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AS WE SEE IT

JERRY ROCHE, EDITOR-IN-CHIEF



There's always room for managerial improvement

You may think that you are doing everything you can to make your business or maintenance department the most efficient it can be.

But you're probably not.

Managing effectively—especially for those of us without degrees in business administration—is a never-ending learning experience. So, as we begin a new growing season, a review of the expert tips offered in a long list of winter educational seminars is perhaps in order:

● **Choose employees carefully, and treat them respectfully.** Fire fast, but hire slowly. Hire personalities opposite of yours so you have a good balance of talent. Do everything you can—good pay, good working environment, a wide variety of benefits and perks—to keep your best employees.

● **Take your customer relations to another level.** Answer every question and handle every complaint quickly and effectively. If you don't have a pager or cellular phone, get one immediately.

● **Communicate.** Personally see your most important customers—for golf course superintendents, that would be members of the greens committee—at least once, and preferably more often, during the off-season. During the growing season, see them at least once a month, in person, if not more. Use signs on the golf course, newsletters, informative lawn/landscape brochures, pamphlets and doorhangers. Answer mail—both written and voice—personally and quickly.

● **Computerize.** If you're already computerized, figure out new ways to use your computer. For instance, try adding a fax/modem so you can subscribe to information services like those offered by the Turfgrass Information File or the American Society of Landscape Architects.

● **Choose your dealer/distributor carefully.** Make sure your salesperson is knowledgeable. Ask about financing, rebate, lease and regional discount programs. Ask about back-up equipment. Ask about train-

ing. Ask for industry references.

● **Set up your own turfgrass test plots,** if possible. Use your own backyard, your business's lawn or—with permission and using a great deal of care—your customers' backyards. Ask suppliers for free trial products, and offer them results of your trials in return.

● **Get involved.** You only get out of your industry as much as you put in. Take an active role in local, state and/or national organizations. Do what you can, for as long as you can—whether it's a week, a month or three years.

● **Remember the importance of good media relations.** Let the local news outlets know of your successes. If you're contacted by reporters, be pleasant. If you're busy, say so, but suggest a good time to call back. Control the circumstances as much as possible. Don't be argumentative or antagonistic or afraid to talk. Remember to tell the media that you are an environmentalist, that creating a friendly environment for golfers and homeowners is your business, your livelihood.

● **Don't be afraid to change.** The green industry is ever evolving. Take advantage of new technologies.

● **Finally, have fun.** Learn to focus on things you can change rather than banging your head against the wall on things you can't change. Never undertake more than one stressful activity or project at a time. Delegate authority. And take 30 minutes a day to relax in your own way, whether it's playing basketball with the guys at lunch (as I do) or reading a chapter in a favorite book. Your mind and body are your most important tools. Take care of them.

Jerry Roche

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ASK THE EXPERT

DR. BALAKRISHNA RAO



Fertilization at planting

Problem: How long should we wait to fertilize newly-planted trees? Is there a problem with fertilizing at planting? (New York)

Solution: Most plants can tolerate and benefit from fertilizers at planting. But you should preferably use a slow-release source of nitrogen with low burn potential and salt indexes. Slow-release fertilizers containing a ureaformaldehyde have been used at planting time by arborists without apparent injury.

Fertilizing after planting can be done any time. Even in this case, I would use a slow-release nitrogen source. A sub-surface liquid injection method is preferable to obtain distribution of nutrients throughout the rootball. However, some arborists believe that nutrients applied on the rootball surface, at the top of the rootball, will be readily available to roots. Fertilizer applied with the backfill soil may leach and may not be available to rootball roots.

Phosphorus, which does not move in the soil, is better applied in the planting hole and/or mixed with backfill soil at planting. Phosphorus is beneficial in the root initiation and development. Surface application of phosphorus may not be very beneficial to trees.

Fertilizer practices have received a lot of attention recently as arborists attempt to maximize plant health while minimizing environmental concerns. More research is needed to determine the most effective treatments.

Reader response: weed control fabric

These comments from an "Ask the Expert" reader:

"In an issue last year, you gave advice on controlling weeds around trees. I thought you might be interested in some research and field experience that suggests that Biobarrier Root Control System fabric, which is designed to stop roots from damaging hardscapes, will control surface vegetation for up to 10 years when covered with one to three inches of rock, mulch or soil.

"Biobarrier works by releasing very small amounts of trifluralin over an extended period of time. Trifluralin in very minute concentrations—15 ppm and less—stops root cell division and therefore prevents successful germination of seeds."

The information that I received suggests that Biobarrier provides good weed control, no vegetation at the tree skirt seam, and no surface roots. The report said that "the greatest weed control was obtained with a combination of geotextiles/pre-emergence herbicide (trifluralin) disk, indicating a possible new method of weed control in containers."

We are not familiar with this practice. Should you be interested, try it on a small scale. For further information, contact Reemay, the maker of Biobarrier, at (800) 284-2780 in Tennessee.

Tree root pruning

Problem: How do you remove and prevent tree roots from growing inside sewer pipes? How do the roots get inside the pipes? We

run into a few problems of this nature every year. Any comments? (New York)

Solution: Tree roots often enter sewer pipelines through cracks or joints. Cracks may result from freezing and thawing, or from expanding roots pushing against the pipe, creating small openings that allow fine roots to enter pipes. Inside the pipes, moisture, nutrients and air are favorable for the roots to grow. Continued growth results in clogging the pipes. This would warrant corrective measures.

If the pipes are clogged, we suggest using a mechanical router or snake to clean the lines. Reports indicate that a combination of metasodium (Vapam) and dichlobenil (Casoron) which comes as either a liquid (Vaparoot Plus) or a foam (Vaporoot) formulation can also be used. Since Vapam is a Restricted Use product, trained professionals with special equipment are needed for application. Also, make sure to follow good handling procedures.

Another option is to use copper sulfate to unclog sewer lines, but it is toxic and may affect the sewage treatment. To prevent future clogging problems, a product such as Biobarrier wrapped around sewer pipe joints when they are installed may be beneficial. For pipes already installed, it would be very expensive to use a barrier because of the need to expose the pipes before wrapping.

Consider all these options and discuss with professionals who provide remedial services for sewer pipe clogs. Read and follow label specification for best results.

Dealing with subsoil

Problem: Can limestone or similar clay-base soil be used over a slate or shale subsoil for a prospective turf area? This situation has been known to cause turf to burn up and dry out. Sometimes, avoiding the problem can be inconvenient and costly. (Pennsylvania)

Solution: Mr. Richard Rathjens, senior agronomist for the Davey Company, suggests:

"A favorable rootzone for turfgrass growth can be constructed above a slate or shale subsoil. Commonly-used materials for this purpose include organic materials such as peat, mineral soils (loams or sandy loams) or sands. Depending on the existing soil, a partial modification or complete replacement may be necessary. You may wish to consult with turfgrass specialists in your area to determine the best strategy."

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

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

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Circle No. 136 on Reader Inquiry Card



Privatization: a term that strikes fear into the hearts of some landscape managers, but inspires dreams of new business among others. These green industry 'privateers' have learned along the way.

by Ron Hall
and Terry McIver

■ Cities and schools, because of increasing demands on tax dollars, are asking their managers "to do more with less."

This, and other mostly economic reasons, are increasingly causing cities to enter into partnerships with private contractors to provide services that the cities themselves had previously offered.

Usually these services are revenue producers: waste hauling, marina and airport operations, and golf courses.

This is called privatization.

We spoke with four landscape contractors and one golf course superintendent to learn how they obtain contracts, complete work on time, and survive the bidding wars that seem more intense in the municipal arena.

(We'd like to know your successes in municipal contracting—or just what you've learned from the experience, good and bad—for coverage in a future issue. Write or call us in care of: LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130.)

Going private?

Privatization need not mean civil service layoffs, Memphis finds out

■ George Meeks's shoes are polished to a high luster. The suit is dark and nicely cut, the white shirt crisp. The silk tie is red. Meeks both looks and speaks the language of the successful grounds manager, emphasis on *manager*.

He's grounds director for Memphis (Tenn.) City Schools. He's also a walking, talking advertisement for privatization: the competitive contracting of so-called support services to the private sector.

Meeks is one of 12 managers that the international service company ServiceMaster, Management Services Division, assembled to oversee maintenance, custodial and grounds for all 160 schools in the Memphis public system.

The privatization of services in Memphis is not isolated. Schools from New York to New Orleans to the Pacific Northwest have made similar decisions with private companies—more than 300, say some reports.

Squeezed between rising costs and taxpayers' howls, school boards see hiring private contractors as a way to get professional service. And also to save taxpayer money. Curiously, most schools experience significant savings both because of competitive bidding and superior efficiencies, say proponents of contracting. Indeed, services as varied as transportation to preparing noonday meals are now being

contracted to private companies.

Turning off alarms—This is the third year of the \$17.5 million, five-year agreement between Memphis schools and ServiceMaster. Although the school board's June 1993 decision, by a 7-2 vote,



George Meeks says private management can energize a school system's grounds department.

to hire ServiceMaster initially alarmed school union employees, the controversy subsided when ServiceMaster indicated that instead of layoffs, the schools' own employees would get training and professional supervision instead.

This is exactly what's happened.



ServiceMaster is improving the grounds at 40 Memphis public schools each year until all 160 have grass.

School grounds employees, in fact, have been involved in on-going training ever since, grins Meeks.

"What we found out was that the people just didn't have the training. They didn't have the resources to call on," he explains. "These were things that we could bring to the table very quickly."

Meeks saw Memphis schools ground maintenance as more than a money-and-resources problem. Morale suffered, too—both employee and student morale. The campuses of many schools were defined by weeds and bare earth. They made inviting

targets for discarded wrappers and soda cans.

Sprucing up—The retrained and redirected grounds crews quickly began following a systematic schedule of mowing, pruning, trimming and mulching. Meeks describes these as "high-visual impact

landscape improvements" that almost immediately demonstrate the value of landscaping.

Grass is cut once every two weeks. Hedges are trimmed. The grass is fertilized to a schedule by school employees who are certified applicators. Litter is picked up.

Also, the school system's grounds department regrassed (bermudagrass) the grounds of 40 schools last year, and plans on completing all 160 within four years.

"We should be setting the tone for the education process," says Meeks, who sees his biggest challenge as convincing

grounds employees that they too are vitally important to the schools' success.

"Sometimes the grounds employees feel like they're the lowest employees in a system," says Meeks. "That's because the grounds department of a school is typically run by somebody in maintenance. Maybe somebody with a background in plumbing or carpentry, and all they want to do is get the property mowed."

Specialized training, precise and detailed schedules and programs to reward conscientious efforts are changing that in the Memphis schools, he believes.

"I want everybody in grounds to know that if they do their job good enough, then my job is to make sure they're recognized," says Meeks.

Just two years into the program, improvements to the Memphis city school grounds are catching the eye of professional educators and the public alike. The Memphis daily newspaper has written several articles recognizing the more attractive grounds.

Said city school principal Dr. Rebecca Giannini in one of the articles: "The lawn is beautiful...There is a correlation between the way the school looks and how the kids function in school."

Meeks, a graduate of Mississippi State University and a former grounds manager at Prairie View A&M University in Texas, sees his experience with ServiceMaster as another step in his goal of someday helping beautify America's historical African-American colleges.

"There is a tremendous potential in the landscape business, but we have to tackle these types of projects with a business manager mentality," he adds.

—Ron Hall

Bidding 'wars', busy fields make private contracting a risk

■ City service directors shop for the best price—just as many homeowners—and assume quality despite the low price.

Kevin O'Connor, general manager of Sequoia Lawn Care, Wyckoff, N.J., has done projects for municipalities since 1982. Bidding, he says, can sometimes resemble a "war," with at least three companies vying for contracts. And the lowest bid always wins.

"I'll make an area look like the Taj Mahal, and a competitor can come in with a lower bid—and, of course it's public knowledge on what the bid was from the previous year," says O'Connor. "There are some

products they do not have to use because everything's looking good from the previous year, and therefore, those products aren't part of the first year overhead."

Sequoia services a dozen municipal contracts and four or five area schools. Most have been acquired through word-of-mouth, but some have required bids.

"It get's kind of crazy, but most of the municipalities that I deal with are pretty loyal, and I'm loyal to them as far as fair price and excellent work.

"I had a municipality here since 1985, and last year was the first year they had the work bid."

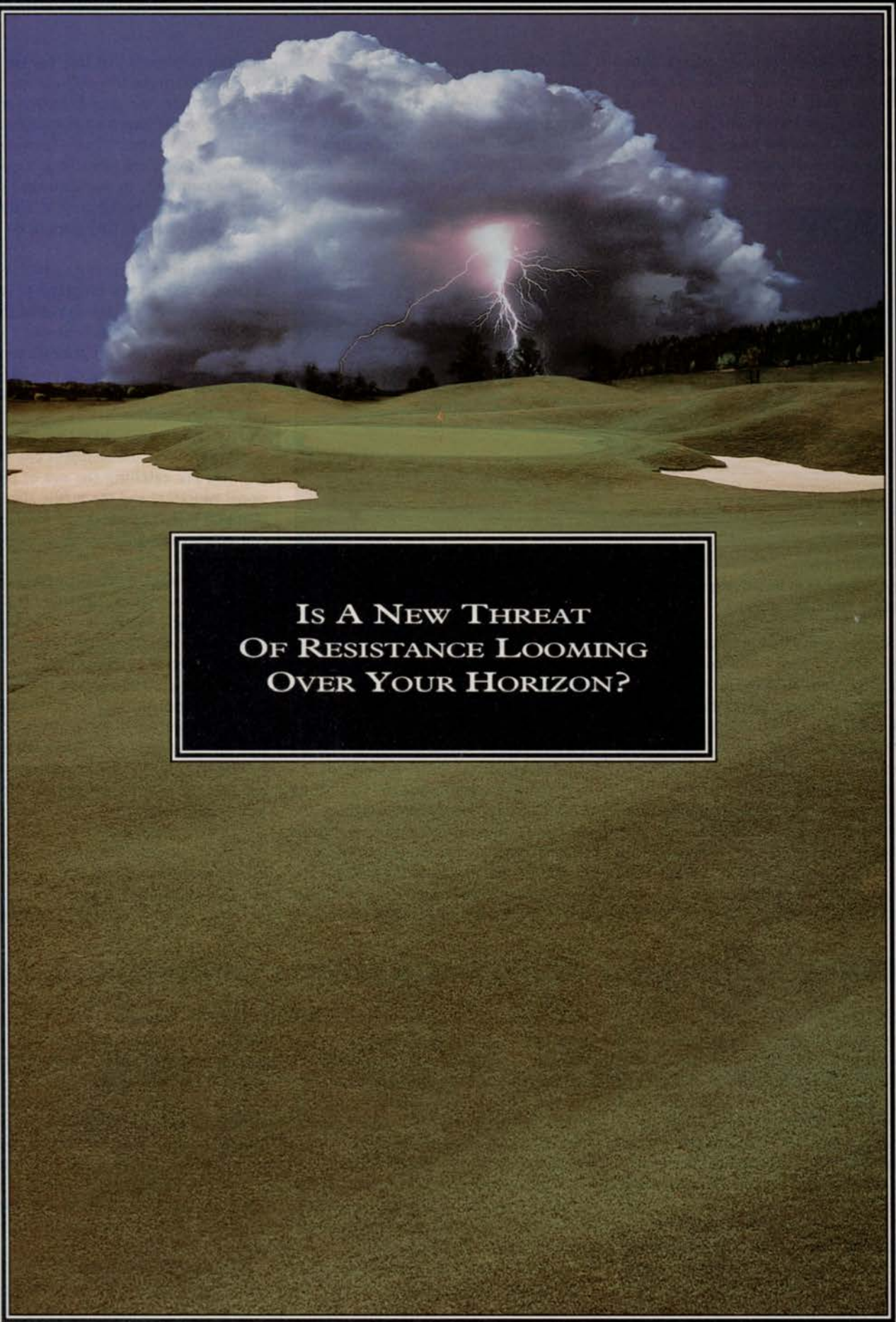
Liability concerns—O'Connor thinks the fear of liability is one reason why city governments seek out a private contractor to apply control products.

"I have a lot of municipalities where the superintendent does have a pesticide license," explains O'Connor, "but he does not want that liability. He'd rather sub it out because (the liability) is not directly on him."

Persons on a notification list must be informed of applications 48 hours in advance.

Timing of control product applications and other work can be tricky when the

continued on page 10



IS A NEW THREAT
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The threat of resistance is very real. Reports are coming in that repeated applications of the same family of fungicides have forced resistant strains of disease pathogens.

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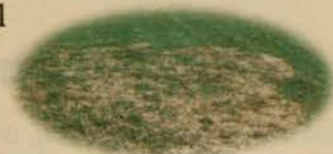
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PRIVATE from page 7

patient is a much-used municipal athletic field.

"These fields are so much overplayed," says O'Connor. "You have soccer from dawn to dusk; we need 24 hours (after the application) before anyone can go on to that field."

Consequently, says O'Connor, applications at 4 a.m. or 6 p.m. are not uncommon.

"Everyone has to get the lawn cut. Crews are so stretched sometimes there's just enough time in a 7:30-to-3 p.m. day. There's no overtime. Manpower is minimal, two, three men for a field."

Stay in touch—O'Connor keeps the Sequoia name in front of prospective muni/school board decision makers via letters or telephone calls.

A free, trial application is not out of question, either. "Let them see what you can do," advises O'Connor.

"Superintendents and public works administrators talk to one another, so there's some opportunity for referral there."

—Terry McIver

On the golf front: 'Leasing' not an easy decision

■ In 1990, after three years of study, the Fort Worth (Texas) City Council voted to lease (privatize) two of its five golf courses to management companies.

Those courses were the Rockwood (27 holes) and the Z Boaz (18 holes). Contracts were eight-year primary terms with two two-year options.

In 1993, City Council asked its Parks and Community Services Department Golf Division (PACSD) to review the feasibility of leasing one or all three of the remaining golf courses: Pecan Valley (36 holes), Meadowbrook (18 holes) and Sycamore Creek (9 holes with double tees.)

At that time, PACSD sent requests for information to 15 different management companies. Comparing the information received, the city decided not to lease any remaining golf courses.

This decision was based on the current performance of the PACSD operations and that leasing the three remaining courses would eliminate the competitive model and the alternative resources necessary to operate the course and protect the infrastructure in the event of a default.

PACSD provides a range of services at its three remaining city-owned-and-operated courses including the sale of golf merchandise, individual and group lessons, organizational services for tournaments, and support for golf associations.

The driving policy at PACSD is service. But costs and efficiency are obviously important, too. All, in fact, must be weighed when comparing self-operation with leasing (privatization).

But there are other issues that aren't so easily factored into arguments either for or against privatization.

For instance, 17 of 55 (about 30 percent) of the city golf course employees were let go because of the leasing of the two municipal courses.

Also, will the private management firm be able to operate the municipal course profitably without raising fees beyond what

entry-level players can afford? Beginning golfers typically start on city courses.

Privatization of golf courses can be more profitable for a municipality than a city's operation if the municipality maintains a policy of recommending fee adjustments on an operational need basis only. However, if adjustments are made in line with a capital improvement program or a predetermined incremental percentage, the profitability differential is eliminated and additional capital improvements and revenues can be realized under city operations.

But privatization is not the cure-all for service delivery. All service delivery decisions must be made on a case-by-case basis.

What works in one city may not work in

another. However, the lessons learned by other cities can be studied to shorten the process of determining a successful approach to service delivery.



—George Kruzick, CGCS, is a golf course superintendent with the Fort Worth Parks and Community Services Department. He spoke at the most recent GCSAA Conference.

continued on page 12

TO LEASE OR NOT TO LEASE?...

Five years of managing "lease" contracts for golf course services allows the Fort Worth Parks and Community Services Department to make the following points:

IN FAVOR OF LEASING:

- 1) Guaranteed income.** The leasing agreement stipulates a specific minimum and/or a percentage of the gross, whichever is higher.
- 2) Profit motive.** A contractor must make a profit to remain in business, and should be alert to new methods, ideas and trends.
- 3) Public relations.** If the course is managed well, the city reaps good public relations.
- 4) Personnel.** The private contractor has more staffing flexibility.
- 5) Purchasing ability.** A contractor can often get supplies and materials faster, and sometimes at a better price if it's a large operation.
- 6) Specialized training.** A contractor can often supply employees that specialize in food and beverage concessions, or golf shop merchandising.

IN FAVOR OF SELF-OPERATION:

- 1) Control.** The city has total control of the type, level and quality of service, prices and products.
- 2) Revenues.** The city receives all profits.
- 3) Personnel.** The city uses existing staff. (In the case of the Fort Worth PACSD this would be over 250 years combined years experience in golf.)
- 4) Commercialism** is avoided in a self-operated course.
- 5) Private profit** at the expense of the public is avoided.

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PRIVATE from page 10

Buying power can mean significant breaks on prices

■ John Fik is grounds and landscape manager for Hobart and William Smith Colleges, and at 10 other accounts of Marriott Corporation's Educational Services Division.

The division services the physical plant, landscaping, housekeeping, and other duties for schools (K-12) and more than 60 U.S. colleges and universities. Its substantial growth has been tied to two factors: excellent customer service and the fact that "colleges and universities want to get back to the business of teaching," according to Fik.

Marriott has a solid legal network to handle issues related to running a physical plant. University presidents, for example, are relieved of union negotiations and other management responsibilities.

The district manager and salesperson survey prospective accounts and make suggestions on how Marriott can improve

bottom line profitability and customer service. It's emphasis on customer service, says Fik, that makes the difference.

"When prospective accounts meet with us, they may not have a budget drawn out, so we cost out the entire program."

The goal is the best possible "curb appeal," which is what Fik believes is one reason students and families choose one college over another.

The savings Marriott is able to pass along varies with the client. It can be tied to energy savings, labor and equipment modifications.

Pricing for materials is competitive due to the Marriott's nationwide buying power.

No threat—The perceived threat that a service like Marriott's causes people to lose their jobs is usually unfounded, says Fik. "We're not there to cut the payroll."

Fik sees one common fault with uni-



Fik: It's in the details.

versity grounds everywhere he goes: no attention to details in the "priority areas,"

especially the tour routes taken by prospective students and their families.

Maybe all that's needed is a consultation, and Fik is happy to help out, but the advice, he says, "is only as good as the manager implementing the plan."

Fik has been certified by the Professional Grounds Management Society one of only about 35 such certifications in the U.S. at this time.

—Terry McIver

Paperwork, suppliers a challenge to municipal contracting rookies

■ At a time when many California landscape contractors are being pressured by recession, Gali Landscaping & Maintenance boosted its business by 400 to 500 percent, and stayed profitable while doing it, thanks to more municipal contracting work.

The company, which broke even on its first two municipal jobs back in 1991, has made at least some profit ever since.

Manager Micky Levy says Gali faced a number of challenges, including mountains of paperwork, disappearing suppliers and the need to reduce the high cost of manual weed control in site preparation.

Gali, established 10 years ago, swiftly built a client base of about 500 small accounts. Then the recession hit California and the economy started to slow down.

"People started to limit service requests, cancel accounts or became past due on bills," says Levy.

To turn the situation around, company founder Tom Rotholz looked into the possibility of landscaping business parks and industrial facilities. He learned of municipal jobs that were up for bid through a private source, and began bidding on those jobs.

New lessons—After losing many initial bids, the company landed its first municipal account when it bid \$67,000,

prompting a city official to claim that the job couldn't be done for that amount.

"We said, 'We know what we're doing. That's our bid and we're sticking with it,'" says Levy. "It turned out we were \$15,000 below [anyone else]."

Fortunately, the project had a separate maintenance component. Gali's bid ended



Levy: Company earned trust of other players in many arena.

up being high enough here to cover the loss on construction.

The second municipal job was also a break-even proposition. Succeeding projects have all been profitable.

Know your suppliers—Levy makes certain suppliers are legitimate. In one instance, a supplier gave "an unbelievably good" price on a large quantity of trees. "We went to pick them up and found that the company had gone out of business," says Levy. "As if that wasn't bad enough, we were quoted liquidation pricing, and the next nearest bid was \$40,000 higher."

Now, Levy is careful to call with specific confirmations before turning in the final bid, and she's extra careful if the price sounds too good to be true.

Levy says agreements with suppliers tend to become much more clear when prices and details are confirmed in writing.

As supplier relationships were ironed out and the municipal workload increased, Gali soon found the need for a different approach with other basic details it had been taking for granted in the residential business.

Faced with the need to control weeds cost-effectively with minimal labor, the company began to use Roundup herbicide for site preparation in place of hand weeding.

"Less than one day spent applying herbicide can save a week of work for one or more people," says Levy, who says the herbicide is a more effective, less expensive method of weed control. **LM**

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LM REPORTS

PGRs offer a variety of options

■ Turfgrass plant growth regulators are becoming more popular everywhere in the green industry, in just about every variety of settings.

Not too many years ago, early generations of PGRs were only used on low-maintenance turf, like roadsides. In the past decade, however, new products have been targeted at medium- and even high-maintenance turf like home lawns and golf courses.

All growth regulators are designed to grow turf that is shorter and denser—turf that looks better, requires less mowing, and results in fewer clippings. Some of the newer products even improve the color of the leaves, since the same amount of chlorophyll is available to what is actually less leaf area.

Most PGRs require multiple applications over the course of a growing season, but you should be careful not to exceed the label limit for accumulative product use in one season.

If you are planning to try a PGR for the first time, make sure to follow label directions carefully, because different rates result in different results that, in some cases, can include phytotoxicity and yellowing of plant leaves.

For more information on the products listed to the right, circle the following Reader Inquiry Numbers on LM's Reader Service Card:

- Limit (The Andersons) . . .#311
- Cutless (Lesco)#312
- Slo-Gro (Uniroyal)#313
- Embark (PBI-Gordon) . . .#314
- TGR (Scott's)#315
- Primo (Ciba T&O)#316

SIX COMMON PLANT GROWTH REGULATORS

COMMON NAME	amidochlor	flurprimidol	maleic hydrazide
TRADE NAME	Limit	Cutless	Slo-Gro
TYPE	I	II	I
MFG./DIST.	The Andersons	Lesco	Uniroyal
¹GRASSES CONTROLLED	FF, KB, RY, TF	AB, BM, BN, KB, RY	AB, BH, BM, FF, KB, RY, TF
TOXICITY¹	3,100 mg/kg	709 mg/kg	6,950 mg/kg
PRIMARY USES	turf growth reduction, medium maintenance areas	poa suppression, turf growth reduction, perennial grass conversion	temporary growth reduction of grasses, trees and shrubs
LENGTH OF CONTROL	up to 6 weeks	2-4 weeks	n/a
COMMON NAME	mefluidide	paclobutrazol	trinexapac
TRADE NAME	Embark	TGR	Primo
TYPE	I	II	II
MFG./DIST.	PBI-Gordon	Scott's	Ciba T&O
¹GRASSES CONTROLLED	AB, BM, CN, FF, KB, RY, TF, ST	BN, BM, KB, RY, ST, ZY	BH, ZY, CT, ST, BM, TF, KB, AR, RY, BN, AB
TOXICITY²	25 mg/kg	5,346 mg/kg	4,460 mg/kg
PRIMARY USES	poa suppression, growth reduction of turf, shrub and groundcovers	on fertilizer carrier for poa control, grass growth regulation	turf growth reduction, seed-head suppression, golf overseeding
LENGTH OF CONTROL	up to 8 weeks	up to 8 weeks	4-8 weeks

¹TYPES OF GRASSES: AB=annual bluegrass; BH=bahiagrass; BM=bermudagrass; BN=bentgrass; CT=centipedegrass; FF=fine fescue; KB=Kentucky bluegrass; RY=ryegrass; TF=tall fescue; ST=St. Augustinegrass; ZY=zoysiagrass

²TOXICITY: LD₅₀, rat, oral

Sources: North Carolina Turfgrass Council newsletter, fall, 1992 (Dr. Joe DiPaola); product labels; Farm Chemicals Handbook '94



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The result? The easiest-to-manage, best-looking turf you can imagine.

It's easy to see why all roads lead to Primo.



Getting and keeping the very best employees... without going broke

by Tom Langer, Jr.

■ Attracting and keeping the very best employees is harder than ever, especially if you hire part-time, seasonal and temporary employees.

A continued national labor shortage doesn't help. Statistics also tell us that the aging of the American workforce will result in a smaller group of people available to work in golf and landscaping. So employers—yourself and your competitors—are looking for the little extras, like employee benefits, that ease the problem without breaking the bank.

Teen labor—For many businesses, high schoolers make up a big share of summer help. They are generally covered by a parent's health care plan and, as such, don't really require health coverage.

Numerous interviews with teens have shown that the number one benefit is flexibility, not money. The ability to leave for social activities is paramount.

The second benefit that attracts teens is the ability to socialize with other teens. Schedule a few minutes before and after work with some sodas and snacks to attract and keep the best high schoolers.

When you hire a teen, you hire his or her family. The more flexible you can be regarding rides, hours and locations, the better.

Collegians—College students, like teens, are often covered by their parent's health insurance. But they, unlike teens, seem to have one primary motivator: money, because they often must pay for a large share of their schooling.

One company pays a 'tuition bonus' if the student stays on all summer.

Some college students think in terms of more dollars per hour, but a little creativity will minimize your expense. One of our clients pays a fair wage, based on the area's average, or a little less. But, assuming a

GROUP	#1 CONCERN
TEENS	flexibility
COLLEGIANS	money
ADULTS	retirement

student stays all summer, the company pays a "tuition bonus." This amount is higher for each summer they return. Using this method, the company keeps people year after year at a manageable cost.

Adults—With adults who are able to assume a high level of responsibility, benefits take on a new importance. Many will come to you in need of health care coverage. You have several options.

You may purchase a group policy; most types are available to groups as small as two. Depending on your state laws, most policies can be written to assume your full-time permanent employees. Part-time, seasonal and temporary employees will generally be exempt.

To hold down expense, consider using a health plan that involves some type of provider network. These providers offer the insurer discounts which translate into lower premiums or better benefits for you.

Many businesses expect employees to pay a portion of their health care cost. Be sure to talk to your insurance professional about a *Section 125, Premium-Only Plan* (any premiums paid by the employee are considered pre-tax, and thus save taxes for both you and the employee).

Or, compensate your key employees so that they can purchase their own coverage. A number of good insurers offer comprehensive, individual policies. One key advantage to you is that the employee owns the policy, and takes it upon leaving the company. There are no continuation issues or paperwork for you, and, since the coverage is written for the individual, there are no minimum participation requirements.

This option is particularly attractive if you or a large percentage of your group is covered under a spouse's plan. Again, many of these plans mimic group plans.

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Retirement concerns—According to pollsters, the second benefit prized by most employees is a retirement plan. Today, with plans like 401(k)s and IRAs, most employees fund a large portion (if not all) of their own retirement.

As an employer, funding retirement plans is optional, yet studies show these plans increase employee retention.

If company finances prohibit plopping a large amount of money into a retirement plan, consider using a list-bill, IRA-type arrangement in which each employee owns his or her IRA with little or no cost to your company. Employee contributions are deducted from payroll and a single check is submitted by the employer. Because of the payroll deduction, many who haven't saved for retirement may appreciate the discipline.

Disability coverage—Another benefit that frequently costs little but has a huge perceived value is long term disability coverage. This is an especially big concern for younger workers or those who don't earn a great deal of money, since they have likely not had an opportunity to save money themselves.

Long term disability can be arranged with a variety of benefits and benefit periods. Costs can be one percent of payroll or less. While your company out-of-pocket expense is minimal, employees recognize the benefit of having their income protected in case of injury or illness.

Owners often recognize that a key

continued on page 18

GOLF & ATHLETIC TURF

Sodding vs. seeding: the pros and cons

Seeding and sodding are both viable alternatives to repair damaged turf and establish new turf. Here's how to choose.

■ To choose whether to seed or sod new or replacement turf areas, weigh the pros and cons of each within the framework of existing seasonal conditions, site considerations, use demands, and labor and budget constraints.

Paul Zwaska, head groundskeeper for the Baltimore Orioles, usually leans toward seeding.

"Seeding entails low labor and low material costs," he notes. "Variety selection is broad. Seeds sprout directly into the soil, developing their entire root mass in the existing 'virgin' soil. There's no initial thatch layer. Seed can be used to thicken and strengthen existing turf.

"Timing affects seeding success. Early spring seeding on bare ground may expose young plants to summer's heat before they mature enough to handle that stress. Overseeding in the spring may be more successful because existing turf helps protect tender seedlings. Fall bare-ground seeding benefits from more moderate temperatures and humidity levels.

"Because seeded turf is embedded in the soil, it can adapt its growth rate to conditions, unless young seedlings are one-half inch or smaller, or have just broken germination.



Though seeding is less expensive, you have a larger installation window if you choose sod.



"Weed competition is greatest with bare-ground seeding. A few scattered weeds can be pulled by hand. Control product applications for severe weed infestations must be postponed until after the seedlings have matured.

"Patience is needed to establish turf from seed. The period from seeding to usability will depend on the type of seed, the degree of cooperation from weather conditions, and the level and frequency of turf use.

"Site conditions may limit choices. Seeding isn't the best option for slopes, though seeding is possible by using stabilizing products."

If 40 to 50 percent of the existing turf is still in good shape and time is sufficient, Zwaska prefers seeding to sodding. He feels the grass plants are stronger due to superior root development into the on-site soil.

"Sodding provides instant gratification, and the installation window is longer," Zwaska says. "Initial material costs are higher with sod, and sod installation is

continued on page 4G

ELSEWHERE

**Telling golf's
'good story,'
page 6G**

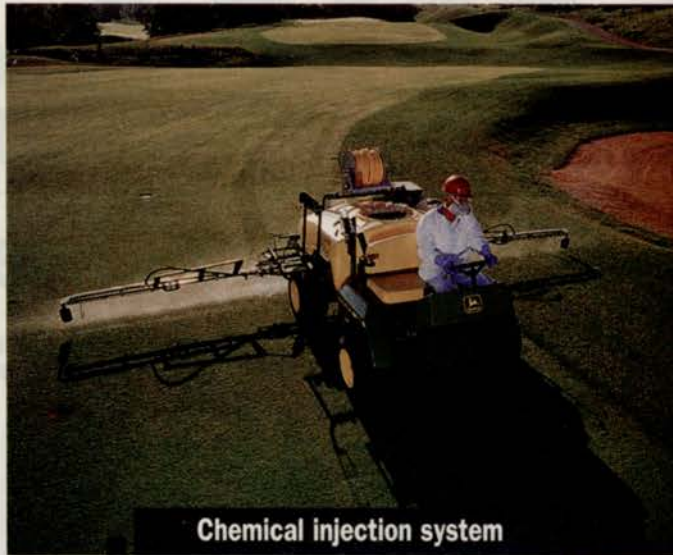
**Installing a new
football field,
page 10G**

**Interviewing for
top golf jobs,
page 14G**

**GCSAA show
wrap-up notes,
page 16G**



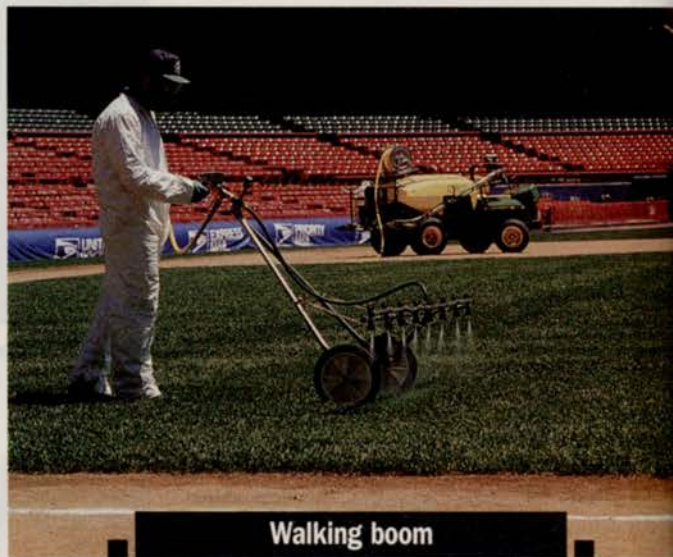
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Chemical injection system



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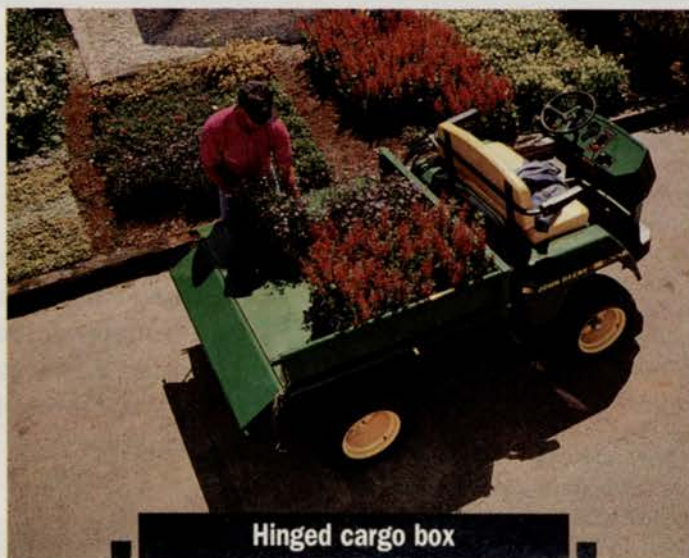
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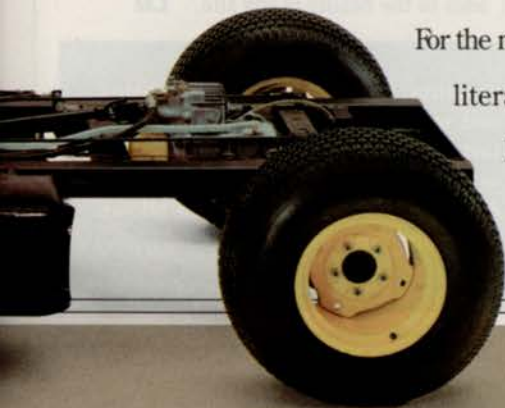
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Some equipment photographed at Blackwolf Run, Kohler WI

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SODDING from page 1G

more labor-intensive. Sod, with a larger top mass, may have a higher evapotranspiration than roots can handle. Diligent watering will be needed until turf roots leave the 'comfort zone' of the sod's soil and extend into the soil below."

If you're sodding, the soil of the sod needs to match the soil profile of the site, Zwaska continues. "An interface layer can form between two different soil types, restricting root growth and water infiltration.

"(But) sod may be the only viable option for certain conditions such as a sports field with heavy wear or exposed soil surfaces. In these cases, existing vegetation should be stripped and sod installed."

The other side of the coin—John Huber, president of Huber Ranch Sod Nursery in Schneider, Ind., naturally leans toward sodding.

"Sod can be installed any time of year as long as the sod grower can harvest it," Huber says. "With seeding, germination is limited to the grass growth cycle.

"Sod offers uniformity of coverage and fast usability. Low traffic sodded turf sites may be usable after two or three weeks. High-use areas with bare ground seeding may take up to a year for sufficient turf establishment."

Huber's alternatives to standard sod:

"For high-use situations, such as sports turf, washed sod provides faster rooting into the soil profile and thus faster usability. Washed sod also keeps the soil type 'pure,' avoiding interface formation.

"Where erosion is a special concern, washed sod also will root in more quickly. On a steep slope, both standard and washed sod should be staked to ensure stabilization during the rooting process.

"Big roll sod—42 inches wide and up to 129 feet long—can reduce labor installation costs. Three-person crews using a three-point hitch attachment or walk-behind installation equipment can install big roll sod at the same rate as a 10-person crew with standard rolls. Obviously, there are fewer seams with big roll sod, produc-

THE PROS:**SEEDING**

- less installation labor
- broad variety selection
- low material (seed) costs
- adapts easily to conditions
- no interface soil layer formation

SODDING

- uniform coverage
- instant fix
- good for slopes
- larger installation window
- less weed competition



For high-use areas, washed sod provides faster rooting into the soil profile.

ing a 'finished' appearance faster."

Turf variety selection needn't be limited with sod, according to Huber. "Sod producers," he points out, "may be willing to grow on contract, producing specific cultivars of certain varieties grown on a precisely-developed soil profile and following a precise maintenance program. Costs for this service will be higher and payment generally is made 'up front' to ensure a home for the finished product."

Both Zwaska and Huber agree that

selecting seed or sod depends on a project's priorities. If use requirements are slower, seeding is a viable alternative. If costs are a major factor, seeding is a viable option. The more immediate the demand, the more likely sod should be used.

"Whether seeding or sodding," Huber concludes, "turf provides multiple benefits. It removes pollutants from the air, cleans the rain water to keep impurities from the groundwater, limits run-off and adds to the beauty of any site." **LM**

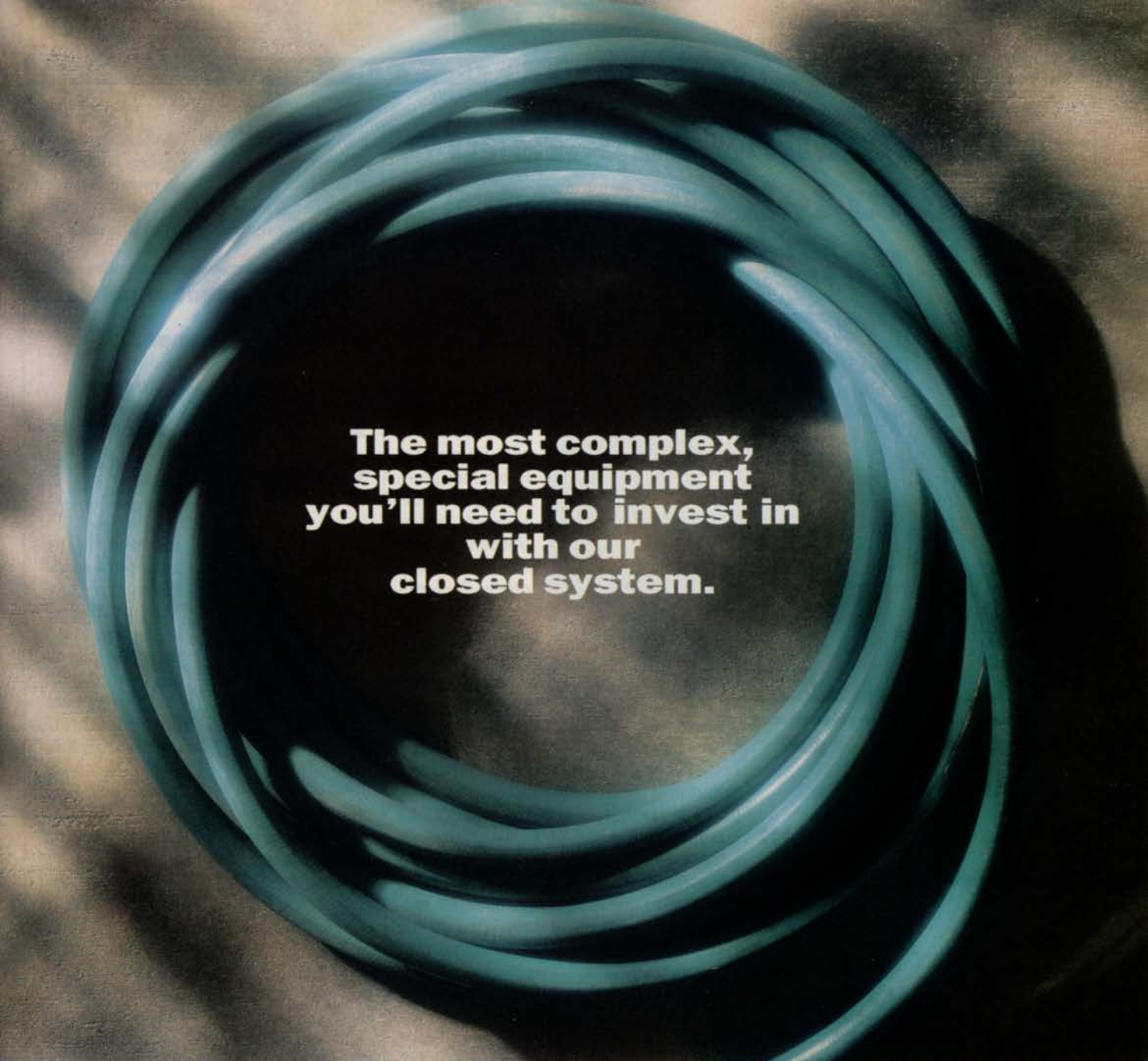
The SquAyers alternative:

■ "Thick cut sod offers greater stability when quick use is needed in high-traffic areas," notes John Huber.

"A new alternative is SquAyers. These are four-by-four-foot squares of mature turf, rooted into a four-inch-deep sand rootzone reinforced with Netlon mesh elements.

"They provide the fully-turfed surface of sod with immediate surface

stability and load-bearing qualities and instant usability. The blocks of turf can be used to replace damaged or worn areas on high-use locations. A lift-and-place 'grab' system allows quick and easy installation."



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Public course supers are urged to tell customers about golf's 'good' story



this past February that the aging of baby boomers favors golf's continued popularity into the foreseeable future. But to continue growing, golf must address issues troubling some of the American public. Superintendents can help in this education program, particularly at public courses. That's

While the number of golf courses keeps growing, the public—including a lot of golfers—still has concerns.

■ The number of U.S. golf courses continues to grow, but the number of golfers and the number of rounds they played the past five years remained flat.

Golf course superintendents can spark golf's renewed growth by being more proactive in their communities, by inviting school groups to their courses and by speaking to local civic groups and clubs, said an official with the National Golf Foundation, Jupiter, Fla.

Richard Norton, the foundation's vice president of operations, told about 300 superintendents here

where golf shows its greatest future growth potential.

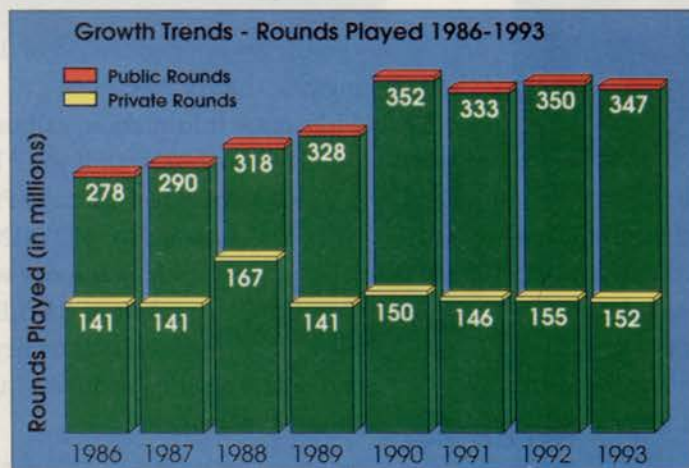
"Public golf is where the action is," said Norton at the GCSSA Conference.

For example, 80% of the nation's 24.5 million golfers play on public courses. Of the 381 new courses (or courses undergoing expansions) in 1994, 335 were public.

"Public golf is the entry point for millions and millions of Americans to the game of golf," said Norton, adding that even here, there are some glitches.

For instance, only 21% of public golfers are women compared to 33% at private clubs.

"We in the golf industry must do a better job of welcoming and developing female golfers at our public courses," said Norton.



Also, 54% of public golfers describe themselves as occasional golfers compared to just 10% for private club members.

"We must also look again at existing players, the large number of people who come in

Only 21 percent of public golfers are women, compared to 33 percent at private clubs, according to NGF research.



Richard Norton:
'We tend to be perceived as exclusive.'

and out of the game over a period of years," said Norton. "We have to find ways to get these people to play more rounds."

Although public golfers outnumber private golfers by almost four to one, they spend far less per golfer to play the game.

This is evidence that golf is

not exclusive, said Norton.

The NGF estimates that public golfers spent \$530 each, generating \$10.4 billion this past season. Private golfers spent about \$2,610 and totalled \$4.7 billion.

Another misconception that superintendents can help correct is the view that golf is "environmentally insensitive." This could be tougher.

NGF surveys show a surprisingly large number of golfers aren't convinced that golf courses are, themselves, "good for the environment." In fact, 41% of public golfers and 22% of private golfers described themselves as neutral to the issue. And, 23% of both categories feel that golf courses use too much water, while 34% of public golfers and 23% of private golfers feel that fertilizers and chemicals used on golf courses pollute lakes and streams.

Again Norton called on superintendents at public courses to reach out to golfers and non-golfers alike in the communities in which they work, and help deliver golf's positive message.

—Ron Hall

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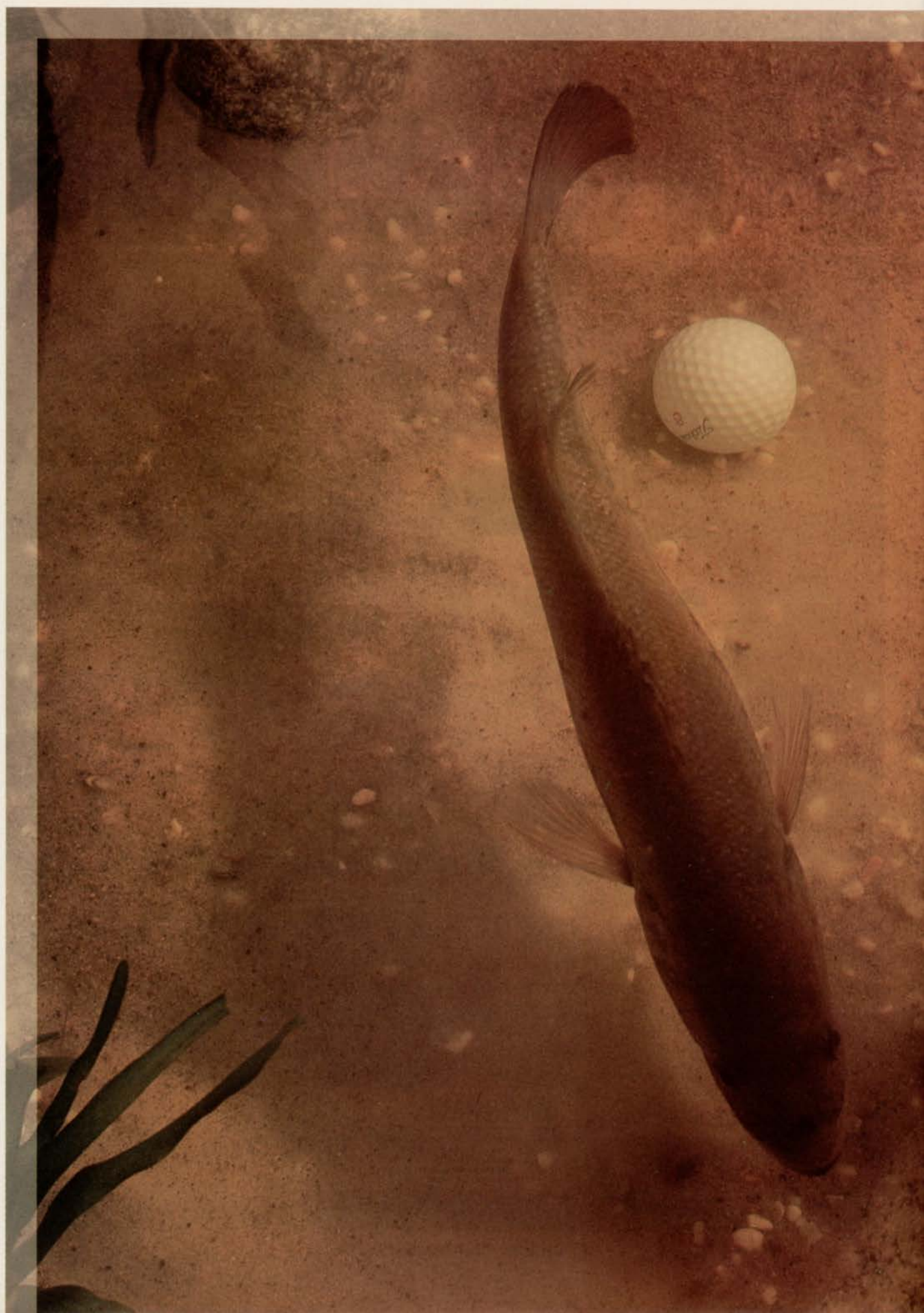


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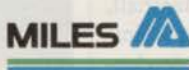
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Do it for those in golf who actually like landing in trees and
splashing in water hazards.



Sand-based field holds up to heavy play all season



Memorial Stadium's final game of the season, and traffic stress is hard to find. Note synthetic turf over a padded asphalt base for the sidelines.

Forty-eight years of play and a high-sodium clay soil lead to installation of a sand-based field.

by Ken Walter

■ The City of Fremont (Neb.) Parks Department tried aeration, top dressing and soil conditioners on the compacted soil at Memorial Football Stadium in the 1980s and early 1990s, but nothing would soften the soil. A complete soil replacement in 1993 was the solution.

The city developed Memorial Football Stadium in 1947 for two high schools and a Division II college team. Very limited field improvements had been made since the original construction, and a high sodium silt clay crown caused serious problems in the 1970s.

By the '80s, the field's root system could not penetrate beyond two inches, and poor footing endangered the players. On rainy weekends, the center of the field and bench areas would become bogs.

Complete overhaul—Mark Altman of Altman & Altman Consulting, Marshall, Minn., was hired to examine field specifications and manage seeding and turf development. Bids were let for the installation of a sand-based field and conversion of the old

cinder track to a new polyurethane track. The total project price was \$587,000, with the sand-based field development costing \$187,000. Dollars to fund the project were generated by revenues from keno gambling.

The field was demolished and excavated to a depth of 12 inches. The old irrigation system was replaced with a new system using Toro 644 heads. It was installed in the top 12 inches, to avoid contaminating the growth media with soil. Goal posts were moved to a practice field, and new, narrower-spaced posts were installed.

The sub-base was graded to approximate the final field grade, and conduits were installed for the various communication and utility lines. Four-inch perforated drain tiles were laid in 12-inch-deep trenches and back-filled with gravel. They were spaced in a herringbone pattern 25 feet apart. These



Four-inch perforated drain tiles were laid in 12-inch deep trenches.

collector drain tiles were connected to the storm sewer main around the field's perimeter. Inlets were then placed to pick up track run-off. A hardboard form at the field's perimeter separates the track's rock base and the playing surface's growth media.

The next step: 3,034 cubic yards of "G" sand, a mix of 10 percent reed sedge peat and 90 percent screened sand. The sand mix was graded to a depth of 12 inches. Again, special care was taken to keep soil out of the growth media.

Quick germination—Altman directed the fertilization and seeding. Fertilizer was incorporated into the top three inches of the growth media and watered in. On June 3, pre-germinated bluegrass seed was broadcast, followed by a seeding of perennial ryegrass drilled in four directions.

Drill and tire marks were smoothed over with a drag mat. The field was then hydromulched and watered frequently during the daylight hours.

The results were amazing. The seed was up in four days and mowed 15 days later.

The first game was played on September 3, 91 days after seeding, when the roots reached a depth of seven inches.

The turf continued to improve as the season progressed, in spite of a heavy early schedule. On occasion, three weekend games were played.

We held our first national NAIOA playoff game on November 19. The young field came through the season with no damage and very little wear from game traffic. We played 17 games on the new field in the first season; two of them were played during rainfall, and the largest area of damage was no bigger than a dinner plate.

The turf will continue to improve over the next three to four years, as more organic matter builds from the maturing root system. Problems can arise quickly, but control treatments react well, which requires a plan that is similar to managing hydroponics:

- Soil and tissue tests taken frequently during the first and/or second year.
- Small amounts of fertilizer every 10-14 days until holding capacities improve.

After seeing how well the fields played during the season, two other colleges in the conference are considering building similar fields.

—The author is superintendent of parks and recreation for the City of Fremont, Neb.

Problem solving on turfgrass fields

■ The successful management of turf subjected to high traffic requires the application of certain fundamental cultural practices. As the demand for facility quality goes up, the respective demand for turf quality also increases. At these times, cultural practices and resource input go beyond the basics.

Traffic—Turfgrass consists of three traffic components. They are compaction, wear and shear. **Wear** is the tissue injury from pressure, tearing and scuffing. **Shear** causes soil and root displacement and the dislodging of the verdure.

Compaction is a subtle effect of traffic. Traffic causes an increase in soil bulk density, soil lateral strength, total water holding capacity and lateral rooting. It causes a decrease in soil aeration, infiltration, soil temperature (compacted soils are cold and wet), root depth, and total turf roots.

Playability—Sports traffic reduces turf cover. Once this happens, playability is reduced, with a decrease in traction or footing. Traffic also causes erratic ball bounce and roll, and poor uniformity of playing characteristics.

Field safety—In the effect of reducing turf cover, sports traffic decreases impact absorption and footing, while creating a non-uniform surface. In 1984, there were more than 98,000 football injuries reported by hospital emergency rooms. No one knows how many could have been prevented by a good playing field, but their certainly were many that could be blamed on a poor one.

Species selection—Traffic tolerance of turfgrass species varies a great deal, including an often wide variability within species. Where they have been adapted, the new perennial ryegrasses have superior durability and the Kentucky bluegrasses have good ability to recover from injury. The elite tall fescues are still considered to have a coarse texture, but have proved to be the more durable species in selected climates.

Fertilizers—Traffic, durability, playability, aesthetics, recovery, ability and field safety require high vigor in turf. To get that vigor, plant nutrient requirements are high. A common recommendation for nitrogen in one pound of actual N per



Aeration can make all the difference in the world—like at Camden Yards.

1000 sq. ft. per each month of growing season. This is probably the highest practical rate for most fine turfs. The other nutrients most needed on turf are phosphorous, potassium and iron. Potassium is an important ingredient, particularly on sand and modified rootzones. Potassium applications equal to the rate and frequency of N are usually recommended.

On well-drained (eg., sandy) soils, the sports turf will require as much potassium as nitrogen.

When the soil temperature is high enough for root and rhizome growth, the total nutrition available to the plant should be high. The recommended soil pH for high traffic turf is about 6.5. At that pH level, most nutrients present in the soil will be available to the turf. If pH is too high or too low, the appropriate adjustments would be made to the soil.

Irrigation—As "quality demands" of high traffic turf increase, more attention is given to irrigation. Water stress from

drought, summer heat, or wind can be devastating to this kind of turf. Even in areas where irrigation is not common, an irrigation system will be necessary to produce a sports field capable of supporting high traffic.

Aeration—High traffic turf soils are subject to severe compaction. Hollow tine coring is the most effective technique for compaction relief of sports fields. Solid tine aeration and water jetting are used.

Because core aeration is slow, labor intensive and messy, there are practical limits as to the frequency. On loams or heavier soil, coring should be done after every fourth or fifth football game, or eight baseball or soccer games.

In youth soccer, where there may be eight games per day, it may only be practical to aerate once each month. Sandy soils need aeration to keep the surface from sealing.

Topdressing—If the field is to be topdressed, it is usually done after aerating, with hollow tines, to add a loose soil to the effective rootzone, and to help maintain a true playing surface.

Mowing—Mowing is the most common practice and must be done on nearly all turf installations. The frequency of mowing is determined by removing less than one-third of the blade length at any one time.

For example, if the mower is set to 1.0 inches, the grass would be mowed before it is 1.5 inches tall. If that takes a week, that is the proper frequency. Mower height should be measured from a hard level surface to the top of the bedknife on a reel mower and to the bottom of the blade of a rotary.

Patterns of lines, squares, and cross-hatching can be made with a skillful use of the mower. When done well, patterns leave a good impression with players and spectators, and help instill pride in the facility.

Thatch—Thatch is a layer of undecomposed organic matter. Thatch can prevent water and fertilizer from going into the soil and may also stop oxygen exchange in the rootzone, which would result in shallow roots and weak turf.

Thatch on high traffic turf is a valuable impact absorbing safety pad, and mass for wear resistance. Undesirable on most turf, thatch is an asset on high traffic turf. The players do a more than adequate job of preventing the thatch from becoming excessive.

—Steve Cockerham, Ph.D., University of California, Riverside, in "Turfgrass Topics."
(Photo by Erik Kvalsvik)

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■ If you're about to begin a search for a new career opportunity in the private or resort golf course market, make sure you "look" before you look, advises David Stefan, president of Chase America, an executive search firm based in Jupiter, Fla.

In other words, consider your options. Opportunities in golf now go beyond the usual "superintendent" classification, and include positions with golf course developers, construction firms and design/architectural firms. You might even want to consider a job with a supplier, in product development or sales.

"These groups [often] hire people with backgrounds such as golf course superintendents," says Stefan. "The superintendents serve as project managers, construction superintendents, design coordinators, golf course designers, independent consultants or property managers."

Salaries in any of these positions will

vary according to the location and overall job prestige and description.

More and more, a golf course superintendent's knowledge has to go beyond turfgrass science.

"A private club has a greens chairman and someone who reports to the general manager or greens chairman," says Stefan.

"At a resort, you report to the vice president of operations, who might not know you or understand what you do [as far as turf is concerned]. But he's looking for the skills that he's most interested in: your business skills.

"He doesn't ask whether you can grow grass," says Stefan. "He assumes you can do that. He wants to know if you can do zero-based budgets, and capital equipment appreciation and evaluation."

"Property manager" is another job title that needs a variety of responsibilities, depending on the property to be managed. If you manage the property for a homeowner's association, you consult with the association members and are responsible for their lawns, trees, streets, sewer maintenance and the landscaping. If there's a golf course as part of the development, throw that in as well. Stefan suggests a qualified property manager/superintendent can earn between \$90,000 and \$120,000.

Product, packaging & value—At this point, you're not talking about a pallet of

Stefan: Some jobs require business smarts.



fungicide or a new greens mower. *You* are the product. And you have to dress well and be well-spoken. Leave the casual wear at home, and dress in a suit and tie.

What do you bring to the table? How do you maintain the facility? Talk about your crew.

You're going to need two resumés:

1) The short version is sent before you arrive in person. It's one page in length, and lists your career objectives, significant accomplishments and experiences, and education.

(Do not list marital status, religion, birthdate, the year you graduated or any other date which can place your age. This is not required information.)

Include a cover letter of introduction.

2) The long version includes references, specific dates of employment, with no lengthy gaps in your work record. Mark it "Confidential," and leave it with the company representative before you leave—only if you think you'd like to work there.

If you'd rather they didn't contact your present employer right away, ask them not to do so until after they decide to hire you.

You might include a letter of recommendation with the longer resumé, as well as copies of training certificates and awards you've earned.

At the interview—"Image supersedes reality," says employment consultant Jack Kaine. He believes that anyone looking for new opportunity should perfect:

- how you look,
- what you say,
- what you present to a prospective employer (resumés; letters), and
- how you prepare.

Be positive, enthusiastic and confident. A recent "USA Today" survey found that attitude carries more weight with a prospective employer than your work experience and a personal recommendation.

A positive attitude, says Kaine, starts

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-Source: David Stefan, Chase America

continued on page 16G

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INTERVIEWING from page 14G immediately with your thought process.

"Just think about the person you most like to work with. Do you think about their strengths or their weaknesses; your similarities or your differences?"

The way you present yourself, and your perception of the employer will ideally lead to what Kaine calls, "an agreement of the minds." Call it empathy, or hitting it off or clicking. "If it's a successful meeting, it'll work for everyone."

Take control. Don't just walk in, shake hands, sit down and wait for the interrogation to commence, says Kaine. Better to take charge, but in a positive, assertive way. Don't be aggressive, demanding or obnoxious. At the very least, you must make a good first impression.

Kaine: Listen more than



you talk.

The person who speaks first "sets the tone of the meeting." But don't comment about the weather or how long it took you to find the place.

Say something that helps you get control.

The more questions you ask, the more you will be able to control information, time and climate; and steer the direction and content of the information exchange.

Listen. The person who listens the most and best will always have the greatest effect, because they have information. "If you listen more than you talk," promises Kaine, "you increase the probability of getting the job."

Never argue, but ask questions to further your understanding. Ask "what?" questions, not "why?" questions, and let the interviewer know what you're trying to learn before you ask a question. And get permission to ask questions. (For example, "Can you share that information with me?")

Practice with a friend. Role play.

"You know you've done well," says Kaine, "when you can state their case better than they can."

Kaine and Stefan lectured during the recent GCSAA trade show and conference in San Francisco.

—Terry McIver

GCSAA

convention wrap-up

SAN FRANCISCO, FEB. 20-27

New officers

Gary T. Grigg of the Royal Poinciana Golf Club in Naples, Fla., was elected president of the Golf Course Superintendents Association of America during its annual meeting.

Grigg told the GCSAA membership that his goals this year would be in five areas: the environment, membership growth, image, government relations and growth of the annual conference and show.

Immediate past president Joe Baidy of Acacia Country Club, Lyndhurst, Ohio, will continue to serve on the board of directors.

Other new officers: Bruce Williams of Bob O'Link Golf Club, Highland Park, Ill. (vice president); Paul McGinnis of Union Hills Country Club, Sun City, Ariz. (secretary/treasurer); and directors Dave Fearis of Blue Hills Country Club, Kansas City, George Renault III of Burning Tree Club, Bethesda, Md., Tommy Witt of Wynstone Golf Club, North Barrington, Ill., and Michael Wallace of Hop Meadow Country Club, Simsbury, Conn.

Golf tourney winners

Todd Barker of Fore Lakes Golf Course, Taylorsville, Utah, shot an even-par two-day total of 144 to win the Division A flight of the GCSAA Golf Championship. Barker, son of the 1977 GCSAA champ, is a top amateur golfer in Utah. The 45th annual event was held at five courses in Monterey, Calif. Other individual winners:

Division B: Greg Hall of Renton, Wash. (gross) and Dennis Vogt of Cherry Hills, Colo. (net); 1st Flight: Scott Wagner of Silver Springs, Md. (gross) and Fritz McMullen of West Bloomfield, Mich. (net); 2nd Flight: Sean Remington of Chevy Chase, Md. (gross) and Ed Cimoch Jr. of Mount Cobb, Pa. (net);

3rd Flight: Paul Jamrog of Blechertown, Mass. (gross) and Ivy Latham of Allen Texas (net); 4th flight: Dennis Flynn of Katonah, N.Y. (gross) and Tim Powers of Pound Ridge, N.Y. (net); 5th Flight: Ron Garrison of Center Valley, Pa. (gross) and Scott Woodhead of Belgrade, Mont. (net); 6th Flight: Roger Stewart Jr. (gross) and Trevor Oxtoby of Vienna, Austria (net);

Senior I: Alan Andreasen of Mission Viejo, Calif. (gross) and Mike Bavier of Palatine, Ill. (net); Senior II: William Johnson of Plymouth, Minn. (gross) and Ken Goodman of Wheeling, Ill. (net); Super Senior: Clete Idoux of Granite City, Ill. (gross) and John Grant of San Rafael, Calif. (net); Affiliates: Dave Bingham of Fresno, Calif. (gross) and Jim Davis of San Diego, Calif. (net).

On the international scene

Leaders of the world's golf course management and greenkeeping organizations met during the annual show. The "summit" focused on three subjects: golf and the environment, the education of superintendents and the status of the superintendents' profession.

During the meeting, the GCSAA received specific requests from several countries:

- Argentina requested permission to reprint GCSAA technical articles;
- Australia requested that all information traveling over international borders be sent through national governing bodies;
- Sweden asked for copies of all turf and equipment research;
- The U.K. asked the GCSAA for information on certification, and to consider common standards for certification; and
- Uruguay asked the GCSAA to continue its educational visits.

LAWN & LANDSCAPE INDUSTRY

Extended warranties on plants can be another profit center



Most contractors offer season-long or one-year free replacement, but this idea is raising interest.

■ The practiced eyes of Wally SaBell, 47 years in the landscape business, tell him that the hollies will die.

Even before summer arrives, they'll die along with much of the other plant material at the newly-opened chain restaurant on the busy Denver street. An out-of-state crew—the restaurant managers says it's an in-house operation—didn't match design and plant selection with Denver's high and dry climate. The cost in both labor and materials to replace the plants with more appropriate selections will be great.

Who will pay these costs?, asks SaBell rhetorically.

This case, admittedly extreme, illustrates the importance of landscape warranties. They're not to be taken lightly, SaBell believes.

Landscape contractors don't subscribe to a single philosophy in guaranteeing their plantings or their work. How can they? The variety of services they offer, and the uniqueness and size of the projects they tackle make this impossible.

For instance, a few years back SaBell's firm landscaped a 13-block-long mall project in Denver. One element of the project was planting 270 six-inch-caliper trees (among other things). As the specs required, SaBell had costed 27 extra trees into the bid. He kept these trees readily available. As it turned out, he lost just a single tree, and that was prior to installation.

More fortunately, SaBell says, just after the final tree went into the ground, his firm, in a separate contract, began maintaining the site.

"Many times, a contract will go out without a provision for the maintenance to be done by the contractor who installed it," says SaBell, now in his mid-60s and very active as a landscape consultant. "That's unfair to the contractor. It can also be unfair

continued on page 4L

Warranties protect a property owner's investment.

Courtesy Post Properties, Atlanta



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

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

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

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



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WARRANTIES from page 1
to the eventual owner of that property."

But some landscape pros have neither the expertise nor the resources to bid such ambitious projects. Also, some contractors don't offer maintenance services.

It's no wonder that they can feel caught in the middle—sometimes implementing a design that isn't their own, then relying upon the property owner, or another contractor, to maintain the integrity of their installation, at least through the warranty period.

Even so, landscape warranties, whatever their particulars, are almost as common as landscape companies.

Warranties offer protection for property owners. They may also indicate that the contractor is confident of his/her service. But, most importantly, they allow the contractor to compete in the marketplace.

There are complications though, although few probably as clear-cut as these examples:

- The new landscape that isn't watered for three weeks because the property owner went on vacation.
- The freshly planted evergreens that turn brown because the family collie finds it a convenient place to urinate.
- The young tree girdled by the dog chain wrapped around it.

Typical is the warranty offered by Patrick McGrady's Pro Green of New Castle, Ind.: one year on plant material. A longer warranty can be arranged if Pro Green maintains the property, too.

Environmental Design's Joel Lerner: Why shouldn't the customer have the option of buying an extended warranty?



"We have to use some judgement," cautions McGrady. "We have to look at the job itself. For instance, if it's a nice-sized job and it's a valuable client, we don't ask a lot of questions. We just take care of it."

Deanna Walker of Turf Tenders, Bellingham, Wash., says her firm guarantees their plantings for one growing season. "We will give an added warranty if we maintain it for a full year," she says, adding that seasonal, or one-year free replacement is "pretty typical" in her marketplace.

A new idea—But Joel Lerner, president of Environmental Design, Chevy Chase, Md., wonders why a warranty can't also become an additional profit center for a contractor.

He says he's considering developing "an extended warranty" plan similar, in purpose anyway, to those offered by auto or appliance dealers.

The landscape contractor, most simply explained, calculates the cost of the "extended warranty" into the original cost of the project, and presents it to the potential client as an option.

"What if we offer an extended warranty and on the warranty we stipulate that we'll do site inspections on a scheduled basis. And we'll provide the customer with plant condition reports," says Lerner. "Maybe on this warranty we can write in a plant replacement clause to."

Clients buying an extended warranty afford the contractor the opportunity to stay in touch with them.

"I think it would indicate to the client that we want to see this property as much as we can to make sure everything is right," adds Lerner.

"Why not?," says Greg Carlson of Carlson Landscaping, Duluth, Minn. "Extended warranties are done for just about everything else."

Even so, his warranty remains similar to most others in his northern Minnesota market, one year on plants and related services.

"You have to say that you'll stand behind your work, then honor that. Otherwise you'll never get a job," Carlson says.

Most contractors, in fact, agree that a long-term warranty program will work—as long as they're getting paid for it.

—Ron Hall

Fighting weeds...and fires, too?

Lawn care technicians find that volunteering for the local fire department is a rewarding avocation.

■ What does Curb Appeal, a professional lawn care company, and the Stafford, Va., volunteer fire department have in common?

They're staffed by some of the same people, including Curb Appeal owner Charlie Robertson, a 20-year fire department veteran.

This spring marks the fourth year in
continued on page 6L



'We work our jobs on a contractual basis,' says Charlie Robertson.

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CURB APPEAL from page 4L

business for Robertson and his lawn care company. In addition to Robertson, Curb Appeal consists of 7 to 10 part-time employees. All, with just two exceptions, are also volunteer fire fighters.

One of the exceptions is a county deputy sheriff. The other is a local high school senior that Robertson selects each season to learn the business. Last year's student employee is in college and now a volunteer fire fighter also.

Curb Appeal provides mowing, pruning, mulching and light installation and other maintenance services in central and northern

Stafford County, a county of about 75,000 people. It's located on the north side of the Rappahannock River from Fredericksburg, and about 30 miles south of Washington D.C.

The area is rich in history. George Washington's boyhood home is nearby, along with sites of important Civil War battles. But, it's not too rich to live in. In fact, Stafford has become one of the communities of choice for career firefighters from larger communities in the northern Virginia/Washington metropolitan area.

The need is there—Robertson says as the community grew and became more prosperous, so did its need for a top-notch lawn care provider.

"There is an abundance of gypsy mowers and individuals out here with a pickup truck, weedeater, and blower. They have little or no background in the business,"

says Robertson.

The unique schedules of career fire fighters allows Curb Appeal to fill this growing demand for reliable lawn care services.

"The fire fighters and law enforcement personnel make excellent employees," says

Robertson. The unique schedules of career fire fighters allows Curb Appeal to fill this growing demand for reliable lawn care services. "The fire fighters and law enforcement personnel make excellent employees," says Robertson. The fire burned eight acres of woods and two storage sheds but was contained before it reached three large homes. Fire fighters were at the site for three hours. There were no injuries.



Fire fighters and law enforcement personnel already know how to deal with clients.

Robertson. "They're highly responsible. They know how to deal especially well with clients. They know how to work with and, in many instances, repair the equipment on the job site.

"They take pride in their appearance and project an exceptional image for the company."

What happens when Curb Appeal technicians get an emergency call that they must answer?

They secure the equipment, head for the fire station, get on the apparatus and respond, explains Robertson. When they're finished with the emergency, they put the fire fighting equipment back in service, then return to finish the lawn maintenance task.

Ready for action—For example, last fall Robertson and three other technicians were pruning trees at the county government

reached three large homes. Fire fighters were at the site for three hours. There were no injuries. The technicians don't respond to every call. Some calls, by their nature, are routine and handled by other volunteers, says Robertson.

But, when they're needed, they respond to emergencies whether it's an infant locked in a car or the freeing of a trapped accident victim.

"Our clients are understanding," says Robertson. "We work our jobs on a contractual basis, not by hourly rates."

It's not uncommon on a work day to see Curb Appeal respond to an emergency still dressed in their Curb Appeal shirts and baseball caps, says Robertson.

—Ron Hall

New, bright colors for a new season

With so many ornamental varieties on the market, it's easy to give commercial properties a completely new look every season.

■ Seasonal color displays can make a commercial development stand apart from all others.

Perimeter Center, a 400-acre suburban office and retail complex in north central Atlanta, demonstrates how color can be changed each season for a new look. Vibrant color combinations in mass plantings and the use of a central color theme give the Perimeter Center landscape its vitality and eye appeal.

Each year new varieties renew interest

in the landscape.

The fall flower varieties are more limited, primarily, pansies, violas, parsley; thyme; mustard; kale; snapdragons and bulbs.

In plain view—Since flower color draws attention, the location of the beds on the property is also important.

Most of the beds at Perimeter Center are located in prominent areas along the main drive, at the base of pylons that mark

continued on page 10L

ZTR 2301



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in high concentrations are their children.



COLORS from page 6L

the entrances into the park and at building entryways.

During installation, there are three crews of four employees assigned to flower work. In May, about 48,000 summer flowers are installed in more than 60,000 square feet of bed space.

In October, about 66,000 fall flowers and 62,000 bulbs are installed in the same beds after they have been thoroughly prepared. Flower bed sizes range from 50 to 4000 ft. Additionally, there are 85 flower containers located strategically at building fronts which are also changed out seasonally.

In the past few years several select areas have been chosen for perennial flower displays, such as in courtyards, roadsides and at signs.

Varieties such as *peony*, *dianthus*, *iberis*, *rudbeckia*, *helianthus*, *iris* and *coreopsis* are used as perennials, as are ornamental grasses and ferns.

A floriculturist is employed year-round for flower maintenance: weed and pest control, irrigation, fertilization and dead-heading.

In the summer of 1994, Perimeter



Favorite varieties around Perimeter Center include *helichrysum*; *balcon geraniums*; *amaranthus* and *eucalyptus*.

Center tenants were given a special tour through the park. A shuttle bus was used

to transport the group during the lunch hour to various flower beds. At each stop the varieties were identified and maintenance and use was discussed.

Something new each year—Every year brings something new in the way of color and design. New varieties of woody ornamentals are introduced as are new flower varieties. In the past few years the following plants have been incorporated in planting designs: *buddleia*; *cphalotaxus*; *chionanthus*; *chitalpa*; *fothergilla*; *raphiolepis*; *itea*; *loropetalum*; *stewartia*; *styrax*.

Installation is done by local landscaping firms.

Once the plant material and irrigation system are in place, the Taylor & Mathis landscape staff assumes the maintenance responsibility.

Ornamental plant maintenance includes seasonal pruning, deep-root fertilization, pest monitoring, irrigation until establishment and remulching twice a year.

Perimeter Center was developed by Taylor & Mathis, a real estate development and brokerage firm with offices in Atlanta; Birmingham, Ala.; and Miami. **LM**

'Eco' rose finally arrives

Nationwide retail marketing is already under way for the rose, described by its suppliers as 'the environmental rose' because of its resistance to black spot and mildew.

■ The August release of the patented ground cover rose, Flower Carpet, var. *Noastraum*, will give landscape pros another colorful tool.

Nationwide retail marketing is already under way for the rose, described by its suppliers as "the environmental rose" because of its resistance to black spot and mildew.

Werner Noack, a German rose breeder, spent 25 years developing the rose. It received a gold medal in the All Deutschland Rose trials in Germany in

1990. It was introduced in Europe, New Zealand and Australia in 1991-1994.

The Flower Carpet is an iridescent, rose-pink groundcover rose which, say suppliers:

✓ will grow in U.S.D.A. climate zones

2b-11 (Calgary, Canada to Miami, Fla.).

✓ can be planted anytime during spring, summer and fall.

✓ is a low, dense, compact bush, measuring, when mature, 24 to 36 inches tall and about three feet across.

✓ produces flower clusters 6-8 inches in diameter (with about 18 flowers per cluster).

continued on page 11L



✓ will, if well fed and properly watered, produce 2,000-4,000 flowers per season in full sun.

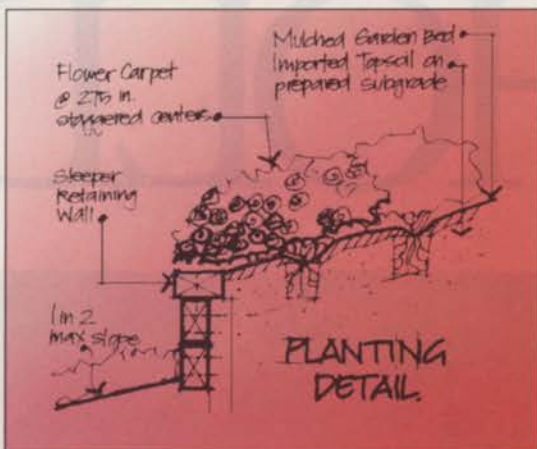
✓ blooms in shade, though in reduced numbers,

✓ requires no fancy pruning, just one good hard cut per year during winter.

✓ can be planted 2-3 per square yard for ground cover, or 32 inches apart to establish boundaries.

For more information contact members of the The Flower Carpet Growers of America:

- Angelica Nurseries, Inc., Ken-



nedville, Md., (410) 928-3111.

- Bailey Nurseries, Inc., St. Paul, Minn., (612) 459-9744.

- Clinton Nurseries, Inc., Clinton, Conn., (203) 669-8611.

- El Modeno Gardens, Inc., Irvine, Calif., (714) 559-1234.

- Flowerwood Nursery Inc., Mobile, Ala., (205) 964-5122.

- Midwest Groundcovers, St. Charles, Ill., (708) 742-1790.

- Monrovia Nursery Company, Azusa, Calif., (818) 334-9321.

- Zelenka Nursery, Inc., Grand Haven, Mich., (616) 842-1367. **LM**

How your employees can help you keep your old reliable customers

by Bess Ritter May

Like most alert landscape management business people, you know how hard it can be to attract new customers. But do you also train your workers to do all they can to help you keep your old reliable "steadies?"

It's often thought that those who comprise this important backbone trade will always be loyal unless some actual damage is done by your workers to an owner's lawns and grounds. However, it has been proved that unless such mishaps are really drastic, they will be forgiven when they're corrected. But what is rarely taken lightly by most "old" customers—and will often lose them—is the inability of employees to observe some simple, considerate and very easy common sense business practices.

To be sure they are careful concerning such matters, your answers to these questions should be "yes:"

1) Do your employees wear neat and appropriate uniforms with their names and your company name embroidered on a pocket or on the backs of shirts? If they look like skid row characters rather than competent and reliable landscape maintenance workers—unwashed, unkempt hair and ragged and dirty clothes—you've got a problem.

2) Do employees cooperate with each other and work together in harmony, efficiently and quietly? If they are quarrelsome, forever arguing about who does

what, and where and how, and other details—you've got a problem.

But what is rarely taken lightly by most 'old' customers—and will often lose them—is the inability of employees to observe some simple, considerate and very easy common sense business practices.

3) Are your employees considerate of your customers? Workers can be a real benefit if they offer these "extras:"

- carry empty trash cans from the curb to the garage (or some other place designated by the customer) on collection days;

- bag lawn clippings, pulled weeds and other trash and dispose of it properly and neatly, as directed by the customer;

4) Do you train your workers to be considerate and responsible to customers in other ways, including:

- moving garden furniture, croquet and other games; children's toys and similar items on lawns before mowing them,

and—if appropriate—replacing them?

- carefully covering all such items which cannot be moved before spraying the lawn with fertilizers and pesticides?

- neatly coiling and storing hoses near a faucet or some other practical place designated by the customer after watering?

5) Do you train your employees so that they are able to offer your customers more than the usual services, such as sodding, seeding, liming, irrigation and landscape installation? This is one important strategy in which many companies hold their important steady customers and keep them loyal. It also generates considerably more business and profit. You might also put together a complete but cookie-cutter-type lawn care program which employees can offer customers on the spot.

You may feel that angling for, and obtaining such, additional business isn't worth the trouble. But by neglecting to do so, you run the risk of losing many "steadies" to the competition, especially when cut-rate rates are being offered.

—The author is a freelance writer based in Philadelphia, and a frequent contributor to LM.

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Front-page article in 'USA Today' causes concern

Study suggests links between cancers in children and exposures to pesticides in and around home.

■ A study linking pesticide exposure to childhood cancer got front-page coverage on Monday, Feb. 27, in the "USA Today" national newspaper.

Lawn care professionals report varying levels of customer concern.

"A few people called to say that they read the article, and they cancelled because of their concern with chemicals," says Mrs. Richard Ritenour of Ritenour's Custom Lawn Care, Butler, Pa.

"Maybe a half dozen people have mentioned it (the article)," she adds. "Not that many, really. But it does make it tougher for us." Ritenour works with her husband and two sons in the 20-year-old family business.

Gene D. Pool of Emerald Green Lawn Care, Van Wert, Ohio, says he learned about the article as he gathered with about 70 other lawn pros in Washington D.C. on February 27. They were preparing to meet their respective legislators when they learned of it.

"I've got a few calls when I got back home, so I immediately called the 2,4-D Hotline," says Pool. "They sent me lots of information." (2,4-D was one of about six chemicals specifically mentioned in the article.)

Pool says he hand-delivered some of this literature to a concerned female client. So far, though, he doesn't think he's lost any customers because of the article. Even so, he cautions against dismissing it as unimportant.

"If you get four people concerned enough to call you, that might represent 50 other people who are concerned but just don't call," he explains.

Andy Hines of Shrub & Turf, Athens, Ga., says he didn't get a single call that he could trace to the article.

"I think people are so desensitized to the constant publicity about what causes cancer that the perception is that everything causes cancer," he says. "I don't think there's any shock value for it anymore."

But "shock value" describes the "USA Today" headline:

Home pesticide linked to some cancer in kids

Though the writers managed to weave three hot buttons ("pesticide," "cancer"

and "kids") into an eight-word headline,

the article itself was brief—little more

than a printed sound bite—and to the

point. It cited a study published in

the American Journal of Public Health

by researchers from

the University of North Carolina.

They reported that they

interviewed the parents

of 252 children diagnosed with cancer between 1976-1983.

They found, according to "USA Today":

- Children whose yards were treated with chemicals were four times as likely to be diagnosed later with soft-tissue sarcomas, malignant tumors of muscle and connective tissue.

- Children whose homes contained pest strips faced 2 1/2-3 times the risk of leukemia.

- Children whose homes had been exterminated for fleas, termites or other pests faced a slightly elevated risk of lymph cancer.

At the end of the article, the study's lead researcher, Dr. Jack K. Leiss, acknowledged limitations in the published

continued on page 16L

Home pesticide linked to some cancer in kids

By Anita Manning
USA TODAY

Lawn treatments and home pest extermination are associated with an increased risk of cancer in children, says a study in the current American Journal of Public Health. Researchers from the University of North Carolina inter-

dering EPA review because of "concerns about the risks of cancer and neurotoxicity."

↳ Kids whose homes had been exterminated for fleas, termites or other bugs faced a slightly elevated risk of lymph cancer. Most likely chemicals: Dieldrin, heptachlor, Dursban and chlorpyrifos (Dursban). Chlordane is no longer in

EPA wants more info

Lawn pesticides appear to be small problem compared with toxic chemicals stored in unsafe locations within the nation's homes.

■ The U.S. EPA said it has insufficient information to begin regulatory action against pesticides in spite of a study claiming to link childhood cancers to exposures. These claims were made in the study entitled "Home Pesticide Use and Childhood Cancer." It was published in the American Journal of Public Health.

The EPA response four days later in a "Desk Statement" said the specific methods to measure actual exposure in the study "were crude," and that the study did not look at specific chemicals.

"A single epidemiological study only rarely can establish a causative relationship between an exposure and an effect," said the EPA. Even so, the EPA said, "It just makes sense to take reasonable steps to avoid undue exposure."

The EPA added that it has "several activities under way" that will provide a better understanding of the potential risks to children from household pesticide exposures. It also said that it has begun identifying and eliminating a number of carcinogens from the market.

A more obvious problem, the EPA admitted, is the 80,000 children involved in common household pesticide-related poisonings or exposures in 1993 alone.

A survey by the EPA found that:

Almost half—47 percent—of all households with children under the age of five had at least one pesticide stored in an unlocked cabinet, less than four feet off the ground.

About 75 percent of households without children under the age of five also stored pesticides in an unlocked cabinet less than four feet off the ground. This is significant, said the EPA, because 13 percent of all pesticide poisonings occur in homes other than the child's home.

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Akzo Nobel Salt Inc., "Easy to do Business with..."



Akzo Nobel Salt Inc.

CANCER from page 14L

research. "You cannot infer cause and effect at all....Further research needs to be done to elucidate that," he was quoted as saying.

Although it's small comfort to LCOs, the timing of the article—coming at the height of selling season—could have been worse yet. "USA Today," the most widely read newspaper in the country, boasts a circulation of 1.9 million on Mondays. It jumps to 2.4 million on Fridays.

—Ron Hall

Hurray for complaints!

by Robert Andrews

■ It is hard to argue with the statement that "the primary purpose of business is to create a satisfied customer." If we can accomplish that, most all else will follow.

Hard evidence suggests that companies known for exceptional service can regularly charge higher prices than their competitors. And while outstanding customer service must start at the top, it must also be pervasive throughout the business. It must be consistent, monitored for defects, fine tuned, and constantly updated. It must involve everyone from the owner to

Why people buy

■ Remember that customers tend to consistently buy based on the following reasons:

- ✓ Constant presence of the product or service.
- ✓ Ease of use or installation.
- ✓ Ease of payment for the good or service.
- ✓ Packaging.
- ✓ Timeliness of delivery.
- ✓ Willingness of the vendor to respond to complaints.
- ✓ Information provided on the good or service.

Looking at our own businesses, what can we do to improve the quality of any of the above?

—B.A.

the technician, and to the customer, too.

A recent survey concluded the following reasons why businesses lose customers:

- 9% lured away by lower prices.
- 5% influenced by others to trade elsewhere.
- 3% moved away or left the market place.
- 1% died.
- 68% quit because of perceived discourtesy, poor service, or indifference on

the supplier's part.

• 14% quit because complaints weren't addressed satisfactorily.

While we cannot do much about those who die or move away, we can do a great deal about the 82 percent who stop shopping for reasons directly influenced by ourselves or our employees.

The average business in the United States does not ever hear from 96 percent of its unhappy customers. Most marketing studies claim that for every actual complaint a business receives, another 24 to 26 are not being spoken out loud. Of these silent complaints, six are serious and threaten the firm's relationship with the customer.

Of even greater influence is what certain unhappy customers can do to our company by telling their neighbors or business associates. In other words, the business that we lose may be small compared to the business we will never get.

How can we structure our business so that these non-complainers become complainers?

- 1) Get them to complain.
- 2) Solve those complaints quickly.
- 3) Keep records as to why customers complain.
- 4) Make operational changes based on these records.

—The author is owner of Andrews and Associates, Carmel, Ind. Andrews and wife Jennifer operate two lawn care companies in Indiana.

Marketing: the only way to win

You need more than a 'me too' approach. Learn what makes your customers tick, and offer a 'valuable difference.'

■ If you're not practicing accurate marketing techniques, you'd better start, says Lewis Browning, because there's very little a good marketing plan can't do:

- It defines who your customer is and what services they'll buy from you.
- It determines your location; it is what

attracts customers to your business.

• most importantly, marketing sells products, and Browning is dead serious when he says marketing absolutely determines the success of your business.

It starts with how well you know your customers or prospects. What's their lifestyle, their habits, their income? When are they at home?

"In other words," says Browning, "which customer base is profitable for you? Target a particular market segment and specify the services you'll provide; then, determine what kind of people those services might attract.

"The customer becomes the focus of everything you do."

Browning is the founder of Wall-

Bruning Associates, a management consulting firm in South Carolina.

When it comes to a customer's "economic needs," you've got to find a way to sell a product they want and are willing to pay for, otherwise, predicts Browning, you'll waste time and money pursuing the wrong customers with the wrong service.

Be different!—And don't become a "me too" marketer. "If you're (offering the same services)," warns Browning, "don't copy! If you're doing exactly the same thing as your competitor, you're forced into price competition, and the only thing you can say is 'I can do it cheaper.'"

You've got to find a *valuable difference*.

You can be different in a variety of
continued on page 17L

ways:

- in the services you provide;
- in the way you perform those services;
- in the way you bill or collect payment.

The future is now—If your marketing plan is in order for now, don't rest on your laurels. "Are you preparing for the things that will change your business in five years?" asks Browning.

Time flies when you're having fun. Don't become lazy.

Why would you ever want to know your customer better? Here's a few of Browning's reasons:

- so you can serve them better;
- so you can find more customers like them;
- you can learn how they view you;
- if you do a good job for them, they will help you grow.

Focus groups work—To serve customers better, try surveys, focus groups and obtain referrals if at all possible.

The customers you invite for a focus group will have more time to tell you exactly what they think of your company,

Don't chase the wrong customers with the wrong service.

your staff, or your methods.

But be prepared. They might say some things you didn't expect.

All of this serves two purposes: It grows the business, and eliminates the call from the "lost customer," which, says Browning, is probably the most painful conversation you can have with a customer, but which, in hindsight, can be your best source of feedback.

Browning spoke to green industry professionals during the November, 1994 Green Industry Expo in St. Louis.

—Terry McIver



Browning: What are customers willing to pay for?

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Sodding vs. seeding: the pros and cons

Seeding and sodding are both viable alternatives to repair damaged turf and establish new turf. Here's how to choose.

■ To choose whether to seed or sod new or replacement turf areas, weigh the pros and cons of each within the framework of existing seasonal conditions, site considerations, use demands, and labor and budget constraints.

Paul Zwaska, head groundskeeper for the Baltimore Orioles, usually leans toward seeding.

"Seeding entails low labor and low material costs," he notes. "Variety selection is broad. Seeds sprout directly into the soil, developing their entire root mass in the existing 'virgin' soil. There's no initial thatch layer. Seed can be used to thicken and strengthen existing turf.

"Timing affects seeding success. Early spring seeding on bare ground may expose young plants to summer's heat before they mature enough to handle that stress. Overseeding in the spring may be more successful because existing turf helps protect tender seedlings. Fall bare-ground seeding benefits from more moderate temperatures and humidity levels."

"Because seeded turf is embedded in the soil, it can adapt its growth rate to conditions, unless young seedlings are one-half inch or smaller, or have just broken germination.

"Weed competition is greatest with bare-ground seeding. A few scattered weeds can be pulled by hand. Control product applications for severe weed infestations must be postponed until after the seedlings have matured.

"Patience is needed to establish turf from seed. Site conditions may limit choices. Seeding isn't the best option for slopes, though seeding is possible by using stabilizing products."

If 40 to 50 percent of the existing turf is still in good shape and time is sufficient,



Though seeding is less expensive, you have a larger installation window if you choose sod.

Zwaska prefers seeding to sodding. He feels the grass plants are stronger due to superior root development into the on-site soil.

"Sodding provides instant gratification, and the installation window is longer," Zwaska says. "Initial material costs are higher with sod, and sod installation is more labor-intensive. Sod, with a larger top mass, may have a higher evapotranspiration than roots can handle. Diligent watering will be needed until turf roots leave the 'comfort zone' of the sod's soil and extend into the soil below."

The soil of the sod needs to match the soil profile of the site, Zwaska continues. "An interface layer can form between two different soil types, restricting root growth

and water infiltration.

"(But) sod may be the only viable option for certain conditions such as a sports field with heavy wear or exposed soil surfaces. In these cases, existing vegetation should be stripped and sod installed."

The other side of the coin—John Huber, president of Huber Ranch Sod Nursery in Schneider, Ind., naturally leans toward sodding.

"Sod can be installed any time of year as long as the sod grower can harvest it," Huber says. "With seeding, germination is limited to the grass growth cycle.

"Sod offers uniformity of coverage and fast usability. Low traffic sodded turf sites may be usable after two or three weeks. High-use areas with bare ground seeding may take up to a year for sufficient turf establishment."

"For high-use situations, washed sod provides faster rooting into the soil profile and thus faster usability," says Huber. "Washed sod also keeps the soil type 'pure,' avoiding interface formation.

"Where erosion is a special concern, washed sod also will root in more quickly. On a steep slope, both standard and washed sod should be staked to ensure stabilization during the rooting process.

"Big roll sod—42 inches wide and up to 129 feet long—can reduce labor installation costs. Three-person crews using a three-point hitch attachment or walk-behind installation equipment can install big roll sod at the same rate as a 10-person crew with standard rolls. Obviously, there are fewer seams with big roll sod, producing a 'finished' appearance faster."

Turf variety selection needn't be limited with sod, according to Huber. "Sod producers," he points out, "may be willing to grow on contract, producing specific cultivars of certain varieties grown on a precisely-developed soil profile and following a precise maintenance program. **LM**

THE PROS:

SEEDING

- less installation labor
- broad variety selection
- low material (seed) costs
- adapts easily to conditions
- no interface soil layer formation

SODDING

- uniform coverage
- instant fix
- good for slopes
- larger installation window
- less weed competition

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EMPLOYEES from page 16

employee may be a potential buyer when retirement time comes. One of the greatest benefits you can bestow upon this individual is to recognize their key status within your business and work together to plan for the eventual sale of the business to that person.

The most successful benefit programs are designed to "benefit" the needs of everyone. However, before undertaking any change in your benefits structure, be sure to consult a broker or agent who is familiar with the industry. Moreover, bring in your tax and legal professionals as required to be

certain you are complying with the appropriate federal and state regulations.

—The author is a principle with Mortensen, Winkelhake, Langer & Associates, 2323 N. Mayfair Rd., Suite 506, Milwaukee, WI 53226. He can be reached at (414) 771-8844.

Learning from natural disasters

Disaster factoids

- **Dollar value of weather-related damages, 1993:**
\$13.8 billion
- **Deaths directly attributed to weather events, 1993:**
350
- **No.1 weather killer:**
flash floods, 140 deaths annually over last 20 years
- **Number of deaths from lightning on golf courses, 1993:** 1
- **Number of U.S. states with more than \$1 billion weather-related damage, 1993:**
4 - Iowa \$5.9B,
Illinois \$2.7B,
California \$1.1B,
Missouri \$1.0B
- **Number of U.S. states with no weather-related damage, 1993:**
3 - Delaware, Maine,
Rhode Island
- **State with fewest tornados, 1961-1990:** Hawaii (0)
- **State with most tornados, 1961-1990:** Texas (137)
- **Average annual number of tornado-related deaths, 1961-1990:** 82

Source: National Weather Service



by John B. Calsin, Jr.

■ Drastic or immediate changes in the weather, beyond normal climatic conditions, can mean lost work, lost wages, a poor bottom line, even bankruptcy to the golf course or landscape company. Or, it could mean a bonanza.

In eastern Pennsylvania last summer, a late-evening tornado moving in a north-easterly direction took several lives and devastated numerous properties. The tornado meant lots of work for tree companies and landscapers with tree divisions. Bids for tree removal often ranged in the multiple thousands of dollars.

But there is a downside for golf courses and there can be one for landscapers: biting off more work than employees are able to cope with. In the rush to clean up, at least one landscape company reacting to the Pennsylvania tornado underbid. As the work progressed, it became evident that there were too many trees for the company's manpower and equipment to handle cost-effectively.

The work lagged and the property owner felt the need to resort to an attorney.

Here are some points to keep in mind when dealing with a situation that might bring windfall profits:

1) If it is a natural disaster, be sensitive to the needs and feelings of the customer, especially if the customer is the owner and has suffered a major or devastating loss. Your understanding and genuine sympathy could lead to future referrals after the disaster.

2) Is insurance money involved? What restrictions, if any, might the insurance company require? Is it really possible for your company to meet those stipulations?

3) In spite of the potential financial dividends, is your company really able to handle the job? Do you have enough men and equipment? Can additional equipment be rented cost-effectively? Is it, indeed, available for rent? Is the work such that additional personnel could be hired through a temporary placement agency such as Manpower Inc.? (It may be beneficial to investigate temporary employment agencies before you need one, as applications must be filled out and your credit may have to be checked.)

4) If you have to rent extra equipment or hire temporary help, will you make enough profit to justify the extras?

5) Do you really want these jobs? Will your regular customers' service suffer in exchange for what turn out to be only a

continued on page 20



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2 1/2 foot extension increases working height to 16 1/2 feet.

ECHO
Ask Any Pro!

DISASTERS from page 18

few extra dollars after all the expenses are figured in?

6) What might be the hidden or unknown drawbacks to the extra work you might get? If in the winter, is the ground frozen, or might your equipment bog down? What about underground utility lines?

Natural disasters can either be a finan-

cial boon or bust. Quick action may be necessary to capitalize on an unusual weather event. But moving too quickly or not considering all the ramifications of getting the work may cost you money in the long run.

—The author is a freelance writer based in eastern Pennsylvania, and a frequent contributor to LM.

'Working' a disaster: don't be a casualty!

Consider if you can make money by travelling out of state for extra work, and remember that different regulations may apply.

by Ed and Aaron Wandtke

■ Natural disasters may actually be rare opportunities for your company, if you are in the design/build, renovation, tree removal, pruning, maintenance or lawn care business.

How you deal with these occurrences can have a significant impact on your current and future business relationship with a customer. What issues should you consider: travel to a disaster-stricken area to help clean-up or rebuild? And how do you prioritize this opportunity?

Natural disasters—such as ice, floods and snow storms—in a single market or regionally, bring many opportunities for a green industry company to earn extraordinary income from special services. Your

decision to seek work in a disaster area may also affect the level of service you provide to your current customers. Establish a priority list, using the following criteria:

Priority 1: Work you can complete with existing staff, resources and equipment, for *existing* customers.

Priority 2: Work you can complete for new customers in the current market, with established personnel and equipment; this work does not affect service to existing customers.

Priority 3: Work that's available in the established market, for municipalities or state agencies, by current personnel and equipment, that will not affect the ability to service present or new customers.

Priority 4: Work you can perform in the main market for current customers using personnel or rental equipment you do not employ and own.

Priority 5: Work in other markets, for municipalities or state agencies, completed with current personnel and equipment that will not affect the ability to service present or existing customers.

continued on page 22

Preparation is the key to getting through a crisis

■ According to the American Red Cross, businesses should treat the following areas in their business plans. All involve crisis management:

1) Offsite relocation: Identify alternative sites for critical business functions. You should also determine which units or departments could relocate. Agreements can be made with real estate agents and others for back-up sites.

2) Management information systems: Know how to identify and secure key records, software and equipment. Key personnel should know how to access vital data, too.

3) Telecommunications: Identify back-up communication systems with employees, customers, vendors and shareholders. Then, talk to your communication system agent about getting back-up systems in place.

4) Utilities: Be prepared to handle temporary utility loss, including establishing procedures for shutting down the facility and releasing employees early.

5) Crisis communication: Establish a solid crisis communication plan. Designate an organization spokesperson, and identify the most effective ways to communicate with the media, the local community and government officials.

6) Human issues: Dealing with the emotional stress that accompanies a crisis is as important as physical recovery. Have a program in place.

For more information on how to cope with crises in your community, contact your local American Red Cross, a business management consultant and/or any national trade organizations to which your business belongs.



Your crews must be aware of the types of clean-up or replacement work they may encounter in a disaster area.

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DISASTER from page 20

How to price—During crisis time, management may want to charge a premium price for repair services. Long-term relationships are seldom developed when a company follows this practice.

Yes, short-term gains may be realized; however, in the long-term, customers will realize they are being charged more than a reasonable amount for the service they receive.

When you determine a price to repair damage caused by a natural disaster, it is critical that the total costs for personnel and equipment are taken into consideration.

Overtime and salary personnel may work extra hours and, therefore, may need to be considered for overtime or additional benefits. By reviewing your current costs for hourly rates and equipment utilization, a company can determine if any adjustment in its pricing is needed.

Is travel required?—Choosing between

traveling to a distant market or staying at home is a function of the number of skilled people you have on staff, the level of service committed to current customers, and the size of the opportunity at the distant location. Managing or performing work far from home base requires that you know the local laws, insurance regulations and lodgings available.

Many green industry companies look at disaster work as an opportunity to keep the employees working. However, a company needs to consider the liability it may be exposing the company to. Employees working in unfamiliar areas may encounter local resistance to their presence, a lack of things to do after hours, or fatigue from long work periods.

While working in New York to clear streets from a major ice storm last year, many companies coming into the state were surprised by the increase in auto insurance rates, workers compensation

premiums and the amount of the tax obligation levied as a result of working there. Profit was reduced significantly due to these unbudgeted expenses. A profit of 15 percent was reduced to 5 percent.

Be prepared—Timing is important if you want to profit in natural disaster work. A company needs to be prepared to react to opportunities when they arise. Be organized and disciplined, and have work teams at the ready to respond quickly. Too often, companies take on tasks that are too complex or difficult to perform. Other companies find management of the work crew to be excellent when working out of the office each day. However, when they go on the road, it becomes a total nightmare.

—The authors are principals in Wandtke & Associates, a business management consultant to the green industry located in Columbus, Ohio. To contact them, phone (614) 891-3111.

Communicating: with employees, co-workers and customers/clients

Learn from your conversations, and don't be afraid to use body language to convey your points.

■ Communicating is a contact sport, said Mike Jousan of Clear Communication Co., Scottsdale, Ariz. That is—"you've got to connect."

"Whatever your goals are in life, you'll reach them faster if you can communicate better," Jousan told New Jersey Turfgrass Expo attendees. But his presentation only scratched the surface of the self-help information available to landscapers and superintendents.

Of prime importance: "You are not only carrying a message, you are part of the message, and you can never separate yourself from the message," Jousan said.

He has what he calls the "1-10-100" rule: the same skills you use to talk to an employee, your dentist or spouse, you use to talk to groups of 10 or 100.

And he believes that good communication is an "equal opportunity" skill because anyone can do it.

Four simple things which Jousan suggests for any situation in which you must connect with another person or persons:

- Your voice has to be energetic.
- You must use eye contact: when all else fails, look at people.
- Use gestures: your hands enhance what you're saying.
- Your body language must be going forward in a positive fashion.

"Words, tone and body are the only things we use to communicate," Jousan says. "Words are 7 percent of the process, tone 38 percent, and body language 55 percent. So you must support your words, or they won't mean much."

Dr. Tony Alessandra and Dr. Phil Hunsaker, writing in "Communicating at Work," agree with Jousan. One of their beliefs is that perceived sincerity is directly proportional to eye contact.

Alessandra and Hunsaker say that, when conversing with others, you should use body language to convey openness, confidence and enthusiasm.

For instance, you convey openness with open hands and uncrossed arms. To be totally effective, you should not establish spatial barriers between yourself and others: move closer to them, lean forward if you're sitting.

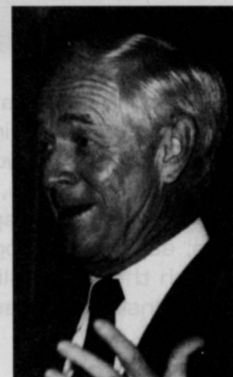
They believe that the area within two feet

of you is the "intimate zone." From 2 to 4 feet extends the "personal zone;" from 4 to 12 feet, the "social zone;" and beyond 12 feet from you is the "public zone." Don't try to talk to someone 10 feet away in a personal manner, they suggest; you should be no farther than 4 feet from the person you're talking to.

You can convey confidence and authority by using relaxed and expansive gestures. You can convey enthusiasm with an inward smile, an erect body stance, alert eyes and a lively, well-modulated voice.

continued on page 24

Jousan: You've got to connect with your audience whether it's 1, 10 or 100 persons.





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COMMUNICATE from page 22

Your voice, in fact, is another key. It should be assured; use a strong, full (but not overwhelming) resonance. Speak clearly and distinctly. Show enthusiasm through pitch, volume and inflection. Vary your vocal qualities, but always speak naturally and at ease.

"Communicating is about openness," Jousan adds. Here are the keys:

- **Care** about what you're talking about.

- **Connect**—use your physical self and tell stories or solve problems.

- **Commit**—you learn to speak by making a commitment.

If you've ever taken a Dale Carnegie course—and they are recommended, especially for people in managerial positions—

you know the group's three steps to effective communication:

- 1) Make communication a top priority in every interpersonal situation.

- 2) Be open to other people. Share and listen.

- 3) Create a receptive environment for communication by laying a foundation of genuine trust and shared interest. Be sincere.

The Carnegie people, in one of their books, offer these tactics:

- Try to see things from the other person's perspective. If you're talking to an employee who has made a mistake, find out why the mistake was made so you can offer advice.

- Don't listen to hear. Listen to learn.

In order to find out why the mistake was made, you must pay careful attention to that same employee.

- Apply the Golden Rule and respect the dignity of others. For instance, criticizing that employee in front of his peers is taboo. Always take him or her aside.

- Be quick to admit mistakes and slow to criticize. And when you criticize, above all, be constructive so that the employee will follow instructions and do it right next time.

Additional information on this subject is available through a wide variety of books you can find at your local public library. Look in the section with the Dewey Decimal code number 658.84.

—Jerry Roche

Compost preferred over topsoil as soil amendment

As compost becomes more available to landscapers, more and more topsoil is being replaced with compost for a variety of project uses.

■ Whether for general grading purposes, lawn establishment or renovation, or tree and shrub planting, landscapers purchase and handle a tremendous amount of soil products.

One of those products—topsoil—has never been available in good quantity. Wide differences in availability exist among different areas of the country. Even

within small geographic areas, price and supply can vary considerably, especially given the high cost of trucking topsoil, even over short distances.

Many contractors have difficulty with topsoil availability in metropolitan areas. In fact, some city and county governments have banned the shipment of topsoil across city or county lines to limit the stripping of topsoil before construction or new development.

Compost, on the other hand, is becoming increasingly available. More and more cities and towns, private composters and landscape contractors are composting,



The quality of materials used determines the quality of the compost you produce.

leading to a greater supply at reasonable prices. The greater availability is being driven by landfill bans on the disposal of yard waste, leaves and grass and a dramatic rise in tipping fees for disposal a landfills or incinerators.

Today, compost can be purchased from any private composters, municipalities or bulk and re-wholesale yards serving landscape contractors.

Superior quality—Even the best topsoil available often contains rocks and sticks, and weed seed is invariably a problem when topsoil is used for new lawn establishment. Properly managed compost should avoid each of these problems. Rocks and sticks should be screened out and the vast majority of weed seeds are killed by the high temperatures developed during composting.

Compost consistency also gives the contractor numerous advantages over topsoil. Compost provides for a uniform, fine texture, without clumps, which makes for easy handling. Topsoil can vary widely in

requirements at the time of establishment. This is true for both the primary as well as the secondary and trace elements.

Composts themselves do vary in nutrient content. Compost derived from animal manures or sewage sludge has higher nutrient levels than compost derived from yard waste. When using yard waste compost as a soil amendment, reduce normal fertilization rates at the time of establishment by up to 20 percent. If using animal manure or sewage sludge compost, reduce rates by up to 40 percent.

Compost will typically contain 20-30 percent organic matter, while most topsoils contain less than three percent. The organic matter imparts several benefits to the subsoil when compost is used as a soil amendment. Both clay and sandy soils are improved by the incorporation of compost. Other improvements include: aeration, improved soil structure and higher water and nutrient holding capacity. Irrigation and fertilization requirements will be lower where compost is used.

The organic matter in compost also delivers another major benefit with its associated high level of microorganism activity. Microorganism activity has long been known to be a major factor in reducing thatch development in lawns. In addition, recent research has

shown high levels of microorganism activity can be responsible for reducing soil borne pathogens such as *pythium* and *rhizoctonia*, and help to release micronutrients and make them available for plants to use.

Most composts have a pH that is neutral to slightly alkaline, generally from 6.5 to 8.0, so lower limestone is required to correct acidity.

Aesthetic benefit—Compost is dark and rich looking, and customer satisfaction with it is high. Based upon looks alone, most people will choose compost over topsoil every time.

Other compost quality issues. Users of compost need to be aware of a few additional unique characteristics before using compost. For instance, users should ensure compost is mature and fully stable.

Bottom line rewards

■ Composting saves money.

Jerry Lee, technical services manager of Wight Nurseries, knows that composting offers bottom line rewards as well as ecological benefits.

The company composts scrap plant material, soil and all.

"We just knock off our pots, which leaves the soil on the plants," he says.

Wight Nurseries stores excess materials on a concrete slab until enough accumulates to warrant starting the grinding cycle. Material is loaded into an eight-foot tub grinder, then stacked into five-foot high windrows after it comes off the conveyor belt.

The total composting cycle takes about 12 weeks. The compost must reach a 130-150 degree temperature to compost successfully. The compost is then tested for nematode and water molds. If the tests are negative, they use it. If the tests show traces of nematodes or water molds, blending continues.

"Our original investment was about \$30,000 in equipment and operating costs," says Lee. "In the first year alone, we recouped that expense."

The benefits: no landfill visits to discard sand and scrap, which saves on tipping fees. "It's only about \$8 per ton in our area, but potting soil is pretty solid stuff, so it doesn't take long for those \$8 fees to add up," says Lee.

The company also saves on sand supplies. "Our old potting soil mix was 80 percent bark and 20 percent sand," says Lee. "Now, we blend in material that passes the test, instead of the sand." Particle size is about the same as sand.

But here's a warning: be sure you know and follow local regulations.

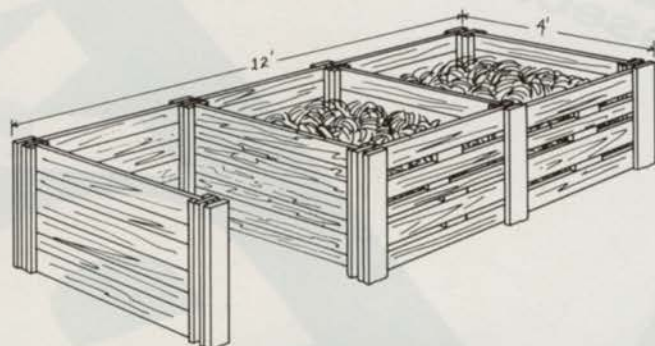
—ALCA Landscape Contractor News

If not, plant growth problems may result if sufficient fertilizer is not added at the time of establishment.

Reputable suppliers carry mature and stable compost.

The source of compost is another concern. Yard waste and animal manure compost can generally be considered to be of high quality. Compost made from sewage

continued on page 28



A compost bin doesn't require a complex design. Just make it easy to work with.

consistency.

Save on labor costs—Compost weighs much less than topsoil. Compost weighs about 1200-1300 pounds/cu.yd. A cubic yard of topsoil weighs between 1900-2000 pounds. This means that the compost can be shipped for less cost than topsoil, and more product can be delivered with each truck load. Once on the job site, reduced labor is required to handle, shovel and rake compost. Equipment wear is also reduced.

Agronomically, compost offers many advantages over topsoil:

- nutrient value;
- high amount of organic matter;
- nutrient and water holding capacity;
- neutral reaction.

Compost will contain more nutrients than topsoil, thus reducing fertilizer

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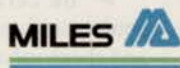
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scape and recreational turfgrass varieties or sites. In fact, with the 80% water soluble powder formulation, you can even spray flowers, shrubs and trees and get first-class control of ornamental insect pests.

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Compost efficacy

Research by Peter Landschoot and Andy McNitt at the Penn State University Turfgrass Research Center during a 1992-1993 research project, studied the efficacy of seven compost amendments on clay loam subsoils. They were most interested in how different compost mixes effected turfgrass rate of establishment; overall turf quality; organic matter content; bulk density and infiltration.

"Our goal," says Landschoot, "was to simulate a situation in which a contractor removes good topsoil from a new development and hauls it away from the site—a common practice that leaves a subsoil high in clay, low in organic matter and nutrients and unsuitable for good turf growth."

Eight different composts, a reed sedge peat and a topsoil were applied at two rates: 6.2 cu. yds. per 1000 sq. ft. and 3.1 cu. yds. per 1000 sq. ft., at depths of four to six inches. The compost mixes tested were:

- yard trimmings;
- a biosolid compost from the water department;
- brewery waste;
- mushroom media;
- paper pulp;

Landschoot: to examine compost efficacy as top-dressing.



- a mixture of various manures;
- a topsoil-amended plot.

The plots were seeded with Kentucky bluegrass. Among the findings:

- all compost treatments increased soil organic matter content, reduced bulk density and increased water infiltration rates when compared with the topsoil treatments and the unamended control plot;
- good turf quality was correlated with increasing levels of available phosphorus and nitrogen recovery;
- starter fertilizer increased the rate

COMPOST from page 25

sludge or municipal solid waste (MSW) may contain contaminants. If you use these composts, know the producer, check with others who have used the product and ensure that the compost meets all local, state and federal regulations.

Producers should be able to produce test results for heavy metal and pathogen contamination in sewage sludge or MSW compost.

—Dr. James Wilkinson, vice president of research and development for Earthgro, Inc., in the *Bulletin of the New York State Turfgrass Association*.

of turf establishment with all treatments except the biosolid compost and the brewery residues.

Landschoot says the quality of the material used is a big issue, as well as the length of time it takes before the organic portions of composts break down, how long soil improvements last and the effects of compost additions under heavy-traffic conditions. He plans to examine those issues in the near future, as well as a look at the efficacy of various compost mixtures when used as a topdressing.

Sprayer tune-up time

A pre-season check is a good time to spot needed repairs.

Although sprayer brands and types differ slightly, they operate on the same principles. Industry and university experts recommend using the following checklist to tune-up all sprayers:

Check for wear and tear—Look for obvious damage to frame, running gear and tank.

- ✓ Drain antifreeze or water and check the pump for cracks or leaks.
- ✓ Test throttling valves, pressure gauges, hoses and clamps for leaks.
- ✓ Check nozzle gaskets for a tight fit.
- ✓ Clean line and tip strainers with fresh water and a soft brush.

Check for uniformity—Calibrate. Make sure nozzle size flow rate, and spray pattern are uniform across the boom.

✓ Measure flow rates from each nozzle and replace any tip which varies 10 percent or more from manufacturer's speci-

fications. If two or more nozzles are off by 10 percent, replace the entire set of tips.

✓ Identify nozzle needs for the upcoming season. New chemicals or application procedures may require different nozzle types, sizes or pressure ranges.

✓ Replace worn nozzles before the season and keep extra nozzles on hand to avoid unnecessary delays during the season.

Check for safety—Equip your sprayer to carry fresh water for rinsing gloves and tools, and for cleaning spray tips and screens.

✓ Use appropriate safety equipment. Basic protective gear includes a long-sleeved shirt, long pants, sturdy shoes or boots, chemical-resistant apron, gloves and goggles or a face shield. Read label instructions to identify further safety precautions.

✓ Be certain pumping and filling equipment has devices to prevent backflow and check valves to protect water supplies.

Do's and don'ts—Do check the chem-

ical label to determine recommended application rate.

Don't think of calibration as a once-a-year task.

Don't try to calibrate your nozzles by blindly raising or lowering pressure to change flow rate. There isn't a linear relationship between the two variables. For example, a nozzle spraying at 10 psi will deliver only twice the amount of liquid when the pressure is increased four times to 40 psi.

Do adjust for variances in nozzle flow rate when spraying solutions with substantially different densities than water. Some solutions, such as 28 percent nitrogen, are heavier than water and would flow at a lower rate through the same nozzle.

When checking ground speed for calibration purposes, use a stopwatch to measure the time it takes the tractor to go 250 feet, then calculate speed with this formula:

$$\frac{\text{Distance (ft.)} \times 60}{\text{Time (sec.)} \times 88}$$

Calibrate each nozzle individually, and check for worn or split hoses or leaky valves. **LM**



**27
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Insect control in cool-season turf

Understand regional differences and critical periods of pest infestation.

by Whitney Cranshaw, Ph.D.,
Colorado State University

■ Before turfgrass managers can attain optimal control of insects in turfgrass, they must first understand the habits and injury signs of the target pests. This understanding helps to recognize impending problems, pinpoint critical periods during the season for control and develop the best management techniques.

Regional differences—Although pest complexes in cool-season turfgrass are generally shared, there are important regional differences. For example, problems with Japanese beetle, bluegrass billbug and chinch bugs are generally restricted to areas east of the Mississippi river. Problems in Western states include spider mites (e.g. banks grass mite) and Denver billbug. New species continue to be introduced and spread in North America, such as the Asiatic garden beetle, presently a problem in the Northeast.

Know critical periods—Most turfgrass pests are best managed during certain times of the season. Most white grubs are far more susceptible when they are young and feeding near the surface, so controls are best applied shortly after eggs have hatched. Other insects, such as bluegrass billbug and black turfgrass atenioid, are better controlled in the adult stage, so treatments should coincide with peak periods of adult activity.

Sampling is very important for identifying problems with most turfgrass pests.

For example, numbers of chinch bugs present in a lawn can be determined by sinking an open-ended coffee can in the lawn and filling it with water. The chinch bugs float to the top and populations exceeding 15-20 bugs per square foot indicate a potential problem.

Sod webworms and cutworms can be irritated to come to the surface by drench-

ing an area of the lawn with "disclosing" solutions of dilute detergent or the insecticide pyrethrins. Populations of sod webworms exceeding 6-10 per square foot or cutworm numbers less than half of that suggest treatment may be desirable.

Sampling also identifies "hot spots" in lawns. Most turfgrass insects and mites are not uniformly distributed, and occur in concentrated pockets. Outbreaks of greenbug aphids can usually be found developing under trees, while spider mites, such as clover mites and banks grass mite—tend to occur in warm, dry areas such as next to buildings or on slopes that face south. Distribution of white grubs in a lawn is often determined by soil moisture conditions.

Control options—There are several control options for any pest problem. Using as many of these that are appropriate, in a coordinated manner, is a central idea to Integrated Pest Management (IPM).

Cultural practices limit pest problems. Extra watering can help control outbreaks of chinch bugs by spreading the fungus disease *Beauveria*, which controls them naturally. Watering dry areas also reduces buildup of spider mites in lawns.

A normal lawn contains many natural insect controls. Starlings and blackbirds feed on large numbers of cutworms and sod webworms in spring. Ants feed on many turf insects and a wide variety of other predators—such as big-eyed bugs, ground beetles and parasitic wasps—are present.

If intervention is needed to prevent turf damage, the most obvious management choice is to use insecticides. Many insecticides are labeled for use on turfgrass, each with characteristics that can affect their performance. Some insecticides penetrate thatch well, and are more appropriate for controlling insects below ground, such as white grubs.

Others remain in the thatch layer, where they can best control surface and thatch-infesting species.

New control products—Several new insecticides have been registered for turf-



Masked chafers are adults of annual white grubs.

grass insect control. Talstar, Scimitar and Astro are all pyrethroid insecticides, and they are similar to Mavrik and Tempo. They are now registered for control of most surface-feeding insects. In addition, some of these are effective against spider mites. Merit, from a new insecticide class known as chloronicotinyls, appears to have

continued on page 32



The cranberry girdler is a type of sod webworm.

COOL-SEASON INSECT PESTS AND TREATMENT VARIABLES

PEST	DAMAGE	TREATMENT	CONSIDERATIONS
White grubs (also turfgrass ataenius, Japanese beetles, chafers)	Larvae feed on roots of grasses, and cause drought stress and dieback. Infesta- tions of larger species may attract skunks or crows which tear thatch to feed.	Insecticides that pene- trate thatch well are particularly effective. These include Crusade Mainstay, Proxol/Dylox, Turcam, Triumph, Sevin, Merit or diazinon. Insect parasitic nematodes in the genus <i>Heterorhab-</i> <i>ditis</i> .	Grubs of most species are best controlled when young, shortly after hatching. A light watering after applica- tion moves insecticide into rootzone. Black turfgrass ataenius best controlled when peak flights of adults are observed.
Billbugs (also bluegrass billbug, Denver billbug)	Young develop inside crown of plants. Older larvae feed on roots. Damaged areas may die.	Properly timed surface treatments can kill adults prior to egg laying. Dursban, Scimitar, Crusade/Mainstay, Turcam, Oftanol, Merit and diazinon can be effective. Larval control difficult, but Exhibit nematode can provide good larval control.	Monitoring spring activity of bluegrass billbug emerg- ing from overwintering areas is important in properly timing adult treatments.
Sod webworms	Larvae feed at night, emerging from silken tunnels to clip grass. Damaged areas may thin or even be killed.	Most surface-active insecticides are effec- tive, including Orthene, Sevin, Talstar, Tempo, Scimitar, Dylox/Proxol, Turcam. Neem-derived botanicals (Turplex) and insect parasitic nematodes (Exhibit) are alternatives. Endophyte- enhanced grasses can suppress sod webworms.	Peak injury tends to occur in mid-spring and again in mid-summer. Larvae can be brought to surface with deter- gent solution or pyrethrins (Pyrenone).
Mites , including clover mite, winter grain mite	All active stages feed on grass blades. Heavily damaged grass appears dessicated.	Provide extra water to mite "hot spots" in late winter and spring to delay increase of most mites. Miticides include Talstar, Scimitar, Kel- thane, Dursban.	Winter grain mite and clover mite are "cool season" species primarily active in late winter and spring. Spider mites tend to be worse in drier areas, such as around the base of buildings and trees or on south-facing slopes.

Source: Dr. Cranshaw



Banks grass mites disperse from a grass blade.

COOL INSECT from page 30
excellent potential for control of white grubs and billbugs. Several new formulations of Dursban will also be available in 1995.

Some biological insecticides are also available. Most widely known are the insect parasitic nematodes, particularly

the species *Steinernema carpocapsae*. Sold under the trade name Exhibit, this product can control billbugs, sod webworms and cutworms. Other nematodes (*Heterorhabditis* species) can control white grubs. A botanical insecticide derived from the seeds of the neem tree is Turplex, which may be useful for control

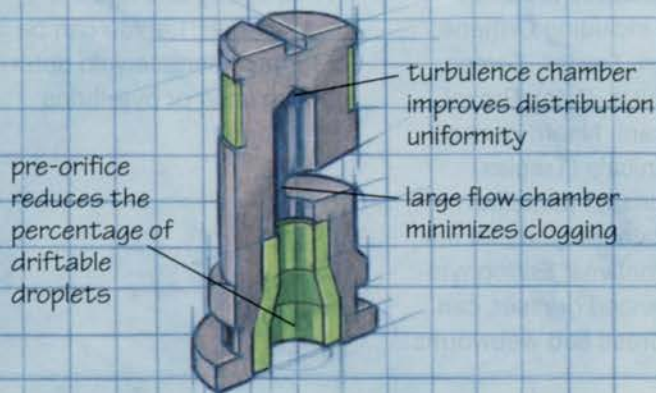
Merit appears to have excellent potential for control of white grubs and billbugs. Several new formulations of Dursban will also be available in 1995.

of sod webworms and billbugs.

Endophytic fungi can be a useful for long-term management.

These are fungi that develop inside certain grasses, notably perennial ryegrass, tall fescue and fine fescue. Endophyte-infected grasses often are more tolerant of stresses such as drought and can resist attack by insects such as billbugs, sod webworms and greenbugs.

—Dr. Cranshaw is an extension entomologist and associate professor at Colorado State University. He recently co-authored "Turfgrass Insects of Colorado and Northern New Mexico."




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Insect control in warm-season turf

Insect control relies on location, identification and determination of numbers.

by R. L. Brandenburg, Ph.D.
North Carolina St. Univ.

■ Certain warm-season turfgrasses species are more commonly attacked by specific insect pests, such as southern chinch bugs on St. Augustinegrass and ground pearls on centipedegrass.

Turfgrass management often relies on insecticides to preserve the desired turf quality. However, many new options are available, and cultural practices can be invaluable for reducing turf insect pests.

Insects damage turfgrass in four ways. They feed:

- by chewing on surface leaves and stems (cutworms, armyworms, sod webworms);
- by sucking juices out of the leaves

and stems, thus discoloring the turf (chinch bugs, two-lined spittlebugs);

- by burrowing into stems (hunting billbugs); and

- underground on grass roots (mole crickets, white grubs).

Understanding a little about an insect's lifecycle and how, where and when it feeds can greatly enhance your ability to manage that pest. Most pests have certain stages when they are most susceptible to control. This is especially important when using many of the new "biological" products.

During the past two years, we have seen a significant increase in new products like entomogenous nematodes that attack insects, neem seed extract that disrupts an insect's development, and new strains of *Bacillus thuringiensis*.

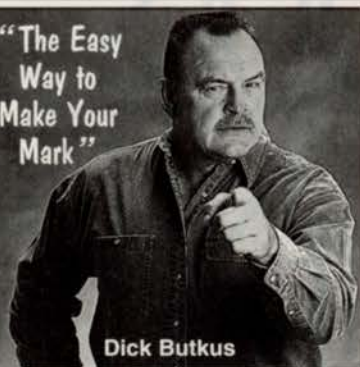


Dead areas in centipedegrass lawn resulting from a severe ground pearl infestation.

We also continue to see changes in product formulation such as the lower odor formulation of Dursban Pro and recent introductions of synthetic pyrethroids such as Astro T&O, Tempo 2, Scimitar WP and Mavrik Aquaflow. New products such as Merit 0.5G offer low mammalian toxicity and are most effective when used preventively for areas of persis-

continued on page 37

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CONTROL OF WARM-SEASON INSECT PESTS

INSECT PEST	HOSTS	CONTROL PRACTICES
Southern chinch bugs	all warm-season grasses; prefers St. Augustinegrass	<ul style="list-style-type: none"> ● avoid over-fertilizing ● manage thatch ● irrigate during dry spells ● apply pesticides with plenty of water ● multiple treatments usually necessary
Two-lined spittlebugs	all warm-season grasses	<ul style="list-style-type: none"> ● control adults on ornamentals like hollies ● treat on cloudy days when possible, since spittlebugs are higher up on turf ● begin monitoring in early summer
Cutworms, armyworms	all warm-season grasses	<ul style="list-style-type: none"> ● use "soap flush" to detect ● treat late in day ● do not mow and remove clippings for 1-3 days ● entomogenous nematode products available ● may be present from early spring to late fall
Mole crickets	prefers bahiagrass and close-cut bermudagrass	<ul style="list-style-type: none"> ● use "soap flush" to detect egg hatch ● treat in June/July as soon as eggs hatch ● follow-up treatments usually necessary ● entomogenous nematode products available ● look for adult activity in March/April to define areas of high risk for egg hatch
White grubs	all warm-season grasses	<ul style="list-style-type: none"> ● attracted to low-cut, highly-maintained turf ● dig squares of sod 4-6" deep in late August to detect small grubs ● treatments most effective in late August ● avoid ornamentals attractive to adult stages such as Japanese beetles and June or May beetles
Fire ants	all warm-season grasses	<ul style="list-style-type: none"> ● best controlled in spring and fall when workers are actively foraging for food ● mound treatments generally most effective, but are labor-intensive ● controls must be continued once program is started (fire ants will return at higher levels if treatments are stopped) ● do not disturb mounds during treatment ● use baits prior to contact insecticides to allow workers to return bait to mound
Ground pearls	most commonly attacks bermudagrass and centipede grass	<ul style="list-style-type: none"> ● no known effective control measures ● practice good turf management to increase turf tolerance ● irrigate during dry weather

Source: Dr. Brandenburg

WARM INSECT from page 34

tent white grub infestations.

Any area suspected of harboring insects must be thoroughly searched to find the suspected pest. The insect must then be properly identified, its relative abundance determined (is it really causing a problem?), and the appropriate control measure applied.

Cultural practices such as thatch management, irrigation, fertility and others work best as strategies that prevent insects from reaching pest status.

Studies in North Carolina show that soil insect pests such as mole crickets and white grubs move deeper into the soil during dry periods, making them more difficult to control. Pre-treatment irrigation can move the insect closer to the soil surface. After insecticide application, a post-treatment irrigation waters in the insecticide and its efficacy is usually improved.

Some of the more common insects attacking warm-season grasses are listed below. Others not discussed here include hunting billbug, bermudagrass mite, bermudagrass scale, sod webworm and rhodesgrass mealybug and southern

chinch bugs.

☞ **Cutworms and armyworms** attack all species of turfgrasses throughout the year, although the fall armyworm is generally a later-season pest. These insects often cause severe damage as they often show up unexpectedly and aren't detected until they have fed for a couple of weeks. Using a soap flush of two tablespoons of liquid dishwashing detergent in two gallons of water will bring these worms to the surface for easy detection.

☞ **Mole crickets** are one of the most troublesome pests in the Southeast. Their aggressive feeding and tunnelling on bermudagrass makes them a serious pest of golf courses, athletic fields and commercial properties. Timing of control measures is critical for effective management.

☞ **White grubs** occur sporadically in warm-season turf. They are difficult to control because they often feed undetected on the roots, and it is more difficult to get pesticides to the target site.

☞ **Green June beetle grubs** tunnel near the soil surface and create unsightly



Severe mold cricket tunnelling in bermudagrass. If left uncontrolled, large bare areas totally void of turfgrass result.

mounds. While they are relatively easy to control, they often cause significant tunnelling damage before their presence is detected. Also, they generally die on the turf surface, leaving an unsightly mess.

☞ **Ground pearls** are a serious pest of centipedegrass. They feed on grass roots, causing the grass to turn yellow and then die. Irregular-shaped areas of dead turf with weeds are a typical symptom. No control measures are known for this pest.

—Dr. Brandenburg is a professor and extension entomologist at North Carolina State University.

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Water-saving tips for the onslaught of hot weather

Here are some tips on saving irrigation water while keeping turfgrass and trees healthy.

Occasional unseasonality has always been one of the curious things about the weather. That includes blistering hot spells when you least expect them.

The University of California Cooperative Extension Service offers these tips for saving on water while caring for turf and trees.

Turf

- Water early in the morning to reduce

evaporation.

- Water lawns separately from trees, shrubs and groundcovers, if possible.
- Remove thatch in spring if it's more than one-half inch thick. Thatch should not be removed in the heat of the summer.
- Control weeds. They compete for water, light and nutrients.
- Fertilize moderately, applying at the low end of recommended rates.
- Keep lawns mowed at the right height: 1.5-3" for tall fescue, 1.5-2.5" for perennial ryegrass and Kentucky bluegrass; 0.5-1" for bermudagrass and zoysiagrass; 0.5-1.5" for St. Augustinegrass.
- Aerate as necessary to prevent soil compaction. Proper aeration requires

removing plugs. Clay soils in particular need regular aeration.

Trees

- Water tree separately from surrounding plants. Trees prefer fewer, deeper waterings than grass.
- Water to a depth of two to three feet to help promote deep rooting.
- Keep turfgrass and other plants at least one foot from tree trunks.
- Apply mulch around trees, keeping it a few inches away from tree trunks.
- Control weeds around trees.
- Avoid soil compaction around trees.
- Do not routinely fertilize landscape trees.
- Prune only when necessary: remove dead and diseased wood, dangerous branches, and suckers growing from the base of the tree.

Listing trees shown to be salt-tolerant

When planning landscape plant installation, several cultural factors should be considered, including the salt tolerance of the plant.

If an area, for instance, is around an oceanside or near a street that may be treated with salt for ice control in the winter, use plants with good salt tolerance. In

other areas, where salt is not a consideration, you can use virtually any plant listed below, and a large variety of others.

If salt tolerance is a concern, you might want to check with your local county extension agent to see what is most readily available and adapted to your particular geographic area.

LOW salt tolerance (0-2000 ppm chloride)	MODERATE salt tolerance (2000-5000 ppm chloride)	GOOD salt tolerance (5000-6000 ppm chloride)
filbert compact boxwood sugar maple red maple lombardy poplar speckled alder sycamore maple larch black alder Italian poplar European beech European hornbeam rose pineapple quava viburnum arctic blue willow spirea multiflora rose winged euonymus barberry little leaf linden black walnut	birch aspen cottonwood hard maple beech white spruce balsam fir Douglas fir blue spruce Texas pivot xylosma pittosporum pyracantha European black currant siberian crab boxelder maple Japanese honeysuckle green ash ponderosa pine golden willow lantana spreading juniper arbor vitae silver buffalo berry	mulberry apricot white oak red oak hawthorne tamarix squaw bush Russian olive Scotch elm white poplar Osier willow honey locust black locust gray poplar silver poplar English oak white acasia bottlebrush oleander common matrimony vine

JOB TALK

People, equipment are vital to flood clean-up in Houston

by Ian Burden

■ Five straight days of thunderstorms in October, 1994 dumped 30 inches of rain on 26 counties in southeast Texas. It was the area's worst recorded flood in history, leaving 15 dead, several missing and 8,000 homeless.

The job of draining flood water from 1,700 square miles of densely-populated land fell on the Harris County Flood Control District. The department has a workforce of 250 who sometimes have to fight angry alligators and water snakes to do their job.

The department has more than 150 mowing units, seven large pieces of specialized equipment that can operate in swamp-like conditions, a fleet of trucks, and a variety of chain saws and machetes. It's their job to control vegetation, make repairs and remove flow-restricting debris from natural and man-made water channels.

Considering the fact that both sides of the drainage system must be maintained, the distance grows to a staggering 6,000 miles of drainage channels.

"Our job is to keep the grass maintained on the channel slopes and remove any debris or trash that is obstructing the flow of

water," says fleet manager Ray Walters. "On a lot of the drainage channels, we will go in with Alamo 10- and 15-foot hydraulic mowers to mow the grass as close as we can get to the water. Then we use 28-foot Alamo Slopemowers that can reach out and cut the grass and weeds right up to the water's edge.

"In other areas, the only way we can get into the channel to work is by using a flat-bottom boat. In that case, we load our chain saws and machetes into the boat and do the work by hand."

The county has an excellent drainage system. Strategically located flood warning sensors send a message back to the Flood Control Center when water begins to rise. A light will then glow on a special map-board showing the location of the potential flooding.

"But it can't take a 25-inch rainfall like we had without some flooding," notes Walters. "I don't know of many areas in the United States that could."

In spite of the unusually heavy rainfall, only one area in the northern section of the country, near Cypress Creek, flooded. "The creek came up in a hurry," Walters says. "Within only three hours, people had six feet of water in their house."

Houston and Harris County has a drainage system that features very beautiful, park-like sections. The lush growth of various plants and trees provide a backdrop for bike and hiking trails. "Some of our bayous in the city are like park lands," notes Walters. "On the other hand, Buffalo Bayou is a natural waterway that looks like a jungle river with trees hanging over it. There are snakes in that bayou as big as your leg."

The Flood Control District, forever looking for better ways of

'It can't take a 25-inch rainfall like we had without some flooding,' notes Walters. 'I don't know of many areas in the United States that could.'

maintaining the drainage system, is taking a hard look at its chemical spraying operations.

"We will probably do a lot less spraying this coming year than we have in the past," says Walters. "We are re-evaluating chemicals and how they are applied because we are concerned about the over-kill of vegetation in some areas that causes erosion. We have people working on a new Turf Establishment Program that is working out pretty good for us. We are planting new seedlings and grasses that are natural to our area. Of course, we will have to maintain it with mowers after it gets a good growth."

—The author is vice president of marketing for Alamo, Seguin, Texas, manufacturers of McCormel, Mott, Terrain King and Triumph outdoor power equipment.



A 15-foot mower clears vegetation along flood control drainage canals.

Photo courtesy Alamo

Landscape managers digging into new growing medium

by James E. Guyette

■ Landscape managers in Texas are digging into a new highly efficient planting medium that is cheaper than peat moss. "It's never been done before, but it's an excellent product and it's very economical," reports Gary Kinney of Kinney Bonded Warehouse, a horticultural supply firm in Donna, Texas.

"The local landscape trade here is using it and I've sold all of our crop potential so far," says Kinney. The material comes from kenaf, a tall, leafy, fibrous plant closely related to the hibiscus. Until now kenaf (pronounced "kuh-NAFF") has been used mainly for cattle feed, rope and newsprint.

It holds high hopes for the landscape industry, according to Kinney and Dr. Yin Tung Wang, a horticultural scientist at the Texas Agricultural Experiment Station in Westlaco.

Previously the core of the kenaf plant was usually discarded, "but we researched it as a potting medium and it worked," says Kinney.

"The whole idea," Wang explains, "was to reduce production costs by using kenaf in the potting medium instead of peat moss, which is expensive and must be shipped in from Canada.

"But our research showed that to keep the desired properties of the mix, we still had to blend in some peat moss. So the challenge was to determine the maximum proportion of kenaf, while at the same time providing a healthy growing medium for plants."

After almost three years of research, that proper proportion turned out to be an approximate mixture of 70 percent kenaf and 30 percent peat moss.

"There are a few other minor ingredients in there such as wetting agents and time-released fertilizers, but that 70/30 mixture works quite well and keeps cost low," according to Wang. The bulk kenaf product sells for \$14.50 per cubic yard;



The kenaf processing plant is able to reproduce any type mix that anybody in the landscaping business might ever want to order.

peat moss is \$21 to \$25 per cubic yard.

Harvesting of the first-ever landscape-oriented kenaf crop began last fall on a 750-acre spread. It soon sold out and more is being planted.

This year's kenaf harvest will produce some 20,000 to 22,000 cubic yards of material for use as a planting medium, but Kinney anticipates needing more than 100,000 cubic yards at full production to meet the demand.

It is being processed at the new Kenaf International Plant north of Weslaco, and Kinney plans to construct a building adjacent to Kenaf International this spring to house a \$150,000 mixing facility. "With that mixing equipment, we'll be able to reproduce any type mix anybody in the (landscaping) business would want," Kinney says.

Kenaf originated in Africa and was brought to the Rio Grande Valley in the 1920s and '30s. In a few months, kenaf grows from a small seed to a 15-foot-tall plant. If harvested early, the leaves can be used as cattle feed. But in the Rio Grande Valley, the kenaf industry uses kenaf stems—not leaves—so the plant is allowed to grow to maturity. The kenaf bark, known as bast, is high in fiber. It is stripped, compressed, baled and sent to a

paper mill in North Carolina, where is used to make high-quality newsprint. Once the bark is stripped and shipped, the stem core is then ground into fine particles that are mixed with peat moss and other materials to form the growing medium.

Kenaf byproducts are also used for wallboard and the dashboards of automobiles, and research is being conducted on the material for large-scale vegetable production. Currently landscape contractors and nursery applications are the biggest agricultural users.

"The future looks very bright," says Kinney. "If you look at it it takes some imagination, but as a growing medium it's working quite well."

For more information:

● K-Mix, 102 N. 13th St., Donna, Texas 78537; (210) 464-4491

● Kenaf International, 120 E. Jay Ave., McAllen, Texas 78504; (210) 687-2619

● Weslaco Texas A&M Ag. Experiment Station, Dr. Yin Tung Wang, Dept. of Hort., 2415 E. Highway 83, Weslaco, Texas 78596; (210) 968-5585

—The author is a contributing editor to *Landscape Management*. His freelance writing business is based in South Euclid, Ohio.

Paul Harvey's attacks: will they never end?

WASHINGTON—Radio commentator Paul Harvey launched his third verbal salvo in the past 12 months at the golfing industry. On March 14th, he opened his remarks with this allegory:

"If there were snakes in the grass of your golf course, there'd be a loaded shotgun in your golf bag."

He then proceeded to liken the golf industry's use of pesticides to the tobacco industry's claims about their products. He also said that there might be lawsuits in golf's future.

Harvey cited Jerome Blondell of the EPA, and a recent study in the "American Journal of Public Health."

He said that researchers are "particularly critical of chemicals 2,4-D and carbaryl and diazinon." What he did not include in his broadcast was that researchers did not ask, in their most recent study, what chemicals were used—they assumed that 2,4-D, carbaryl and diazinon were "most likely to be used."

He also did not note the statement of

the man who led the most recent study, as quoted in the "USA Today" newspaper:

"It's only a suggestion (of an association between home pesticides and cancer in children). You cannot infer cause and effect at all...further research needs to be done."

Harvey concluded his bombastic diatribe with: "Golf clubs and their USGA cannot hide behind the EPA any more."

Responsible Industry for a Sound Environment, a trade association composed of pesticide manufacturers, issued a memo to members saying:

"He (Harvey) is on a campaign against our industry, and is willing to misuse any information he can to paint a negative picture. He has been totally unreceptive to industry input.

"If any member has ideas on how we can influence Mr. Harvey, please contact RISE. He has a large audience, and his attacks are having an effect. He has already refused to discuss the issue with industry."

—Jerry Roche

INFO CENTER

Useful literature and videos for the green industry

BEING A PROFESSIONAL..."Professional Landscape Management" by David L. Hensley defines the true landscape manager and also extends to specifications and contracts required by architects. It is available for \$24.80 from Stipes Publishing, 10-12 Chester St., Champaign, IL 61820. Phone (217) 356-8391.

SPRAY DRIFT?...A new, easy-to-use pocket guide helps pesticide spray applicators configure their equipment to maximize its effectiveness and minimize chances for wind-borne spray drift. Using the guide, applicators match spray speed with application rate to determine tips and pressures that produce droplet sizes that are less likely to drift. To get your free copy, write to Drift Manager Offer, Spraying Systems Ag Division, P.O. Box 7900, Wheaton, IL 60189.

ABOUT TREES...The American Society of

Nurserymen has "Selecting Trees, A Guide to Purchasing Quality Trees as a Wise Investment" available. The 16-page publication is \$7, with bulk pricing available. Write AAN, 1250 I St. NW, Suite 500, Washington, DC 20005 or phone (202) 789-2000. Also, from the International Society of Arboriculture comes "Tree Climbers' Guide" for \$30, "Tree Pruning Guidelines" for \$12 and "Treesource Volume 2" (of a video resource library) for \$25. For info, write or call the ISA: P.O. Box GG, Savoy, IL 61874; (217) 355-9411.

SKID-STEER TRAINING...The Melroe Company offers a skid-steer loader training kit for \$125 that includes a three-part video tape, five course handbooks, an administrator's guide EMI safety manual and more. Send orders to Melroe Co., P.O. Box 6019, Fargo, ND 58108 or phone (701) 241-8700.

GREEN INDUSTRY EVENTS

APRIL

24: Envirotron Golf Classic, World Woods Resort, Homosassa Springs, Fla. Phone: Glenn Oberlander, (904) 795-7017.

30-May 2: Menninger Tree Conference, Harry P. Leu Gardens, Orlando, Fla. Phone: Linda Van Der Zee, (407) 345-8137.

MAY

1-3: Southeastern Turfgrass Conference, Tifton, Ga. Phone: Jeanne Werner, (912) 386-3416.

2-3: Microscopic Identification of Turfgrass Diseases workshops, Cook College, Rutgers University. Phone: (908) 932-9271.

4-5: Tree Care Seminar by Dr. Alex Shigo, Greater Columbus (Ohio) Convention Center. Phone: Tree Care Educators, (503) 254-0482.

5-8: American Institute of Architects National Convention and Expo, Georgia World Congress Center, Atlanta. Phone: Katherine McQuay, (202) 626-7467.

15-25: California Assoc. of Nurserymen's Horticultural Study Tour to Canada. Phone: Harvest Travel International, (800) 227-0464.

21-23: "Trees, People and the Law" Conference, Nebraska City, Neb. Phone: Kathy Austin, (402) 474-5655.

24-26: Color Magic, Walt Disney World. Phone: Florida Nurserymen & Grower's Assn., (407) 345-8137.

Restricted Use record-keeping is changed

WASHINGTON—According to the American Association of Nurserymen, the USDA changed its Restricted Use pesticide record-keeping laws, which—unless delayed by the passage of H.R. 450—take effect May 11th.

Key changes: Restricted Use pesticide applications must be recorded within 14 days instead of 30; records must be maintained for two years; federal regulators, state regulators and licensed health care professionals caring for a patient must have access to records; records of spot applications of Restricted Use pesticides must include a description of the location and treatment.

(H.R. 450 is the "Regulatory Transition Act of 1995" that would institute a moratorium on all new federal regulations taking effect from Nov. 20, 1994 through Dec. 31, 1995. The bill, introduced by Texas Republican Tom DeLay and Indiana Republican David McIntosh, is strongly supported by the AAN.)

“U” SAID IT

“Some people want to pay for their landscape with a credit card because they can get frequent flier miles that way. That’s fine with me because I take both Visa and Mastercard.”

Joel Lerner
President, Environmental Design
Chevy Chase, Md.

“I’m not afraid of TruGreen. The guy who scares me is a guy just like myself, but about 10 years younger.”

Anonymous
(During a discussion among a
group of independent LCOs at a
seminar in Orlando, Fla.)

“The public, especially the younger [segment], will patronize businesses that are concerned with the environment. We all manage environmental businesses whether we like it or not. If arborists cannot handle their wood waste in the next five years, 65 percent may well be out of business. This is not a problem but an opportunity.”

Bob Thibodeaux
Past president,
Louisiana Arborists Assn.

“‘Live for today’ is a good motto, but when your future is at stake, living for today is no help at all. The gist of this is saving for your and your family’s future—whether it’s a house, a college education (for your children) or retirement.”

Kevin Dushane
Bloomfield Hills C.C.
White Lake, Mich.

“The solution to providing lucrative careers, stabilizing our profession and informing the masses of our existence lies largely with our current band of professionals. Upgrading and policing our industry appears to be the only way to ensure change and affect compliance with regulations.”

Peter Berghuis
California Landscaping
Cupertino, Calif.

currently on line includes a spreader setting guide and technical sheets and MSDSs for K-Power products. To access, call (800) 234-0173 anytime, 24 hours a day.

■ **Miles Inc.** became **Bayer Corp.** on April 1, but that is the only change customers will see. “Our turf and ornamental customers will still get the same quality products (Merit, Bayleton, Dylox, Tempo, Namacur, Morestan), customer service and added value they’ve come to expect from Miles,” says **Allen Haws**, director of the Specialty Products Group.

■ **Theodore J. Host** became CEO of **The Scotts Company** on April 6. **Tadd C. Seitz** became Chairman of the Board of Directors after 12 years as CEO at the annual shareholder’s meeting.

■ **Robert V. Mitchell** won the Scotts Tradition of Excellence Award for his outstanding achievements as a golf course superintendent. Mitchell is executive director of golf and grounds at The Greenbrier, White Sulphur Springs, W.Va. and a former president of the GCSAA.

■ **Pat Searight** was named area manager for Seed Research of Oregon’s Dallas operation, responsible for grass seed sales in central Texas.

■ **Lawn Equipment Parts Co.** of Landisville, Pa. was named **Scag Service Distributor of the Year**. **Todd Stanisky** of Power Turf was named Scag Service Manager of the Year.

■ **Echo Inc.** recently broke ground for a 90,000 sq. ft. expansion of its 160,000 sq. ft. Lake Zurich facility. Completion is expected by June.

■ **Snapper** promoted **Robin Knight** from controller to vice president/treasurer and **Jimmie W. Jones** to executive vice president/CFO from vice president, finance and CFO.

■ **Weathermatic’s** new regional sales manager in the Pacific Northwest is **James J. Foreman**.

■ **Case Corp.** extended its North American contract manufacturing agreement for excavators with Sumitomo Construction Machinery Co. of Tokyo.

■ **Parker Sweeper** recently relocated from Springfield, Ohio to Hampshire, Ill., a suburb of Chicago. Groundbreaking for a second 50,000 sq. ft. phase of the new building is already set for this spring.

■ The Anthony Groundskeeper line of vacuum equipment has been sold by Liechty-Hertzler Corp. and Anthony Liftgates to **Highway Equipment Co.** of Cedar Rapids, Ia.

SUPPLIERS CORNER

■ **Hardie Irrigation** is offering an exclusive new frequent-buyer program. It offers a selection of Harley-Davidson motorcycles and Hardie-Rider leather jackets as awards. Telephone (714) 831-6000 for more info.

■ For the answers to questions about **Hunter Irrigation** products, or technical questions about installing irrigation systems, you can now call the free Hunter Dataline at (800) 733-2823. The number is

in operation from 7:30 a.m. to 5 p.m. (Pacific time), Monday through Friday.

■ You can earn cash rebates on the purchase of **American Cyanamid** products (Pendulum, Image, Amdro) this spring under the company’s Payback Offer. The offer expires July 31. For more information, phone (800) 545-9525.

■ You can now get fertilizer application information via fax on demand from **Vicksburg Chemical OnLine Services**. Info

PRODUCT REVIEW

Chippers feature self-contained hydraulic feed

Bear Cat has introduced its new, 9-inch capacity disc chipper, available in three models—the 72928, 72935 and 72942.

These high-performance commercial chippers are available with three different engine options: 28 hp Kubota diesel; 35 hp Wisconsin gasoline engine and a 42 hp Ford gasoline engine.

Other features include self-contained hydraulic feed with a 15-inch diameter top feed



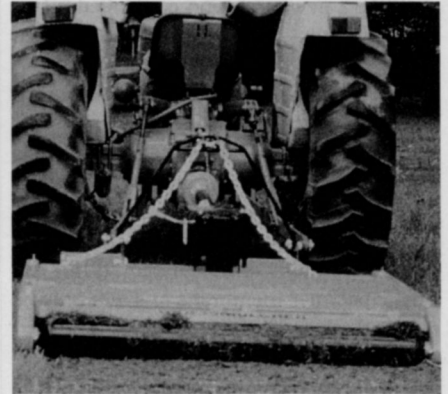
roller. Four tool steel reversible chipper blades are mounted on a 30-inch x 1.25-inch machined, balanced disc for maximum performance.

A fold-down tray and an integrated blower with 8-inch diameter discharge chute that rotates to 360 degrees are standard.

Circle No. 191 on Reader Inquiry Card

Finishing mower features dual-action steel blades

Falcon USA now markets the Grassmulcher, a tractor-mounted finishing mower to cut grass into a fine mulch. The mulching feature eliminates raking



and grass clipping disposal. Four specially designed dual action, tempered spring steel blades cut, lift and recycle clippings back into the grass mat.

The company reports the Grassmulcher is designed for large scale lawn maintenance. The unit runs on rollers and the cutting chamber is completely enclosed. Flaps in the front and rear of the unit provide protection from stones and debris.

The Grassmulcher cuts a five-foot swath. Cutting heights range from $\frac{3}{8}$ to $\frac{4}{8}$

Power broom clears walks of most material, debris

The PowerBroom, from Shindaiwa, Inc., is made of a nylon drum equipped with a series of rubber-like fins.

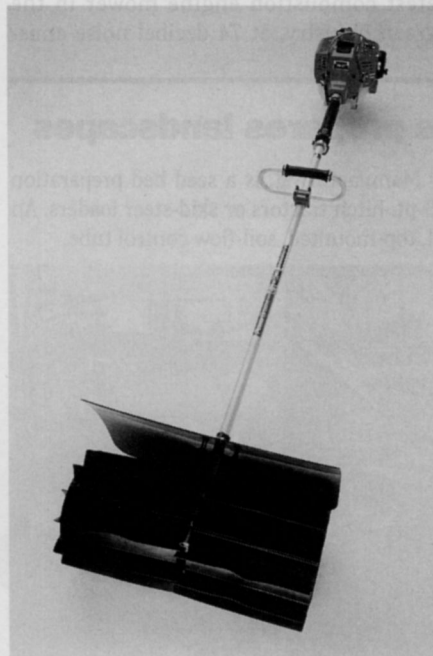
The drum rests on the ground and rotates under variable throttle control, as the fins push debris ahead of the operator.

The rotating sweep action removes almost any material from almost any surface.

Lawn and landscape professionals can use the PowerBroom to remove thatch, leaves, bark chips and snow, and spread thatch or break-up matted grass.

The broom weighs just over 12 pounds, and operates on 1.5 horsepower.

Circle No. 192 on Reader Inquiry Card



Service lift raises mower to four feet high

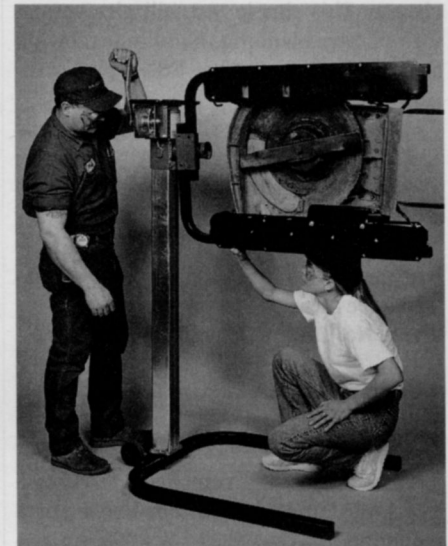
The Lit'L Heftee service lift from McCanse Engineering, Inc. lets mechanics raise lawn mowers and other walk-behind machines four feet high for maintenance.

The lift capacity of the Heftee is rated at 250 pounds, and the unit was performance tested to 1000 pounds.

An auto-brake self-locking safety winch cranks the unit up and down in seconds, and is ASAE approved. The handle always stops when released, and a safety lock locks at 1½-inch intervals.

According to the company, the unit requires no air or power hook-ups and can be used anywhere. It adapts quickly without tools to almost all walk-behind machines, from 13-inch inside to 34-inch outside wheel width.

Circle No. 193 on Reader Inquiry Card



SHOWCASE

PRODUCT REVIEW

inches. It fits Cat. I or II, 3-pt. hitches, and requires a tractor power of 45 hp.

Circle No. 194 on Reader Inquiry Card

Fertilizer's nitrogen release based on right temperature

ESN, a new, precision controlled nitrogen fertilizer—manufactured for United Horticultural Supply by Sherritt, Inc.—allows nitrogen to be released entirely in response to temperature.

The key to the product's effectiveness is a continuous polymer membrane surrounding a high-quality urea granule. Once exposed to moisture, the urea liquefies and remains encapsulated within the elastic polymer membrane and will only be released when the surrounding temperature is sufficient for plant growth.

In the Turfgo line of professional turf products, different longevity formulations are available. With some applications, a two-month material may be needed, while in others, a four- to six-month material is more suitable. Turfgo fertilizers with ESN come blended with other essential nutrients vital for a well-rounded fertilizer program.

"This technology is unique to the market," says United Horticultural Supply product manager John Walther. "To demonstrate the elasticity of ESN's polymer membrane, take a fully hydrated ESN 'pearl' and bounce it on any hard surface. The 'pearl' remains intact and its controlled release characteristics do not change. This simple test will give you an idea of why blending, handling, mowing and traffic do not affect ESN's precision-controlled release."

ESN comes in two sizes, for golf course and landscape applications. A "mini" size allows for better particle penetration into closely-mowed turfgrass, such as bentgrass or bermudagrass; and a "standard" size is best for applications to roughs, lawns and landscape areas.

Circle No. 195 on Reader Inquiry Card

Trimmer is heavy-duty with extra-quiet feature

A new trimmer from Echo features a low-tone, quiet muffler for extra noise reduction.



The SRM-2501S is 59 inches long, and has a solid-steel drive shaft for the heaviest commercial applications.

The 24.4cc engine has plenty of power for the most demanding commercial applications and has one of the best power-to-weight ratios in its class.

The trimmer features a low-tone, quiet muffler for extra-quiet operation; a 20.3 oz., see-through fuel tank; a vibration-reducing engine mount; cushioned right hand grip; foam-covered left handle and nylon web shoulder strap. A dual-piston ring design combines with a heavy-duty commercial grade gearbox for years of long-lasting use.

Circle No. 196 on Reader Inquiry Card

Finishing tool clears debris prepares landscapes

The Power Landscape Finisher, from Shaver Manufacturing, is a seed bed preparation and turf maintenance unit that can be used on 3-pt. hitch tractors or skid-steer loaders. An aggressive, "digging roller" teams with a parallel, top-mounted, soil-flow control tube.

The finisher can be used to:

- clear rocks or debris
- dethatch, renovate worn turf prior to reseeding;
- scrape landscape to grade, fill and level;
- backfill, ditch, shape or mound;
- distribute and level topsoil;
- clear brush and vines.

The finisher is available in six- and eight-foot models.

Circle No. 198 on Reader Inquiry Card

Lightweight fairway mower cuts with floating heads

Ransomes America Corporation's Model 250 is a new fiveplex fairway mower with special floating heads to hug the turf for a better cut.

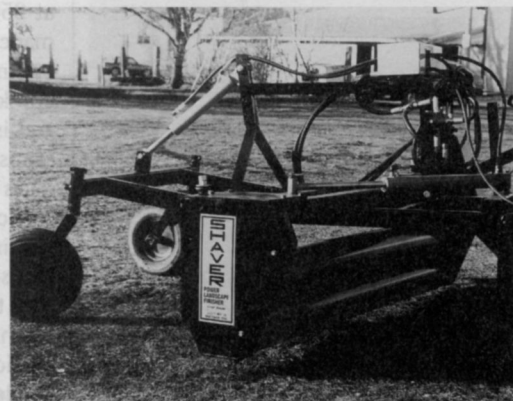
A weight transfer system on the five steerable cutting heads allows them to closely follow ground contours. As a result, the heads do not "bounce" at higher speeds. As a result, the mower leaves a smooth, clean finish over undulating terrain, across the mowers entire 98-inch cutting swath.

The Ransomes 250 is available in three models: a 23 hp two-wheel drive model; a 28 hp and a 33 hp model are available in two- or four-wheel drive. Each has 22 x 5-inch reels in seven- or 11-blade configurations. The bedknife on the Ransomes 250 is replaceable, and is mounted onto a fixed steel bar or a cast iron bar, depending on the model.

Circle No. 197 on Reader Inquiry Card

New greens mower made for 'super quiet' operation

The Toro Company's new Greensmaster 3200 is the first from the company to use a liquid-cooled gas engine, which the company says makes the 3200 the quietest combustion engine mower in the green industry, at 74 decibel noise emis-



PRODUCT REVIEW

sion level.

Standard equipment features of the 3200 include an electronic control unit to simplify operation.

The company has redesigned the floating cutting system and improved the steering system to prevent sliding on tight turns. The carrier frame roller has been eliminated, however the basket is fully independent of the cutting unit. Cutting swath of the 3200 is 59 inches.

Circle No. 199 on Reader Inquiry Card

Get winter turf protection with tested geotextiles

Winter Green is a non-woven, needle-punched polyester geotextile to protect sensitive turfgrasses, which do not enter dormancy, from winter stress.

Developed by Contech, and tested by turf professors at Texas A&M University, Winter Green can be used in sports turf and horticultural applications.

Circle No. 200 on Reader Inquiry Card

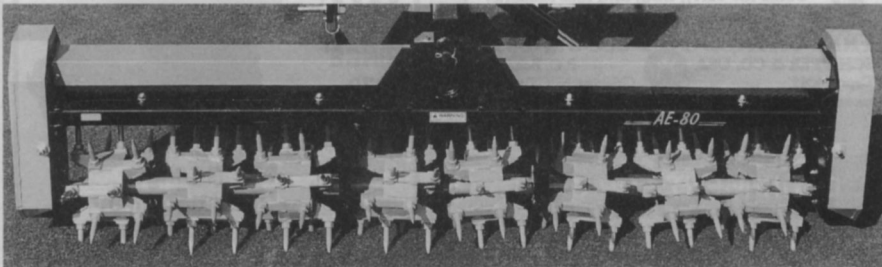
Aerator rotors stay with rough terrain

The new model AE-80 Aera-vator, from First Products, Inc., is mounted on a 3 pt. hitch, on tractors 35 hp or larger.

The PTO power vibrates the tines to penetrate and fracture hard, compacted soil.

The Aera-vator covers an 80-inch wide path. A vertical pivot joint on the hitch unlocks when the unit is lowered, which allows the unit to make sharp turns during operation.

The unit centers on the tractor and locks when lifted. A horizontal pivot point keeps the rotors in contact with the soil over rough ground.



Circle No. 201 on Reader Inquiry Card

Injector tool adjusts to reach one foot deep

The new RZI-4903 root zone injector, from Rogers Innovative, Inc. injects pesticides or performs a fast, light aeration at the rate of 64,800 sq. ft./hr., in a 3 x 3-foot grid.

A deeper, more thorough aeration can be achieved at a rate of 28,800 sq. ft./hr.

The 4903 will inject most any nonabrasive, pumpable liquid, from one-half to one-foot deep.

Superintendents can aerate greens quickly and efficiently, thanks to a high transport speed.



Circle No. 202 on Reader Inquiry Card

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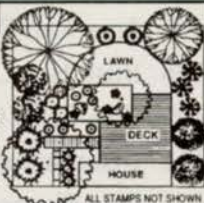
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BOX NUMBER REPLIES: Mail box number replies to: **LANDSCAPE MANAGEMENT, Classified Ad Department, 131 W. 1st St., Duluth, MN 55802-2065**. Please include box number in address.

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BUCKET TRUCK: Hi Ranger 65', 57', 50'. Skyworkers with chip boxes. Asplundh bucket trucks with chip boxes. Asplundh brush chippers. Bean 55 gal. sprayers. Pete Mainka Enterprises, 633 Cecilia Drive, Pewaukee, WI 53072. 800-597-8283. 12/95

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Tree/shrub Spray Tanker-600 gal. stainless steel, 400/200 split. Hannay elec. reels w/hose, all pumps & plumbing inc. tank mounted on full wrap around diamond plate bed w/step bumper. removed from Ford Super-duty truck. \$4,250.00, Bill Swann, 201-992-0598. 4/95

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Connecticut firm seeks working foreman with good experience in all phases of landscape construction and irrigation installation. A good knowledge of plants a must. Fax or mail resume to: BOMBACI LANDSCAPE, 45 Plains Rd., Essex, Ct. 06426, 203-767-8548. 4/95

MAINTENANCE MANAGERS & SUPERVISORS: One of the nation's largest and fastest growing full service landscape companies has an immediate need for experienced maintenance managers and superintendents, as well as entry level maintenance supervisors in the Midwest, Southwest, Mid-Atlantic, Northeast and Southeast states. The company seeks energetic, team oriented college graduates with proven leadership, communication and interpersonal skills. The company offers full-time positions, excellent advancement opportunities and exceptional compensation and benefits with an industry leader celebrating more than 50 years of uncompromising customer service. For immediate confidential consideration, please send or fax your resume to: The Brickman Group, Ltd., Corporate Office, 375 S. Flowers Mill Road, Langhorne, PA 19047, 215-757-9630, EOE 3/95

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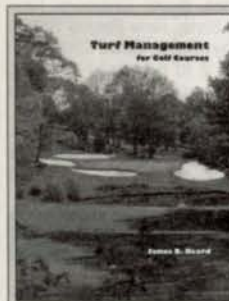
OPERATIONS MANAGER: Hermes Landscaping has an immediate opening for an individual to oversee the installation of landscaping and sprinkler systems on large commercial projects. Candidates should have supervisory experience and related background. Bachelors degree preferred. Sal. range 25k-35k + benefits. Hermes has been providing quality service for 30 years and we currently have a lot of contracts to fulfill. Come join our team. Send resume to: Hermes Landscaping, P.O. Box 14336, Lenexa, KS 66215. (913)888-2400 EOE. 4/95

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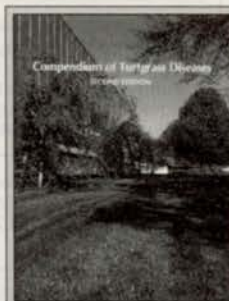
Turf Management for Golf Courses

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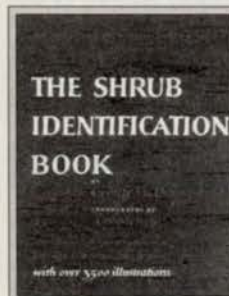
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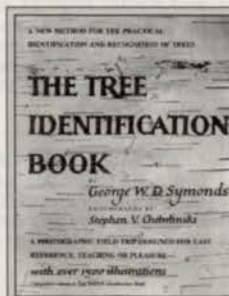
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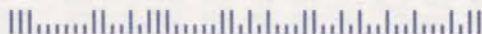
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102	119	136	153	170	187	204	221	238	255	272	289	306	323
103	120	137	154	171	188	205	222	239	256	273	290	307	324
104	121	138	155	172	189	206	223	240	257	274	291	308	325
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108	125	142	159	176	193	210	227	244	261	278	295	312	329
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111	128	145	162	179	196	213	230	247	264	281	298	315	332
112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
114	131	148	165	182	199	216	233	250	267	284	301	318	335
115	132	149	166	183	200	217	234	251	268	285	302	319	336
116	133	150	167	184	201	218	235	252	269	286	303	320	337
117	134	151	168	185	202	219	236	253	270	287	304	321	338

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111	128	145	162	179	196	213	230	247	264	281	298	315	332
112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
114	131	148	165	182	199	216	233	250	267	284	301	318	335
115	132	149	166	183	200	217	234	251	268	285	302	319	336
116	133	150	167	184	201	218	235	252	269	286	303	320	337
117	134	151	168	185	202	219	236	253	270	287	304	321	338

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1. BUSINESS & INDUSTRY

MY PRIMARY BUSINESS AT THIS LOCATION IS:
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A. Landscaping/Ground Care at one of the following types of facilities:

- 01 0005 Golf courses
02 0010 Sports Complexes
03 0015 Parks
04 0025 Schools, colleges, & universities
05 Other type of facility (please specify) _____

B. Contractors/Service Companies/Consultants:

- 06 0105 Landscape contractors (installation & maintenance)
07 0110 Lawn care service companies
08 0112 Custom chemical applicators
09 0135 Extension agents/consultants for horticulture
10 Other contractor or service (please specify) _____

C. Suppliers:

- 11 0205 Sod growers
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Which of the following best describes your title:
(mark only one)

- 13 10 EXECUTIVE/ADMINISTRATOR
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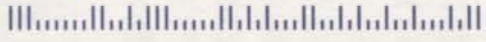


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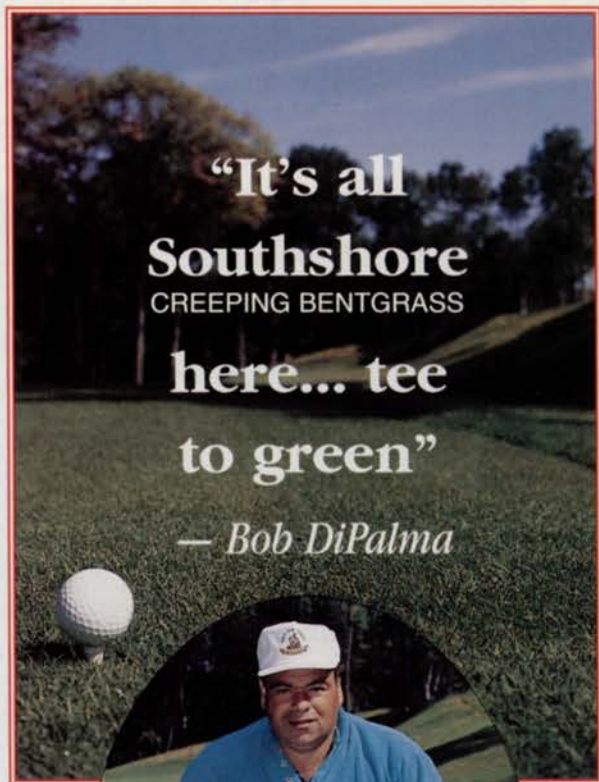
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**“The specs called for
tee to green bentgrass.
I compared and saw
how much better
Southshore was. Now
in less than a year,
these greens are
the best in the area.”**

*Bob DiPalma, Superintendent
Minisceongo Golf Club
Pomona, New York*



Minisceongo Golf Club, the dream of developer Eric Bergstol, is tucked into the scenic hills of Rockland County, New York. Roy Case, as architect, began carving into the heavily-wooded, challenging landscape in March 1993 with Bob DiPalma already on board as superintendent.



Owner/developer, Eric Bergstol imagined a unique golf course when he purchased the land for Minisceongo Golf Club.

The specs called for bentgrass — tee to green — with bluegrass banks and fescue roughs.

With so many new bentgrasses on the market competing with the old-time favorites,

Bob DiPalma thought it wise to visit some test plots.

“I saw the darker color and upright growth of Southshore compared to some of the others. That did it! We placed the order...enough Southshore for every tee, fairway and green.



The out-of-play roughs at Minisceongo Golf Club are seeded with Reliant Hard Fescue for low-maintenance, natural beauty.

“Look at these greens! They were seeded in September 1993 and all 18 holes were opened for play July 1, 1994. Now, less than one year later, the greens are the best in the entire area, bar none! Even with the severe winter and extremely hot summer we had, they came through beautifully. No disease problems and we used very little chemical. We’re already seeing 12” roots on most of these greens.

“The tees and fairways are coming in nicely despite some washout problems. By next season this entire course is going to be top-notch. Eric is so pleased with what Southshore has done here, he’s already considering it for his next project,” — *Bob DiPalma.*



This double green at Minisceongo Golf Club serves the sixth and fifteenth holes. Photos were taken less than one year after seeding.



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