buy-outs.**

■ Convinced the lawn care business no longer offers any entrepreneurial excitement? Shhh...don't let Patrick Norton know it.

He still thinks—silly him—that there's opportunity to grow a lawn care company. A really big company. A national company.

"I think that good operators—and we don't think we're the only good operators—will continue to prosper and grow," says Norton.

"There are a lot of markets still out there in the development stages. I think that portends well for the industry."

*Say what?*

What does Norton know? After all, Barefoot Grass Lawn Service, which he's helping to grow, has, since 1979, *only* spread from central Ohio into and across the Mideast and Midwest. Barefoot is now also represented on both coasts as well as in Florida, Colorado and Texas. Company revenues increased from about \$2 million in 1979 to about \$52 million in fiscal year 1991.

Reasons why the public is, seemingly, so eager to accept Barefoot services

include: its clean yellow and green vans (Barefoot's main competition uses larger, tanker-type trucks), its well-trained technicians, its customized, predominantly dry application program.

Just as significantly, Barefoot is adept in targeting its considerable direct mail and in-house telemarketing efforts to homes in neighborhoods that are able and willing to pay a premium price for the delivery of granular fertilizer and control products.

It's this attention to detail that's characterized the Barefoot management team which has been headed by Norton since



Barefoot's Pat Norton says there's still lots of room for growth for professional lawn care.

the mid-1980s.

Briefly: Pat Norton joined Barefoot in 1979 as its director of finance and administration. In 1981 he, and other top com-

### Barefoot Grass® Lawn Service Markets



#### ELSEWHERE

**How to make friends in D.C.,**  
p. 38

**Knight keynotes, 1992 GIE Expo,**  
p. 44

**Industry urged to, pressure congress**  
p. 48



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These fescues mix well with perennial ryegrasses and Kentucky bluegrasses for use in sod production and golf courses; Aurora and Bighorn in the roughs and Shadow on the fairways.

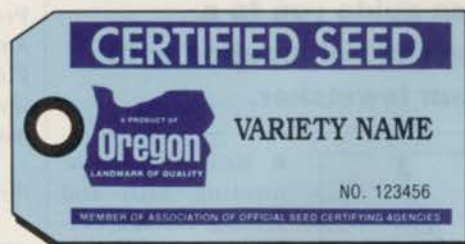
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pany managers, bought Barefoot from Toro. Norton became company president in 1986. In 1989 the Chicago-based investment firm Golder, Thoma & Cressey bought a majority share of the privately-held company. This past October Barefoot went public.

Barefoot Grass is now the third largest lawn care company in the United States, and still growing at an annual double-digit rate.

Norton says it's attracting new customers for each location. "We are still growing in Columbus, Ohio," says Norton. "If that's not the most competitive lawn care market in the United States, it's certainly one of the most competitive."

But mostly it's growing because of the proliferation of its market-targeted franchise and "branchise" operations—and, most recently, its acquisition efforts. (A "branchise" is a Barefoot franchise which is owned by a separate corporation but nonetheless managed by Barefoot through a management agreement.)

Barefoot is definitely in a buying mood. Says Norton, "we would have growth with-

#### System-wide customers & average annual revenues per customer

1986—133,000.....	\$169
1987—173,000.....	\$177
1988—206,000.....	\$182
1989—229,000.....	\$199
1990—258,000.....	\$206

out acquisition, but to maintain the level of growth we want, we have to look at acquisitions."

On January 3, Barefoot bought lawn care operations in Cleveland, Wooster, Akron and Canton—former properties of Lawnmark which generated 1991.

To make that deal work, Barefoot Grass also bought its Canton franchise. Otherwise the company would have found itself competing against one of its own franchise operations.

"The ideal acquisition for us is going to be in a market where we already have a presence so that when we add revenues, we can do it profitably," says Norton, "where we already have existing facilities, where we're making money, where we can add revenues without adding too much overhead."

In separate transactions in 1991, Barefoot purchased its "branchise" in Newark, N.J., (for about \$1 million), and will likely purchase "branchises" in Fort Lauderdale, Long Island, Harrisburg, Pa., and Boston by the end of 1992. This past year also saw the opening of "branchise" operations in Portland and Norfolk, Va., and the opening of franchises in Topeka, Kans., and Cedar Rapids, Iowa.

For the past several years about 88 percent of the company's net service revenues have come from standard lawn care services, and 12 percent from add-on services such as tree & shrub care, lawn aeration, liming and seeding.

—Ron Hall

## 10 easy steps in gaining a friend and supporter in the legislature

**These suggestions from two experienced lobbyists can guide you to a successful meeting with your lawmaker.**



■ Here's a recipe for meeting with and seeking the cooperation of your elected representative.

It's a step-by-step recipe built from the comments of Ed Graves and Norm Goldenberg. The two men advised lawn professionals who had gathered in Washington D.C. prior to meetings with their U.S. Senators and Representatives. More than 100 lawn professionals participated in these "Day on the Hill" events Feb. 23-24.

Graves is a senior consultant with Capitoline International Group, an issues management firm headquartered in Washington D.C. He's been lobbying on Capitol Hill the past eight years. Capitoline is employed the green industry

to present its case in the Capital.

Goldenberg, former owner of Alert Lear Pest Control, Miami, is chairman of the Government Affairs Committee for the Professional Lawn Care Association of America (PLCAA). He's been involved with Florida and national legislative issues involving pest control/lawn care for the past 10 years.

Their suggestions will help you through that all-important initial meeting

### **Goldenberg urges LCOs to establish mutually beneficial relationships with legislators.**

with your legislator—more likely, legislative aide or staff member. And don't be disappointed if a legislator can't meet you in person, says Goldenberg.

Gaining the ear and, hopefully, the support of a staff member can be productive. Lawmaker schedules are incredibly busy. They rely heavily on staff members for

information. Says Graves, "If you are able to convince the staff about your position, you're halfway home."

If you've no immediate plans to meet with your legislators or their staff members soon, file these suggestions and refer to them prior to such a meeting.

**1. Have a legitimate reason for seeking a meeting.** Are you responding to pending or proposed legislation? Do you want your representative to oppose a particular proposal? Or support another course of action?

**2. Identify yourself as a constituent.** "The fact that he's your representative and you're from out of town gives you every reason to ask for a meeting," says Graves.

**3. Be concise.** You'll have, at best, 15 to 30 minutes to present your views. Start with a brief description of the nature of your business and industry. Progress to the two or three points you want to make.

**4. Be prepared.** Have the facts at your fingertips. If your concern is a legislative proposal, know its, name, number and sponsor. More importantly, know its provi-

**Ask your legislator to take action, says lobbyist Ed Graves.**

*continued on page 44*



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- Other supplier (specify) \_\_\_\_\_

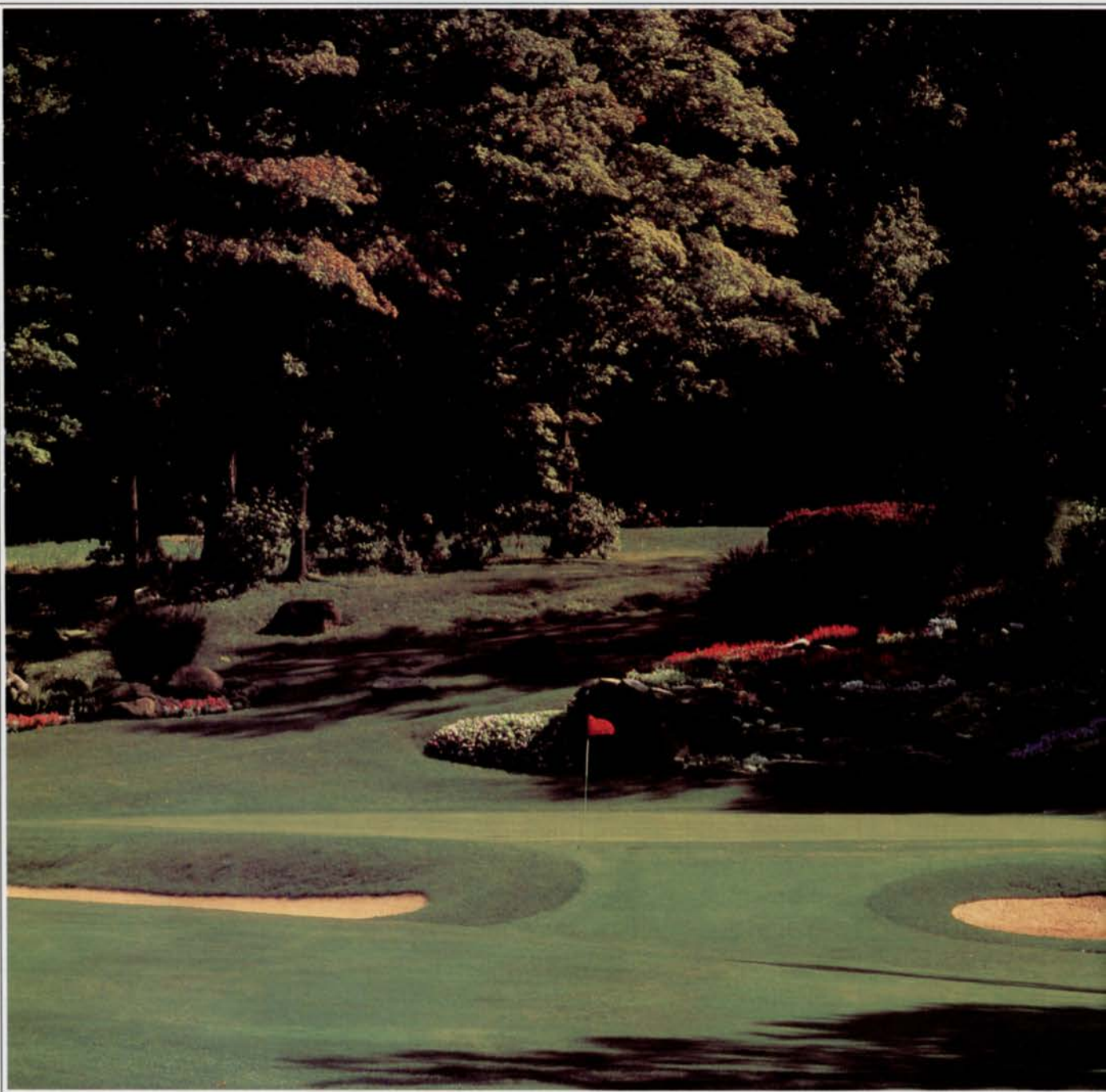
### C. SUPPLIERS

- 0205  Sod growers
- Other supplier (specify) \_\_\_\_\_

## 2. WHICH OF THE FOLLOWING BEST DESCRIBES YOUR TITLE? (Check only one)

- 10  EXECUTIVE/ADMINISTRATOR—President, owner, partner, director, general manager, chairman of the board, purchasing agent, director of physical plant.
- 20  MANAGER/SUPERINTENDENT—Arborist, architect, landscape/ground manager, superintendent, foreman, supervisor.
- 30  GOVERNMENT OFFICIAL—Government commissioner, agent, other government official.
- 40  SPECIALIST—Forester, consultant, agronomist, pilot, instructor, researcher, horticulturalist, certified specialist.
- 50  OTHER TITLED AND NON-TITLED PERSONNEL (specify) \_\_\_\_\_





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30 **GOVERNMENT OFFICIAL**—Government commissioner, agent, other manager, superintendent, former, supervisor.  
20 **MANAGER/SUPERINTENDENT**—Arborist, architect, landscaper/grounder, general manager, director of physical plant, (see p. 100).





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**Friend** from page 38

sions. If you oppose it, suggest alternatives.

**5. Make an accurate assessment** of the benefits that your business and industry offer your community—environmental and economic benefits, including the number of jobs they provide. “That’s the kind of message that gets to a member of Congress,” says Graves.

**6. Leave time for questions and answers.** Your legislator or their staffer will almost certainly want to ask some questions. If you have literature to leave behind, keep it in hand until after your talk, then present it, says Goldenberg.

**7. Never burn your bridges.** “Sometimes a heated argument is appropriate but that’s very rare,” says Graves.

**8. Ask for support.** “Don’t just leave, ask them to take some action that supports your efforts,” says Graves. Co-sponsor a bill? Communicate your views to a committee or subcommittee chairman.

**9. Write a thank you letter** to the representative or the staffer you met. In the letter reiterate several key points you made during your visit.

**10. Seek a long-term relationship.** A single meeting with a lawmaker will not accomplish much, adds Goldenberg. Offer yourself as a continuing source of accurate and useful information concerning your industry to your representative and staff members.

“You’re only a telephone call away,” adds Graves. “You can establish an ongoing relationship with them over the telephone, having met them.”

—Ron Hall

**BEFORE YOU MEET A LEGISLATOR: A CHECKLIST**

**I want to discuss:** \_\_\_\_\_  
(Bill number, amendment, issue, etc.)

**I am meeting with** \_\_\_\_\_ **at** \_\_\_\_\_

**Office location:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Material to take:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Three points to make:** 1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**Supporting statements/ideas:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Action requested/desired outcome:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Response from legislator:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Thank-you letter sent (date):** \_\_\_\_\_

**Additional follow-up action:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Source: PLCAA

**Coach Knight to speak at GIE/92**

■ Bobby Knight, the sometimes controversial but remarkably successful basketball coach at Indiana University, will deliver the keynote address for the Green Industry Expo/92 in Indianapolis Nov. 16-19.

Knight, the winningest coach in Big Ten history, sought his 11th conference championship this season. Besides winning three national championships, he’s also coached gold medal-winning teams in both the Olympics and Pan American Games. In 1991 he was elected to the National Basketball Hall of Fame.

GIE/92 will be held at the Indiana Convention Center—part of the complex that houses the Hoosier Dome, home to the NFL’s Indianapolis Colts.

Coincidentally, PLCAA President Robert Andrews is an Indianapolis businessman, and a graduate of Indiana University.



Indy GIE/92 attendees will hear from Bobby Knight.



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**Chateau**  
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Perennial Ryegrass  
(Turf Type)





## PLCAA instructs 'Capitol Hill' participants: let legislators know that we will inform customers



■ Some of the public demands that "squirt and split" professional lawn care vanish.

They clamor that they're being exposed to chemicals by profit-hungry chemical lawn application companies. They say that without adequate warning and/or information they can't protect themselves, their children, or their pets from unwanted and potentially harmful chemical exposures.

Their complaints are emotional.

Lawmakers are listening, and acting.

That's why, says the Professional Lawn Care Association of America (PLCAA), the image of a professional applicator cruising into a neighborhood and hosing down lawns with fertilizer and chemical controls—then leaving behind little else other than invoices—must change.

To that end, PLCAA drafted "Customer Right-to-Know Provisions." These provisions were handed out to the 100-plus lawn pros who traveled to Washington D.C. for the third annual "Day on the Hill" gathering this past February.



Sen. Richard G. Lugar (R-Ind.), who owns a farm in Indiana, supported PLCAA's call for sensible pesticide legislation. Bob Andrews, left, PLCAA president, introduced Sen. Lugar to the audience of 130 lawn care pros at the "Day on the Hill" breakfast.

The PLCAA policy statement urges professional lawn applicator companies to provide their customers with a written Customer Service Agreement containing the following information:

- ✓ the property address;
- ✓ number of applications over a 12-month period;
- ✓ general time frame in which chemical product applications will be made;
- ✓ statements informing the customer of the right to be pre-notified one day before products are applied, and to receive information on the products to be applied on the day of application;
- ✓ the annual cost of the basic service;
- ✓ a statement of what additional services may be necessary but are not included in the basic cost;
- ✓ a statement informing the customer of the right to be informed in advance of any price increases for services in subsequent years;
- ✓ the signature of the commercial applicator;
- ✓ the company name, address, telephone number, business registration number and, where applicable, the applicator's state license number.

PLCAA's members also believe that the following information should be provided to customers at the time of an application:

- the brand name or common name of the chemical lawn-product applied,
- the general reason for use as stated on the label,
- the maximum concentration of end-use product and the rate of application,
- any special instructions relating to the use of the lawn by the customer after the application is made, and
- on request, a copy of the product label.

**Notification Registry**—PLCAA says the idea has worked in seven states and supports creation of a registry in each state. People wanting to be notified prior to nearby chemical applications could sign up for the registry. Applicators, on a regular basis, could be informed of the people signing up for the chemical application registry.

**Pre-notification**—PLCAA supports a proposal to require commercial applicators to pre-notify the following people one day in advance of intended applications: customers (if applicable); people on the Notification Registry that are adjacent to the customer's property; or an appropriate school authority.

**Posting**—PLCAA supports national posting requiring commercial applicators and do-it-yourselfers affix a posted marker at the primary point or points of access to a property at the time of chemical application.

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## Industry urged to keep pressure on Congress to get pre-emption on fast track in fiscal 1992



■ The Federal-State Pesticide Regulation Partnership Act of 1991 may remain buried in committee in 1992.

Thousands of professional pesticide users—from lawn applicators to farmers—would rather see action, now. But 1992 is an election year. Issues such as health care and the state of the nation's economy hold the public's attention.

Admittedly, the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) is not a glamorous vehicle for attracting voter attention and support.

Bluntly, FIFRA is dull—even if it is up for reauthorization this year. (Look for a one year extension, instead, say sources in Washington D.C.)

And the Partnership Act is a pesticide pre-emption proposal to amend FIFRA, to keep (pre-empt) cities and towns from passing their own pesticide use regulations.

In the U.S. Senate, the pre-emption proposal is referred to as S. 2085 (sponsored by Sen. David Pryor, D-Ark.), and in the House as H.R. 3850 (sponsored by Rep. Charles Hatcher, D-Ga.). The measures are identical.

Passage of the Partnership Act could end the uncertainty



Richard Tice, left, of Greenkeepers/T&L Lawn Service and fellow lawn care professionals from Connecticut sought pesticide pre-emption support from Sen. Christopher J. Dodd (D-Conn.). Twenty-five representatives traveled from Connecticut to Washington D.C. to also meet with Sen. Joe Lieberman (D-Conn.), lawn care's harshest critic on the Hill.

caused by the the U.S. Supreme Court's ruling in June 1991 that FIFRA does not prevent town and cities from passing their own pesticide-use laws.

At least that's what the green industry—particularly applicators and chemical suppliers—believe will happen. And hope for. The intent of S. 2085 and H.R. 3850 is clear: "A local government shall not impose or continue in effect any requirement or regulation regarding pesticides or devices."

But its passage is not imminent.

"Our goal is to put enough pressure on through co-sponsorships on the senate and house side for the committee chairmen to realize something should be done now, instead of waiting a year," says Allen James, executive director of Responsible Industry for a Sound Environment (RISE), a pro-industry group.



These lawn care professionals from Ohio—left to right, Mark Laube, Lawnmark, Bill Clutter, TurfGard Company, and Phil Fogarty, Crowley Lawn Service—discussed pre-emption with a veteran staff member of Senator John Glenn (D-Ohio).

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S



# HOT TOPICS

## Good argument for pesticides: we're living longer than ever

**'I just hope the lawyers allow that technology to happen.'**

**—John Stossel**

**NEW ORLEANS**—If ABC-TV environmental reporter John Stossel were a golf course superintendent or landscaper or lawn care operator, here's what he'd tell his customers:

"We are exposed to more dangerous chemicals than ever before. The result? We're living twice as long...as (we were) 100 years ago! And what gave us this longer lifespan? Technology. I just hope the lawyers allow that technology to happen."

Stossel tried to put everything in perspective following presentations by Jay Feldman of the National Coalition Against the Misuse of Pesticides (NCAMP) and Victor Kimm of the U.S. Environmental Protection Agency (EPA), at the annual GCSAA conference here last month.

"When is something too risky?" Stossel asked. "Old technologies we seem to accept. Natural gas kills 400 people a year, home swimming pools kill 100 people a year.

"Sixty people a year die fishing," he continued. "Should we outlaw fishing? Should the regulators decide? I think you should give people information and let



**Victor Kimm of the EPA (left) and John Stossel of ABC-TV (right) confer while Jay Feldman of NCAMP (not pictured) calls for more strict federal legislation to regulate pesticide use in the United States.**

people decide."

Feldman addressed the overflow session first. He pretty much went by the book—his book—in citing what he considered to be problems with pesticide use in this country:

- 602 of 620 pesticides slated for EPA re-registration still haven't been reassessed.
- Studies in Nebraska and Kansas, and the National Cancer Institute's study on dogs, point to a relationship between certain pesticides and non-Hodgkin's lymphoma.
- Pesticides in groundwater: "The more we look, the more we find."

Feldman admitted he has little confidence in the EPA.

"The EPA assumes a perfect world," he noted. "We cannot rely on the EPA because it doesn't assure safety. We need to question the benefits of pesticides. We've assumed the benefits are there."

Kimm observed that NCAMP and the EPA "share the goal of becoming less dependent on pesticides."

"There are more tests on pesticides going on today than at any point in history," he said. "It is absolutely certain in my mind that some of that testing is going to show us new perceptions of risks about chemicals. We will then be able to change,

alter or eliminate those risks that constitute unreasonable risks.

"Some of the current pesticides are likely to see their uses limited or restricted over the short term. Over the long term, you are likely to see increased public confidence in our efforts to protect the nation's environment."

The EPA will decentralize as much as possible, Kimm noted:

"The heart of our plan is state control. We're anxious to see states develop management plans that are constantly under scrutiny. This is the only applicable long-term strategy."

*—Jerry Roche*

### ELSEWHERE

**Ecolab to sell  
Chemlawn division,  
p. 52**

**Writers question  
product claims,  
p. 52**

**Effluent great  
for turf,  
p. 56**

**More contractors  
rent equipment,  
p. 56**



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# Would ChemLawn, by any other name, still be ChemLawn? Stay tuned.

## 'EcoScape' tag is spanking new; owner by mid-year likely will be new, too.

■ The 1992 lawn care season will be business as usual for ChemLawn, except ChemLawn will:

- probably have a new owner;
- likely have a new name on the side of its trucks—"EcoScape by ChemLawn."
- attempt (again) to offer a more comprehensive package of lawn/landscape services.

Ecolab Inc., which bought ChemLawn in 1987, announced early this past March that it will sell most of its subsidiary and take a \$275 million fourth-quarter bath.

Ecolab's decision to put the "For Sale" sign on ChemLawn does not surprise many people in professional lawn care, or in the investment community, either.

Financial analysts say Ecolab spent too much for ChemLawn to begin with.

The St. Paul, Minn.-based maker of cleaning and sanitizing products paid about \$370 million for ChemLawn in 1987. This was about \$100 million more than Waste Management, Inc., the huge Chicago-based waste hauler, had initially offered in February 1987. (WM did, later, sweeten its offer.)

The Ecolab/ChemLawn marriage was not a good one.

As ChemLawn remained the most visible provider of professional lawn care, it likewise retained its uncomfortable role as lightning rod for anti-lawn-care, anti-pesticide criticism.

Moreover, the company's management changed substantially since lawn care's halcyon years in the early and middle 1980s.

But most significantly, sales stayed flat; ChemLawn couldn't add to Ecolab profits despite the synergy Ecolab felt would develop between the cleaning and sanitizing services it offers to commercial/institutional clients and lawn/landscape ser-

## Ecolab's decision to put the "For Sale" sign on ChemLawn does not surprise many people in professional lawn care, or in the investment community, either.

vices. Competition is, if anything, as intense in big-acreage accounts as it is for home lawns, Ecolab discovered.

In 1989 ChemLawn showed a \$42.7 million operating loss (\$34 million from a one-time charge), and in 1990, with net sales of \$383.9, a \$2.45 million loss. *The Wall Street Journal* reported in March that ChemLawn will post a \$10-\$15 million loss for 1991.

Apparently in an effort to present a new face, this past February ChemLawn provided 140 company-owned and 50 franchisees with ads offering up EcoScape, a new name for an expanded lawn, tree and shrub service.

Many ChemLawn trucks got a new paint job too with the name EcoScape prominently displayed. The name, and the new service offerings it represents, will be introduced to the public through "slow, steady marketing," said a ChemLawn source.

ChemLawn seeks to boost sales of add-on lawn and landscape services; this while it preserves its position as the nation's most recognizable residential lawn care provider.

"Options range from landscape installation to controlling weeds in flower beds," said ChemLawn President David L. Siegfried. Lawn aeration, renovation, mulching and pruning: these are services of EcoScape too.

In mid-March, Siegfried also announced that ChemLawn's company-owned branches would offer an all natural organic fertilizer as an option in 1992. An organic-based program launched by ChemLawn during the 1991 growing season captured few people's attention, including customers.

According to Ecolab, the company hopes to have a buyer for ChemLawn by mid-year. Stuart Pulvirent, an analyst with Shearson Lehman Brothers, said the price tag would be somewhere in the neighborhood of \$100 million, reported *The Wall Street Journal*.

Pierson M. Grieve, Ecolab's chairman, president and chief executive officer, said that the divestiture of ChemLawn "focuses all our (Ecolab's) strategies on our strong world-wide cleaning and sanitizing business opportunities."

—Ron Hall

## Green media is 'ho-hum' on environmental claims

### Writers believe they should keep readers informed.

■ So, who believes the hype anyway? Not the media, or so it appears.

When 503 garden writers responded to a recent survey, only 14 percent were con-

vinced that products described as environmentally correct were what they claimed to be.

Furthermore, the respondents—all members of the Garden Writer's Association of America—split down the middle over the use of terms like "environmentally correct" or "environmentally friendly" to market products. Only 30 per-

cent approved the use of the term "environmentally preferred."

Nine out of 10 of the garden writers surveyed, however, said "yes" they did have a responsibility to inform their readers about environmental issues and water conservation.

The survey was conducted by Hinsdale Marketing Services, Oak Brook, Ill., on behalf of Aquapore Moisture Systems, Phoenix, Ariz. Aquapore, which manufactures soaker hose and other water-saving products, was not identified in the survey as the sponsor.



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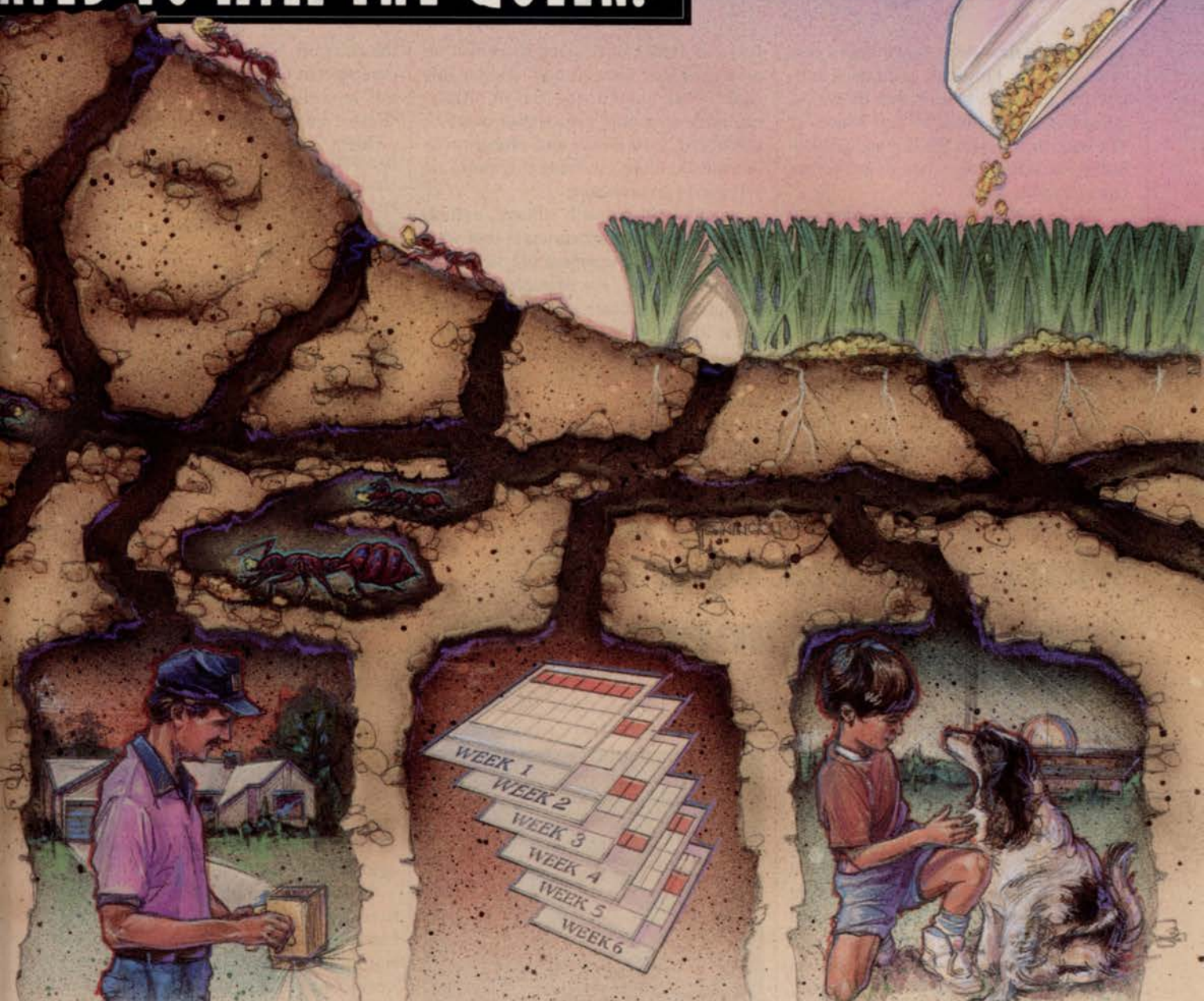
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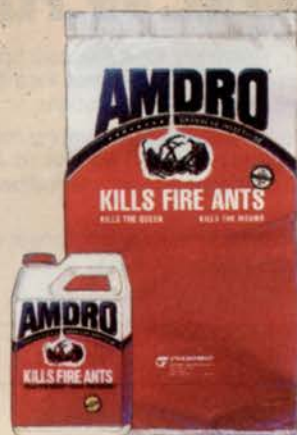
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fenoxycarb	Logic¹	BAIT Growth Regulator (Stops egg laying)	Yes	Yes	Yes	Low	No	Low	3-5 Weeks
avermectin	Affirm² Fire Ant Ender³ Ascend⁴	BAIT Growth Regulator (Stops egg laying)	Yes	Yes	Yes	Low	No	Low	6-8 Weeks
acephate	Orthene⁵	CONTACT	No	No	No	High	Yes*	Moderate to High	3-7 Days
diazinon	Spectracide⁶ Green Light⁷ (various others)	CONTACT	Yes	Yes	No	High	No	Moderate	Immediate
dursban	Green Light⁷ (various others)	CONTACT	Yes	Yes	No	High	No	Low	Immediate (*grazing restrictions apply-see label)

¹/²/³/⁴/⁵/⁶/⁷ Trademarks, American Cyanamid Co. © 1991 ¹Trademark, Maag Agrochemicals, Inc. ²Trademark, Merck & Co., Inc. ³Trademark, S.C. Johnson & Son, Inc. ⁴Trademark, Whitlaine Research Laboratories, Inc. ⁵Trademark, Chevron Chemical Co. ⁶Trademark, The Spectrum Group ⁷Trademark, Green Light Chemical Co.



## AMERICA'S NUMBER ONE FIRE ANT KILLER.

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Agricultural Division  
Vegetation and Pest Control Department  
Wayne, NJ 07470 © 1992



# Effluent great for turfgrass, study contends

**TUCSON, Ariz.**—After more than three years of study, University of Arizona agricultural scientists believe that municipal effluent is ideally suited for turf irrigation. The water is safe—for the turf and groundwater—and effectively produces golf course fairway-quality grass.

At the Arthur Pack Golf Course and Ocotillo Golf Course here and in Chandler, soil scientist Ian Pepper and plant scientist Charles Mancino proved that effluent irrigation must be managed differently. Higher levels of nitrogen, phosphorus and potassium in wastewater can reduce reliance on commercial fertilizer, particularly in the summer.

"Daily applications of effluent offer a built-in advantage," says Pepper. "It's like spoon-feeding nitrogen to the turfgrass."

He and Mancino compared soil samples

taken at depths of two and three feet on plots irrigated with effluent and potable water. They found that levels of nitrate-nitrogen, ammonia (which also contains nitrogen), potassium and phosphorus remained uniform, showing they posed no problem to groundwater.

In soil irrigated with effluent, sodium and phosphorus reached levels that warrant different management practices than customarily used. For example, reducing phosphorus fertilizer applications would allow the grass to use the nutrient contained in the effluent. And applying calcium sulfate or sulfur would reduce the sodium in the soil.

Mancino says turfgrass turning yellow (chlorosis) in the summer is the greatest problem resulting from effluent irrigation. An application of foliar iron takes care of

the chlorosis, but that's expensive. "It's an expense that municipal golf courses might not be able to carry," Mancino says. "Resort-owned courses should have no problem."

Except for its cost, municipal effluent is ideally suited for irrigating turf, Mancino and Pepper believe. "Irrigating turfgrass with effluent is an advantageous way to go, with good management—except for the high cost," Pepper says.

Most golf courses have their own wells, and irrigation water costs between \$40 and \$150 per acre-foot in this part of the country. In Tucson, buying effluent carries a price tag of about \$400 per acre-foot, and using drinking-quality water costs \$440.

For more information on their research, contact Mancino at (602) 621-1851 and/or Pepper at (602) 621-7234.

# More contractors are renting equipment

**CHICAGO**—Since the 1986 tax reform and the loss of the Investment Tax Credit, construction contractors who use heavy equipment have increasingly turned to renting their machines.

Heavy equipment studies conducted in 1986 and again in 1990 by the market research firm of MacKay and Co. found that the number of owned and leased machines at work in the U.S. increased just 3 percent from 1986 through 1990. Rental machines more than doubled in number during the same period.

The survey was sponsored by Construction Equipment magazine, whose

editor Kirk Landers notes, "When investment tax credits were wiped out and

<b>Heavy equipment trends</b>			
<b>33 types of paving, lifting and earthmoving equipment</b>			
	1986	1990	%change
<b>Rented</b>	58,834	123,565	+110%
<b>Owned/leased</b>	643,496	660,210	+3%
<b>Total machines</b>	702,330	783,775	+11%

*Source: MacKay & Co.*

depreciation allowances reduced, the cost of owning high-ticket capital equipment went up substantially.

"When ownership costs go up, so does the liability for an under-utilized machine. From 1986 to 1990, a lot of equipment users just said 'no' to more liability. They made short-term rental commitments instead of long-term purchase or lease commitments."

Some of the machine types that are essential to the country's efforts to rebuild its transportation infrastructure have also aged since the tax reform.

"The average wheel loader in a highway fleet is more than eight years old," says Landers. "In 1986, a wheel loader that old would be scrapped or put into backup work. Today, the contractor replaces or rebuilds the machine's key components and tries to keep it working."

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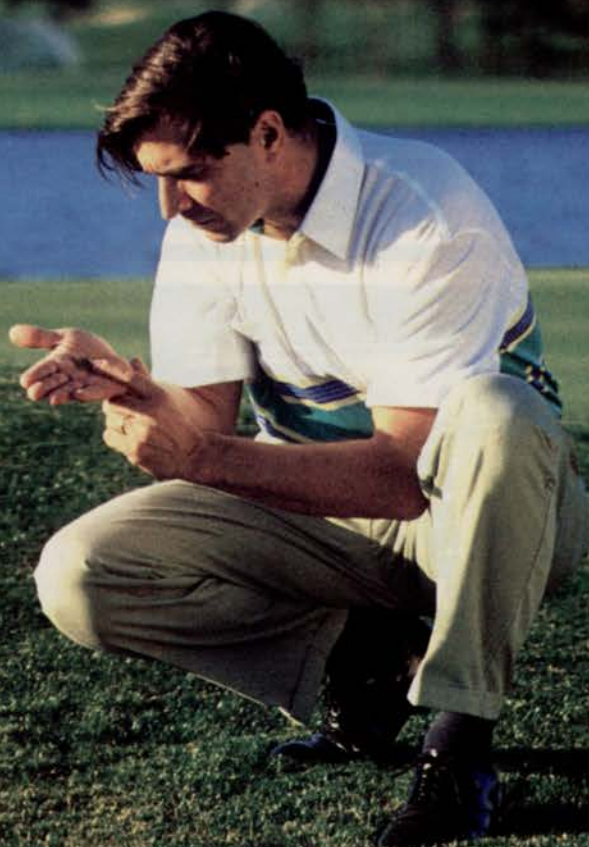


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**BASF**



# HOT STUFF

## Turf at the Olympics

**ACWORTH, Ga.**—The Georgia Turfgrass Association will help beautify the 1996 Summer Olympic Games.

The association has agreed with Atlanta Mayor Maynard Jackson and the Office of

Olympic Coordination to design and beautify a public site to be used during the Games. The specific site is yet to be determined.

When the site is selected, a five-year beautification plan will be developed which

should bring the site to peak beauty for the Games. Following the Games, the site will be turned over to the city for continued maintenance.

## AmeriFlora opens soon

**COLUMBUS, Ohio**—The AmeriFlora '92 exhibition begins here on April 20 and runs through Oct. 12, the 500 anniversary of the date recognized as the founding of America by Christopher Columbus

One of the first exhibits to be completed, a display garden, was installed by O.M. Scott & Sons. "The Scotts World of Grasses," is a 55-foot-wide map of the world with continents created with different turfgrass varieties.

For more information about AmeriFlora '92, write 1995 E. Broad St., Columbus, OH 43209 or phone (614) 645-1992.

## Supers packed show

**LAWRENCE, Kans.**—A standing-room-only crowd of 2,200 heard a panel session on pesticide use (see accompanying story), an event that was the highlight of the 1992 International Golf Course Conference and Show in New Orleans two months ago.

More than 15,000 superintendents, turf professionals and suppliers attended the week-long conference, according to the Golf Course Superintendents Association of America. A record 593 exhibitors showcased their products and services during the three-day trade show, which covered nearly 172,000 sq. ft.

Almost 1,600 registrants representing 44 foreign countries attended.

Terry Bradshaw, the former Super Bowl quarterback for the Pittsburgh Steelers, was keynote speaker at the opening session. Other key sessions were held by the USGA, the Golf Course Builders of America and the American Society of Golf Course Architects.

William R. Roberts was elected 1992-93 president; Randy Nichols was elected vice president and Joseph G. Baidy was appointed secretary/treasurer.

Golfer Tom Watson received the Old Tom Morris Award at the closing banquet. Next year's conference and show will be held Jan. 23-30 at the Anaheim (Calif.) Convention Center.

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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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Each tells you about this pre-damage strategy and how to implement it. From scouting for signs of grubs to timing your applications.

Also, they show you how well DYLOX Insecticide fits in a pre-damage program. DYLOX works fast to control all species of white grubs. Plus, DYLOX goes away quickly, reducing the long-term risk to the environment.

For your free tape and brochure, call 1-800-842-8020. Or write Miles Inc., Specialty Products, Box 4913, Kansas City, MO 64120.

The call is free. The tape and brochure are free. All we ask is that you lend us an ear.



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# CUSTOMER SERVICE TIPS

## Using customer surveys

By E.T. Wandtke

■ Survey customers to find out how they perceive your service, and to get feedback and input on areas that may need improvement.

Many lawn care/landscape companies

conduct a regular customer survey, but they often forget to survey the employees to determine how they rate the quality of service.

Goals of a survey should be:

1. to determine from customers what service level is expected; and
2. to improve the employee's perception that they are professional service personnel.

Creating a survey form requires the insights of a professional who has developed similar surveys in the past. How questions are asked, the sequence of the questions, and the response method may all influence the reliability of your final results. Use a professional surveying firm to develop the questionnaire, and the validity of the results of your survey will be more beneficial.

It's important to take surveys in different months, to take out the predictability of the survey and to prevent your employees from performing special services only the month before the survey is distributed.

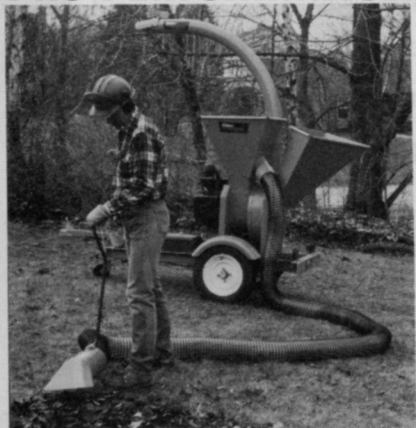
Many companies have found that sharing the results of a survey with their customers and employees is very beneficial. It is an opportunity to identify what has been improved since the previous survey. Specific issues which need to be improved can be defined and the type of corrective action identified. This is the time to demonstrate to both your customers and employees how committed you are to customer service.

Sam Walton achieved this recognition in the highly competitive low margin department store business (Wal-Mart). He believes customers need to perceive that you are providing better service than the competition, and he continues to push his employees to higher and higher customer service awareness.

Walton's goal is not to be perceived as an average department store but one that offers the best service.

If you do not have a customer survey program in place, start now. Improved customer service will follow.

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## GREEN INDUSTRY EVENTS

### APRIL

**13-14:** Southeastern Turfgrass Conference, Tifton, Ga. Contact: Dr. Glenn W. Burton, Coastal Plain Station, P.O. Box 748, Tifton, GA 31793; (912) 386-3353.

### MAY

**3-5:** Menninger Sunbelt Conference, Orlando, Fla. Contact: Florida Nursery-men's & Growers Assn. (FNGA), 5401 Kirkman Rd., Suite 650, Orlando, FL 32819; (407) 345-8137.

**6-9:** National Club Assn. Leadership Conference, The Broadmoor, Colorado Springs, Colo. Contact: NCA, Washington Harbour, 3050 K St., NW, Washington, DC 20007; (202) 625-2080.

**8-21:** Target Specialty Products Field Days, Tempe, Ariz., Fresno, San Jose, Ventura, Los Angeles, Brea, Calif. Contact: Mick Danskin, Target Specialty Products, Marketing Communications, 17710 Studebaker Rd., Cerritos, CA 90701; (800) 352-3870.

**13-15:** Golf Course Asia, Queen Sirikit National Convention Centre, Bangkok, Thailand. Contact: Ellen MacGillavry, Expoconsult, P.O. Box 200, 3600AE, Maarsse, The Netherlands; phone: ++3465-737 77.

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# It's only a matter of time

You know that good turf deserves the best forms of nitrogen. That's why you need slow-release NITROFORM® and controlled-release NUTRALENE™, two superior formulations that cater to your specific nitrogen needs.



With NITROFORM®, nitrogen is released slowly throughout the growing season and remains available to roots for one year or longer—when other nitrogen sources

have been used up. Ideal for sandy soils where low micro-organism levels and leaching are often a problem. It also works well in clay soils since it stimulates micro-organisms that decompose thatch. Available in both dry and liquid formulations and applied at recommended rates with conventional equipment, NITROFORM won't burn top-growth or roots. So treated turf is subjected to less stress. As a result, it grows stronger and needs fewer pesticide applications.

## NITROFORM®

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- Reduced thatch build-up

IMPORTANT: Please remember always to read and follow carefully all label directions when applying any chemical.  
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With dual-action NUTRALENE™, you can count on quick grass greenup in spring plus sustained release

throughout one growing season. Unlike other controlled-release nitrogens, NUTRALENE is not solely dependent upon soil temperatures, moisture, coating or particle size for its optimum release pattern. Applied in chip or granular form, the dual release of NUTRALENE encourages outstanding growth response—even in early spring or late fall. In hot weather, its reduced leaching characteristics enable uniform, sustained feeding to continue.

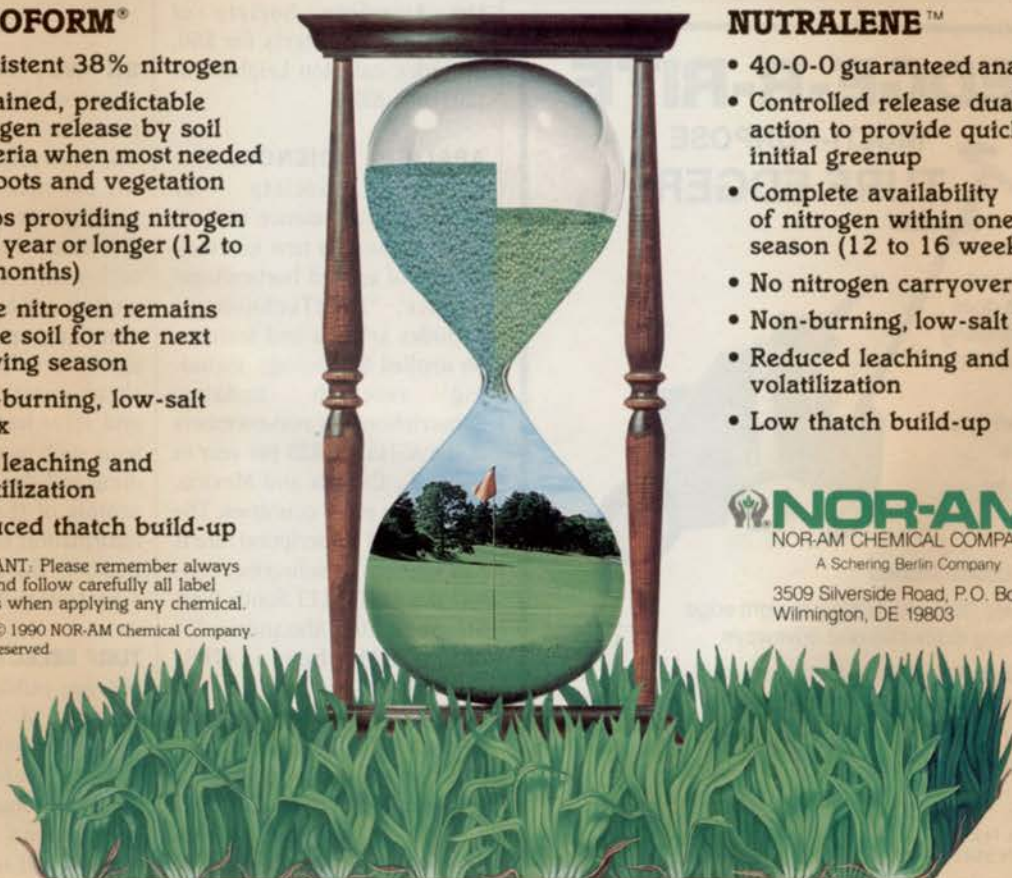
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# INFO CENTER

## Useful literature and videos offered to LM readers

### BORERS ILLUSTRATED...

Available through Michigan State University is a 32-page booklet titled "A Guide to the Clearwing Borers (*Sesiidae*) of the North Central United States." The publication contains color plates, tables and line drawings relating to clearwing borers found in the north central, eastern and southern parts of the country. To order a copy, send your request for N.C. Regional Pub. 394 along with a check for \$7.50 to: Publications Office, c/o The Cooperative Extension Service, Room 10B, Agriculture Hall, M.S.U., East Lansing, MI 48824-1039.

**WEED GUIDE...**"The Leaf Surface of Major Weeds" can be purchased from the Weed Science Society of America. It is

a technical journal published as a public service by Sandoz Agro Ltd. Besides extensive color photography, the book contains a brief description of 30 world-class weeds, leaf surface pH measurements, droplet contact angle measurements and gas chromatographic analyses of epicuticular waxes. The publication is available for \$58 through the Weed Science Society of America, 309 West Clark St., Champaign, IL 61820; phone is (217) 356-3182.

**MONOGRAPH...**"Turfgrass Agronomy Monograph 32" updates some of the topics from the first turf monograph published in 1969. It is being published by the American Society of Agronomy, Crop Science Society of America and Soil

Science Society of America. The monograph is divided into five primary sections, including turf physiology, soils and amendments, energy conservation, etc. Co-editors are Drs. Don Waddington, Bob Carrow and Bob Shearman. The 828-page book costs \$42.00 in the U.S., \$62.00 elsewhere. Send your order to: ASA/CSSA/SSSA, Book Order Dept., 677 South Segoe Rd., Madison, WI 53711-1086.

**LANDSCAPE STUDY...**"The Gardening of America" is a study commissioned by Dixon Felix Inc. that takes a comprehensive look at environmental issues, service trends, and other factors affecting the lawn/landscape, nursery and landscape architecture industries. The study results is available from the American Society of Landscape Architects for \$50. To order, call Ron Leighton at (202) 686-8326.

**APPLIED SCIENCE...**The American Society for Horticultural Science (ASHS) has introduced a new quarterly journal of applied horticultural science. "HortTechnology" includes articles and features on applied technology, including research updates. Subscriptions for non-members of the ASHS are \$25 per year in the U.S., Canada and Mexico, and \$35 to other countries. The institutional subscription rate is \$15 higher. To subscribe, contact the ASHS, 113 South West St., Suite 400, Alexandria, VA 22314-2824; phone is (703) 836-4606.

**GROUND RULES...**Landscape Structures Inc. has published a four-page brochure that describes the impact the Americans with Disabilities Act (ADA) will have on playgrounds. The new "Equal Access, Equal Play" brochure is written in an interview format, with Steve

King (founder of Landscape Structures) providing answers to common questions. King is also chairman of the ASTM task group addressing this new federal statute. To receive your free copy of "Equal Access, Equal Play," contact Landscape Structures, 601 Seventh St. S, Delano, MN 55328; phone is (800) 328-0035.

**MOWING SAFETY...**Briggs & Stratton Corp. and the American Red Cross offer their "Knowing Mowing" program. The 90-minute course includes mowing safety, basic first aid, general maintenance and yard waste recycling. To order the video, contact Katy Koch, at Briggs & Stratton, 606 East Wisconsin Ave., Milwaukee, WI; (414) 223-7520.

**ON WETTING AGENTS...**Aquatrols has a pocket-sized, two-color brochure designed to help lawn care professionals sell the benefits of AquaGro soil wetting agents to customers. The brochure contains a non-technical explanation of the purpose and benefits of having a company apply soil wetting agents to reduce lawn, tree and shrub watering requirements and solve water-related problems such as compaction, puddling and dry spots. For a free sample of the brochure, and information on the company's Business Builder Program, call Aqua-trols at (800) 257-7797.

**TURF SELECTION...**Lofts Seed, Inc. has published the second edition of its "Guide to Turfgrass Selection for Golf Course Professionals." The guide is arranged by region, and suggests turf species, current varieties and seeding rates best-suited to each area of the country. Contact Lofts Seed Inc., Chimney Rock Rd., Bound Brook, NJ; (908) 560-1590.

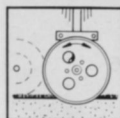
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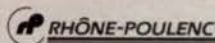
Of course, you still get the same dependable control of 25 broadleaf and grassy weeds—including goosegrass, crabgrass and Poa Annua—that you've come to expect from CHIPCO® RONSTAR® G. And you get this proven control all season long from just one pre-emergence application; without the leaching and root pruning associated with some herbicides. You can even use it on a wide variety of ornamentals to keep more of your course weed-free with each application. • For more

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Circle No. 130 on Reader Inquiry Card



# JOB TALK

## Maintenance account includes 35 acres of turf, bedding plants

### Caring for the award winning Oregon Graduate Center keeps Teufel Commercial Landscape on its toes.

■ Just thinking about the work required on this project is enough to tire you out.

The Oregon Graduate Center, maintained by Teufel Commercial Landscape of Portland, Ore. is featured on this month's cover.

Teufel's accomplishments at the site won it an Environmental Improvement Award from the Associated Landscape Contractors of America (ALCA) in 1991.

Caring for the Center is a massive responsibility. The 35-acre landscape maintenance project consists of 1,270,000 square feet of irrigated finish turf area, 147,000 square feet of shrub beds planted with 800 trees and 18,000 shrubs and groundcover.

More than 3000 annual bedding plants are planted at seven building entrances. These include marigolds, petunias and fibrous begonias.

The bedding plants are rotated up to five times a year.

Areas the company is especially proud of include 22 acres of dedicated common area, water management of a two-acre re-circulating pond system, four holes of a par three golf course, a regulation soccer field and 2.3 miles of groomed jogging trail.

Pat Enstrom, landscape management supervisor for Teufel, says the company won the account four years ago.

"The management company had five contractors at one time," says Enstrom, and it finally decided to give the maintenance account to one company.



Teufel's responsibilities at The Oregon Graduate Center include management of a two-acre recirculating pond system. Photo by Demoulin/Waddell, Inc.

The decision paid off in the first year alone, as Enstrom says Teufel was able to save the Center \$20,000 in water bills.

In addition to the savings that resulted with only one company controlling the irrigation schedule, Enstrom says proper feeding and lime applications helped reduce water use as well.

The landscape is managed by three full-time employees and one part-timer. The 23 acres of turf are mowed in one day. A 5-gang reel mower, two 70-inch reel mowers, a tractor-mounted fairway mower and a couple of walk-behinds help get the job done.

Yearly fertilization, pruning and verti-mulching are part of the integrated pest management program. *Bacillus thuringiensis* (Bt) is used to control leaf rollers. Insecticidal soaps are used for aphid control.

Dormant winter spray helps control fungus. Dursban is used to control crane flies, whenever the pest is spotted.

—Terry McIver



The two-acre pond system is kept free of weeds by utilizing special maintenance techniques such as shading dyes and aeration. Photo by Demoulin/Waddell, Inc.



Wanna'  
be  
good  
in  
beds



Full instructions next month.



**CYANAMID**

American Cyanamid Company  
Agricultural Division  
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# GREEN INDUSTRY SHOWCASE

## Latest fertilizer technology allows for 180-day residual

POLY-S technology is O.M. Scott & Sons' newest breakthrough in controlled release fertilizer production.

POLY-S uses a two-tier coating process that produces highly efficient and cost-effective controlled release fertilizer products.

The core of each particle consists of a high quality nutrient substrate. The first layer is a coating of sulfur that covers the core and acts as the first stage in regulating nutrient release. The second layer consists of a proprietary polymer that further protects the nutrients and, in combination with the sulfur layer, determines the release rate.

**Why polymers?**—Polymers are compounds made of very large molecules. The POLY-S polymer was developed for its properties as a film to control water penetration into the fertilizer particle. Nutrient release is controlled by diffusion.

"We were looking for a polymer that regulates and controls the movement of water across that barrier," explains Dr. Dean Mosdell, manager of product development for Scotts' research and development department.

"By using both sulfur and polymer,

there is low coating cost and we have excellent control of the nutrient release mechanism—or 'diffusion control process,'" says Mosdell.

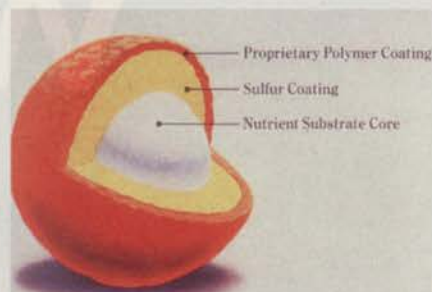
"Water has to diffuse across that barrier so the soluble fertilizer can be released. We can control the release rate by increasing the polymer coating. We can get residuals up to 180 days, and we feel we can get very good agronomic efficiency."

POLY-S technology was the invention of the Advance Technology Group at Scotts, directed by research scientist Harvey M. Goertz.

By molecular composition and particle coating weight, the release rate can be programmed anywhere from two to six months, depending on the application.

Traditional sulfur-coated fertilizers are relatively inexpensive to produce. However, nutrient release is not totally controllable, and lock-off (incomplete N release) is prevalent. In addition, many sulfur-coated ureas are coated with wax to prevent sulfur breakage.

According to O.M. Scott, POLY-S combines the best qualities of sulfur- and polymer-coated fertilizers. The primary coat of



The POLY-S coatings control the rate of nutrient release.

sulfur is wrapped around the fertilizer/nutrient particle, creating limited access for water penetration.

Being a low-cost material, sulfur is very economically effective.

"By combining the sulfur and polymer, we find we're getting excellent value for the end user," says Mosdell.

"Sulfur is an inexpensive coating material, and the process of applying it to urea is very simple. However, sulfur-coated ureas have a number of disadvantages.

"If we put on too little sulfur, we get a very rapid release of the fertilizer," explains Mosdell. "If we put on too much sulfur, we get 'lock-off,' or inefficient release of urea from sulfur coating."

POLY-S fertilizers offer excellent control of nutrient release, varied residual and no lock-off. The release is affected by coating weights of the sulfur and polymer, the polymer composition, and the proprietary coating techniques.

Other advantages of POLY-S are:

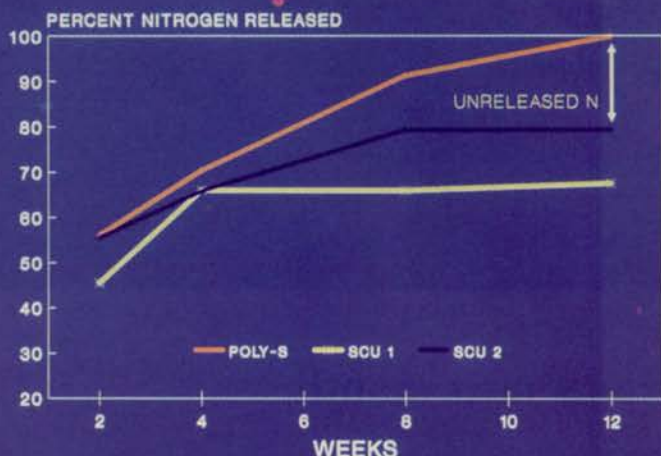
- abrasion resistance; no dust;
- increased slow-release claim, resistance to environmental stress;
- uniform nutrient release, adjustable release rates, reduced surge growth; and
- decreased temperature sensitivity;

Scott reports that the effectiveness of the POLY-S coating process requires less total coating than is normally needed with sulfur-coated urea products, providing higher nitrogen analysis.

Environmentally, with POLY-S there is minimal potential for leaching, run-off and volatilization, according to Scott. The efficiency of release results in a significant reduction in clippings associated with surge growth, thereby addressing concerns about waste disposal and landfill use.

Circle No. 191 on Reader Inquiry Card

### NITROGEN EFFICIENCY



B3-91-123-1 - BASED ON RECOVERY FERTILIZER PARTICLES APPLIED TO TURF

Nitrogen release efficiency graph, as reported by O.M. Scott & Sons, shows POLY-S to be effective after 12 weeks.



# SHOWCASE PRODUCT REVIEW

## Push reel mower is perfect for bentgrass

American Lawn Mower Co. has a seven-blade push reel mower that is designed for trimming bentgrass on either golf course greens or on home lawns, the company says.

Its new Model 1704-16 features a tempered alloy steel reel and bed-knife blade, unbreakable steel side plate and one-inch welded torsion bar frame assembly, 10-inch diamond-tread tires with cast iron wheels and pinions and adjustable cutting heights from 1/2 inch to 2 1/4 inches.

The Model 1704-16, which has a cut-



ting width of 16 inches, also comes with an adjustable seven-section roller.

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

## Product made to control algae, fungi, bacteria

Parkway Research Corp. of Houston has introduced the Consan product line to the green industry.

Consan Triple Action 20 is a triple quaternary amine formula, EPA-approved as a greenhouse disinfectant and for direct application to ornamental plants, grasses and trees.

Based on a hospital disinfectant, Consan Triple Action 20 is a broad spectrum bactericide, fungicide and algicide, labeled for bacterial fire blight on pear trees and crepe myrtles.

According to Parkway, Consan Triple Action 20 is also EPA-approved for fungi such as brown patch, pythium blight and

helminthosporium leaf spot, in both residential and commercial applications.

CTA 20 is completely water soluble, highly effective and economical, according to Parkway Research Corp. One gallon makes 256 to 384 gallons of treatment solution.

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

## Ag sprayer maker now in specialty market

Ritchie Bestway has formed the Ritchie Bestway Commercial Spray Equipment Division. Sprayers are built to customer specifications.

The company says its engineers will help determine proper tank size, pump option, boom length, and other specifics.

Sprayers will be available by direct order only from the company's Conrad, Iowa manufacturing facility.

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

## POLLUTION CLEAN-UP INSURANCE FOR COMMERCIAL LAWN CARE FLEETS AND EQUIPMENT

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

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

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

*For further details contact:*

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

**M.F.P. Insurance Agency, Inc.  
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Circle No. 141 on Reader Inquiry Card

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Circle No. 107 on Reader Inquiry Card



# PRODUCT REVIEW

## Hydrogel injector gets polymers to root zone

The Polymer Opener and Metering Injector is an all-new system designed to



place water-absorbing polymers or hydrogels in the root zone of existing plants, bushes, shrubs and trees.

Designed and manufactured by Cutler Engineering, Inc., Baldwin City, Kan., these water-absorbing polymers are materials that absorb 300 to 400 times their own weight in water.

The Polymer Opener and Metering Injector place these materials in the root area of existing plants, where the roots can draw on the water stored in the polymer during dry periods or between watering.

The Polymer Opener uses a standard electric drill to make an opening in the rootzone of an existing planting.

The Metering Injector then places a measured amount of dry polymer or hydrogel in the opening.

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

## Landscape finisher for near-perfect seed bed

The Shaver Power Landscape Finisher mounts on three-point hitch tractors and most skid steer loaders.



A hydraulic motor driven "pulvi-roller" teams with a top-mounted idler-roller.

The Finisher clears rocks and debris to help prepare seed beds for planting; thatches and renovates worn turf for reseeding; rakes landscape to grade, fill and level.

Reverse the rollers to clear brush and vines, distribute and level topsoil, backfill, ditch, shape and mound.

The Power Landscape Finisher is available in 6- and 8-foot models, with 0 to 30° left/right hydraulic angling standard.

Depth is controlled by a rear gauge wheel. Hydraulic control is a standard feature on tractor models, optional on skid-steer units.

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

## Protectors increase tree growth, survival

Tree protectors have been used successfully for years. They all offer the same basic benefits, which include improved tree protection, increased growth and lower maintenance costs.

Tree Pro incorporates all the best features of leading protectors and adds a few they don't have. Overlapping stake support gives a tighter seal. Flared top protects the tree.

A unique lock-tie not only performs its normal function of securing the shelter to the stake, it also virtually seals together

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

## Soil additive lowers pH, neutralizes salt content

Ironite Superferrite Pro-Formula is a new soil additive which acts as a fertilizer and soil conditioner.

The Ironite Products Co. of Scottsdale, Ariz., says the Pro-Formula activity is very beneficial in any soils that "lock up" or hamper the release of essential plant nutrients and minerals due to alkalinity, excessive salinity, high pH or excessive leaching caused by high humidity or rainfall.

The product's combined nutrients in sulfate and polysulfide form allow for the immediate release of approximately 40% of the product to dissolve with water. The remaining 60% slowly oxidizes in the soil through moisture and bacterial action.

Ironite contains 6% nitrogen; 13% total sulfur; 3.9% immediately soluble iron. Calcium, magnesium, manganese, cobalt, molybdenum and zinc are also present.

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

## Multi-purpose dump trucks work on campus

The Stahl Landmaster is a multi-purpose truck body combining an eight-foot dump body with 35 cubic feet of storage space for tools, supplies, and materials, comparable to a traditional utility body.

The five Landmaster models sold recently to Ohio State University were bought from Buckeye Truck Equipment, Stahl's Columbus distributor. The



Landmaster was developed as a result of consultations with landscaping and construction professionals. Stahl says it offers features unique to the market.

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

## High output blower fits existing sand trap rakes

The ProBlow is an 18 hp high velocity/high output blower, with an adjustable chute and radially adjustable housing for directional air flow.

The ProBlow attaches easily to existing sandtrap rakes without requiring modifications, according to Selbro, Inc. of Avon Lake, Ohio.

According to Selbro Inc., the self-contained unit saves companies both time and labor costs, eliminates operator fatigue and is safer to operate than push blowers.

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



# SHOWCASE PRODUCT REVIEW

## Company beefs up specialty products

Uniroyal Chemical company has organized a specialties products sales force to service its expanding turf and ornamentals product line.

John Kitsmiller, marketing manager for specialty products, said the company considers turf and ornamentals a growth market, and that it plans to establish a major position in plant growth regulators, fungicides and other products as they develop.

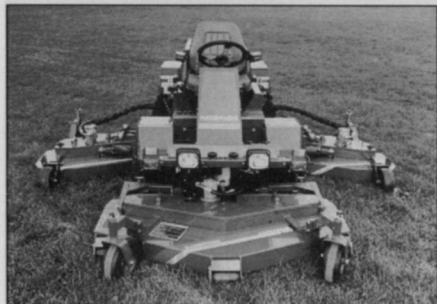
Uniroyal's current product line includes B-Nine and Bonzi plant growth regulators, and Turfcide, Terraclor and Terrazole fungicides. Terraguard is its newly-registered fungicide.

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

## Newest mower features folding wing decks

Ransomes' new wide-area commercial mower, the XT6150, features two wing decks that fold to within the tractor width for transport or trimming.

By simply operating a hydraulic lever, the operator can raise both wing decks to



switch from a 117-inch cutting width to a 61-inch overall width. The wing decks can be rotated to a vertical position for cleaning or service.

The XT6150 is powered by a 51-hp Kubota diesel engine, and features 4-wheel cross-flow parallel hydrostatic drive with infinite speed ranges in forward and reverse. Forward speed can be adjusted from 0 to 7 mph for mowing, and from 0 to 14 mph for transport.

The rugged, 10-gauge steel mower decks are individually powered by separate hydraulic motors with single belt drives. The 61-inch front deck has three 21-inch blades and each 35-inch wing deck has two

18-inch blades.

Blade operation is stopped automatically when the decks are raised to transport position. Cutting height adjusts from one inch to 4 3/4 inches.

**Circle No. 202 on Reader Inquiry Card**

## Brochure contains latest in material containment

A new, six-page, full color brochure from Justrite Manufacturing features technical data and end-user benefits on the company's line of containment products for hazardous materials.

The free brochure provides size and capacity specifications for Justrite's full line of hazardous waste accumulation and disposal products: outdoor storage cabinets, spill control pallets, single-drum and double-drum collection centers, and much more.

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

## Landscape rakes go well with skid-steer loaders

York Rakes, a division of York Modern Corp., announces that it has landscape rakes specifically designed for use with most makes of skid steer loaders.

While York Rakes builds models specifically for use with Bobcat and Case skid steer loaders, the SSF can now also be used with most other makes.

York Rakes supplies the rake and skid steer frame, and the buyer obtains the proper mounting plate from the skid steer manufacturer.

The rakes may be set at angles to discharge material either left to right, and with a six-foot rake section and five working positions, handle almost any landscaping or maintenance job.

**Circle No. 204 on Reader Inquiry Card**

## Pumping stations just for irrigation systems

SincroFlo's Eagle VFD (variable frequency drive) series of pumping stations are designed specifically for the irrigation system.

Pump station operation is automatically optimized for peak load requirements with a built-in PC logic controller, which saves energy and operator training.

The new Eagle models also feature soft start operation and require no routine maintenance. Task are ASME Code-NB stamped. Panels are UL labeled.

A data access panel gives a continuous update on system pressures, flow rates and set points. Two-year total system guarantee; five-year PC guarantee; 48-hour system service.

**Circle No. 205 on Reader Inquiry Card**

## Trimmer/brushcutters feature latest designs

An innovative straight-shaft string trimmer/brushcutter from Solo is one of a new family of company trimmers and brushcutters designed for commercial use.

The Model 124 incorporates the latest in German design, material technology and performance characteristics, combined with operator comfort and safety.

**Circle No. 206 on Reader Inquiry Card**

## Mower features one pump, two motors, one mod valve

The new hydrosense mower from Encore Manufacturing features a totally new design.



According to Encore, this is the only hydro walk-behind mower on the market with one gear pump, two motors and one modulation valve.

The Hydrosense is built to let the oil do the work. It uses a two-gallon oil reservoir with high capacity oil filtration and an open loop hydraulic system that maximizes oil flow through the filter.

A heavy-duty oil cooler ensures safe operating temperatures, yet does not obstruct the view of the front deck.

A heavy-duty oil cooler is standard.

**Circle No. 207 on Reader Inquiry Card**



# SHOWCASE PRODUCT REVIEW

## Seven-speed tractor ideal for home lawns

Yard-Man's 11-hp 7-speed lawn tractor is ideal for smaller lawns or wooded areas.

The 36-inch, floating, High-Vac deep deck maneuvers easily between trees and shrubs, and adjusts to lawn contours to

prevent scalping and uneven cuts.

No stopping or clutching is required to adjust cutting height or to change speeds. Durable steel "box frame" increases service life and reduces vibration.

Other comfort features include a cushioned seat, foam grip and automotive-type steering wheel.



Yard-Man says the mower is engineered to start quickly, even in cold weather.

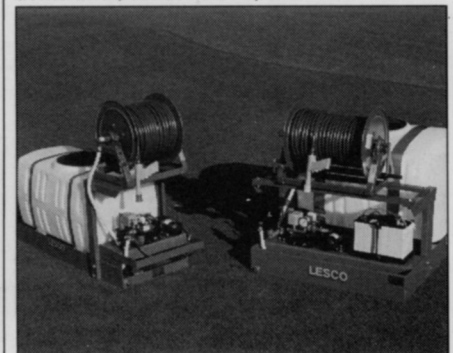
A balanced spring attachment lift system accommodates optional accessories, such as angle dozer blades and snow throwers.

Compatible twin-bag grass collector, gang reels, lawn sweepers and tow-behind carts are also available.

**Circle No. 208 on Reader Inquiry Card**

## Low-volume sprayer is 'noiseless, fume-free'

Lesco's new Silent Spray System offers noiseless, fume-free applications for lawn care operators, golf course superintendents and pest control operators.



The system consists of a low-volume, low-pressure, noiseless electric sprayer available in 50, 100 or 200-gallon capacities. The sprayer features the same high quality frames and tanks on other Lesco gasoline-operated models.

The system's Quad-4 Series, 12-volt electric pump is rated at 4.8 gallons per minute.

The Silent Spray System is excellent for low-pressure, low-rate applications, and is ideal for operators who work in environments where noise levels must be kept to a minimum.

**Circle No. 209 on Reader Inquiry Card**

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- **Easy to use.** Just pour.



## Clean-up from page 13

engineering firm that specializes in environmental loss prevention.

As far as Bersnak can say, many of the available products deal mainly with premises exposures which would emanate from the operator's place of business.

"The costs associated with purchasing an individual policy are simply too expensive when put in perspective with an operator's total insurance costs, which include liability for operations, commercial auto, workers compensation and employee benefits," Bersnak says. "Our concept relies on the participation of the average size LCO."

The plan will operate under a master policy concept using the Federal Risk Retention Act of 1986.

According to Bersnak, the law allows the group to purchase a master policy and add different yet homogeneous insured organizations to the policy for a premium charge based on the number of production vehicles or units they have in service at a time.

"Prior to the Risk Retention Act," says Bersnak, "most states had laws against 'master policy' concepts, which would not allow two or more unrelated organizations

with different ownership to be insured under the same policy.

"The key to our approach," says Bersnak, "is the homogeneous group of lawn care operators throughout the U.S. that we will make the insurance coverage available to."

—T.M.

**Clean-up costs for the smallest lawn care chemical spills can range from \$7500 to \$10,000.**



## About the National Lawn Care Risk Purchasing Group:

● Trustees are lawn care professionals and green industry consultants.

● An LCO may obtain coverage completing a detailed application which requests information on how the operator handles products, fleet maintenance, recruits drivers, and operator licensing.

● Premiums will be based on a rate

per production vehicle or trailer, ranging between \$75 and \$200 per unit, subject to a \$2500 deductible per accident, with a limit of clean-up costs per year of \$100,000.

● Each operator of his or her corporation will be a named insured.

● For more information, call M.F.P Insurance Co. at (614) 221-2398.

## Insurance from page 8

And instead of raises for returning assistants, recent incentive safety bonuses were based on good safety records.

Frank awards 10 cents per hour for crew leaders who have accident-free periods between April 1 and November 30.

Brian Janek, an agent with the Van Gelder Co. of Denver, Colo., knows what saves companies money:

● Find an agent and company with proven landscape industry experience. Otherwise, uncovered claims, pollution liability or worker comp problems will be overlooked.

● Initiate a loss control program.

● Initiate a safety program; use financial statements and driving records to prove insurability.

● If your state allows you to use deductibles for workmen's comp or general liability, do it. The less the prior record inhibits renewal, the better.

"It's gotten to the point where you're at the mercy of the insurance company," says Minor, and a company must "sell itself" to an insurer.

According to Minor, his company's stellar safety program earned a workmen's comp policy, when, as he says, no landscapers in Texas were getting them.

pers in Texas were getting them.

"Involve yourself in the insurance process," advises Minor. "If you let somebody else do it, you're doing yourself a disservice."

Don Brown, a loss-control specialist with the CNA Insurance Co., thinks company owners are doing very little to



**Janek: Choose an insurer and agent with landscape industry experience.**

address medical cost containment, reduce litigation or manage claims.

"Those are the two areas that make availability of coverage at affordable prices the critical problem today," says Brown.

"Once the claim is filed, business owners tend to leave it up to a third party to manage the claim. The bottom line is, these folks are managing your business. Take charge as the owner. Work out a relationship with insurance professionals and physicians.

"Basically, you've got to provide the finest medical attention to an injured worker as you can. If not, they will go to an attorney and you lose control of that claim and costs will multiply."

He suggests:

● Developing "modified work" to bring injured workers back as soon as possible, doing alternative part-time work until they are back in top form, and

● Filing accident reports within 24 hours, to keep costs down.

Minor's concern for the injured worker includes having a mid-level manager drive him to the hospital, the pharmacy and home if necessary.

"If they are standing, and can walk, we want them in the office the next day," insists Minor. "We don't want them home watching TV commercials from personal injury attorneys."

Brown thinks that concern must include genuine concern for the family.

—Terry McIver



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**FOR SALE:** Small landscape maintenance/construction service in Santa Rosa, California. Established 15 years. Commercial maintenance and residential/commercial installation. For more information write to P.O. Box 5085, Santa Rosa, CA 95402. TF

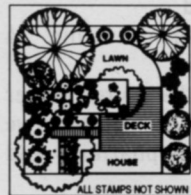
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**LANDSCAPE MAINTENANCE & DESIGN/BUILD FOREMAN:** Top Ohio firm looking for quality conscientious landscape and maintenance foreman. If you have horticulture, mechanical skills and are not afraid of hard healthy teamwork then you could qualify for this position in Ohio's largest landscape & maintenance firm. Reply to: Attn: Ed Gallagher, Yardmaster, Inc., Painesville, Bedford & Columbus Ohio Offices, 1447 North Ridge Road, Painesville, Ohio 44077. 4/92

**LANDSCAPE MANAGER.** Large established firm with reputation for exceptional quality, seeking personable and enthusiastic individual to manage multiple crews in full service maintenance of high profile commercial properties; must have organizational and people skills as well as working knowledge of all phases of maintenance; 4 to 5 years experience & college degree preferred. Environmental Landscape Services, 5190 Crestview Drive, Memphis, TN 38134; (901)382-9000. 4/92

**Agricultural Mechanic** - wanted to work in Central Park, N.Y.C., NY. Candidate must be familiar with 2 cycle engines of all types; tractors and lawn mowers of all sizes. Formal education or experience preferred. Must have valid driver's license. Good benefits offered. Interested candidates should send resume and covering letter to: Kathleen Dooley, Director of Human Resources, Central Park Conservancy, 830 5th Avenue, New York, NY 10021. E.O.E. 4/92

**LANDSCAPE MAINTENANCE SUPERVISOR:** Largest full service landscape maintenance company in Northwest Florida seeking individuals with strong supervisory skills and southern horticulture experience. Must be qualified for Florida certified pesticide application exam or currently licensed. Salary, benefits and advancement opportunities. Award winning beaches - great climate. Send resume and salary history to: Greenscape of Destin, Inc., P.O. Box 1269, Santa Rosa Beach, FL 32549. An equal opportunity employer. 6/92

**LANDSCAPE CONSTRUCTION MANAGER/PARTNER:** Demonstrated ability to manage complete construction department. Must have extensive experience with the following: estimating, sales, client relationships, installation supervision, knowledge of Hispanic labor market, bilingual, purchasing. Degree preferred. Design build experience preferred. We are a progressive award winning company located in two Texas metropolitan areas with sales approaching 3 million. You are proven winner, you refuse to be second best. You must be willing to sacrifice in order to build long-lasting customer loyalty and a profitable construction division. Significant profits. Send resume to LM Box 475. 4/92

**LANDSCAPE MAINTENANCE SUPERVISOR:** For multi-million dollar Florida landscape company. To handle field supervision for up to 5 crews. Knowledge of southern horticulture preferred. Salary + benefits. Send resume to: Mr. S. Khalsa, 1174 Florida Central Parkway, Longwood, FL 32750. 4/92

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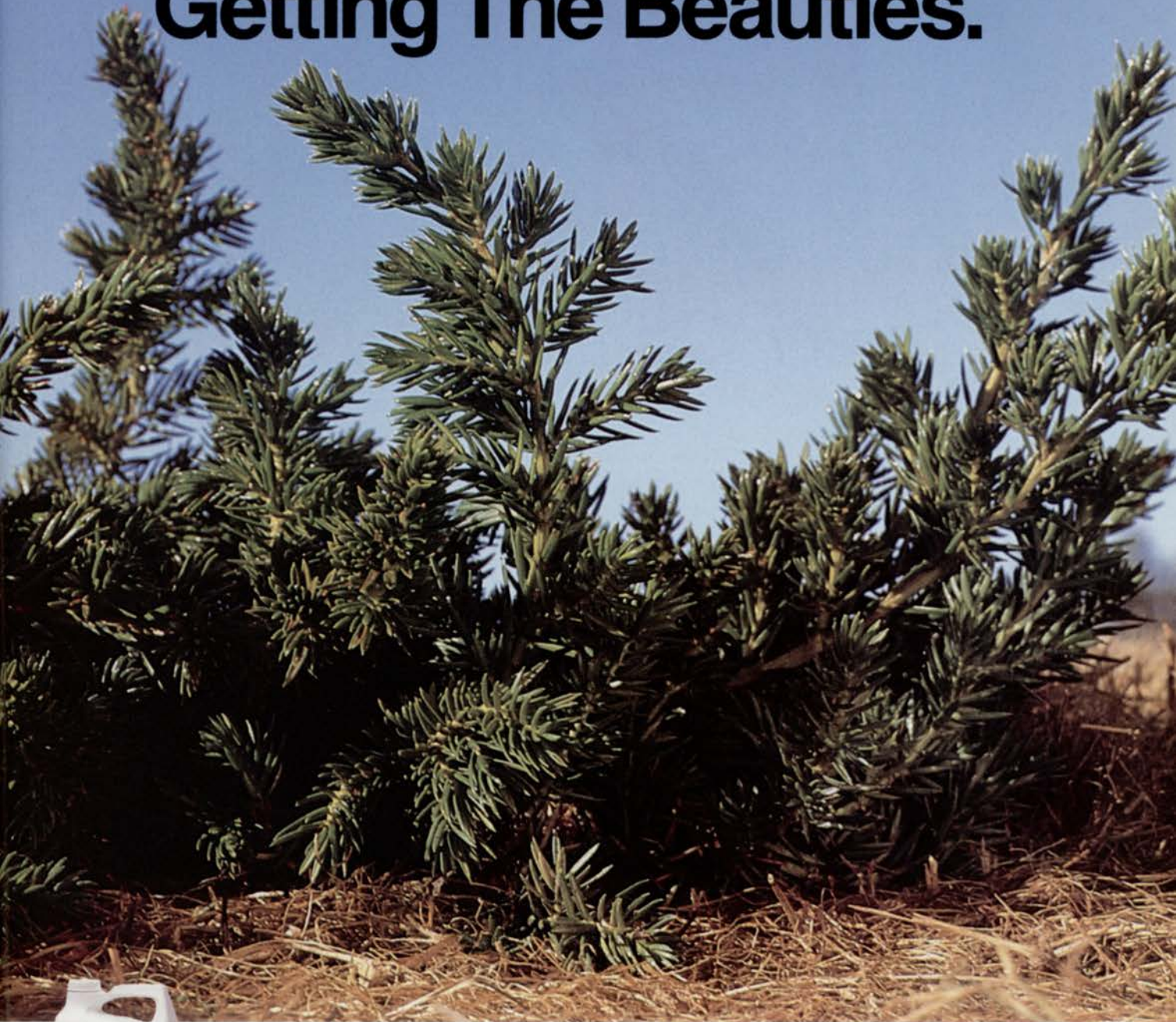
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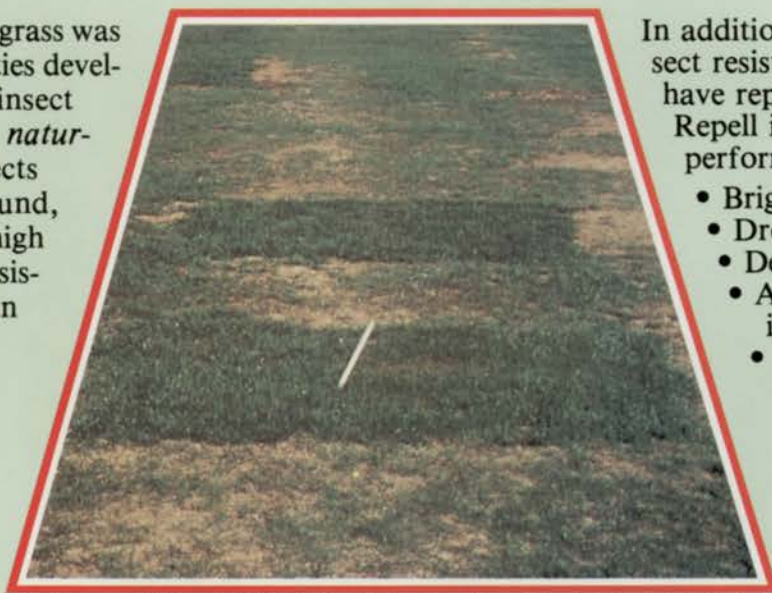
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