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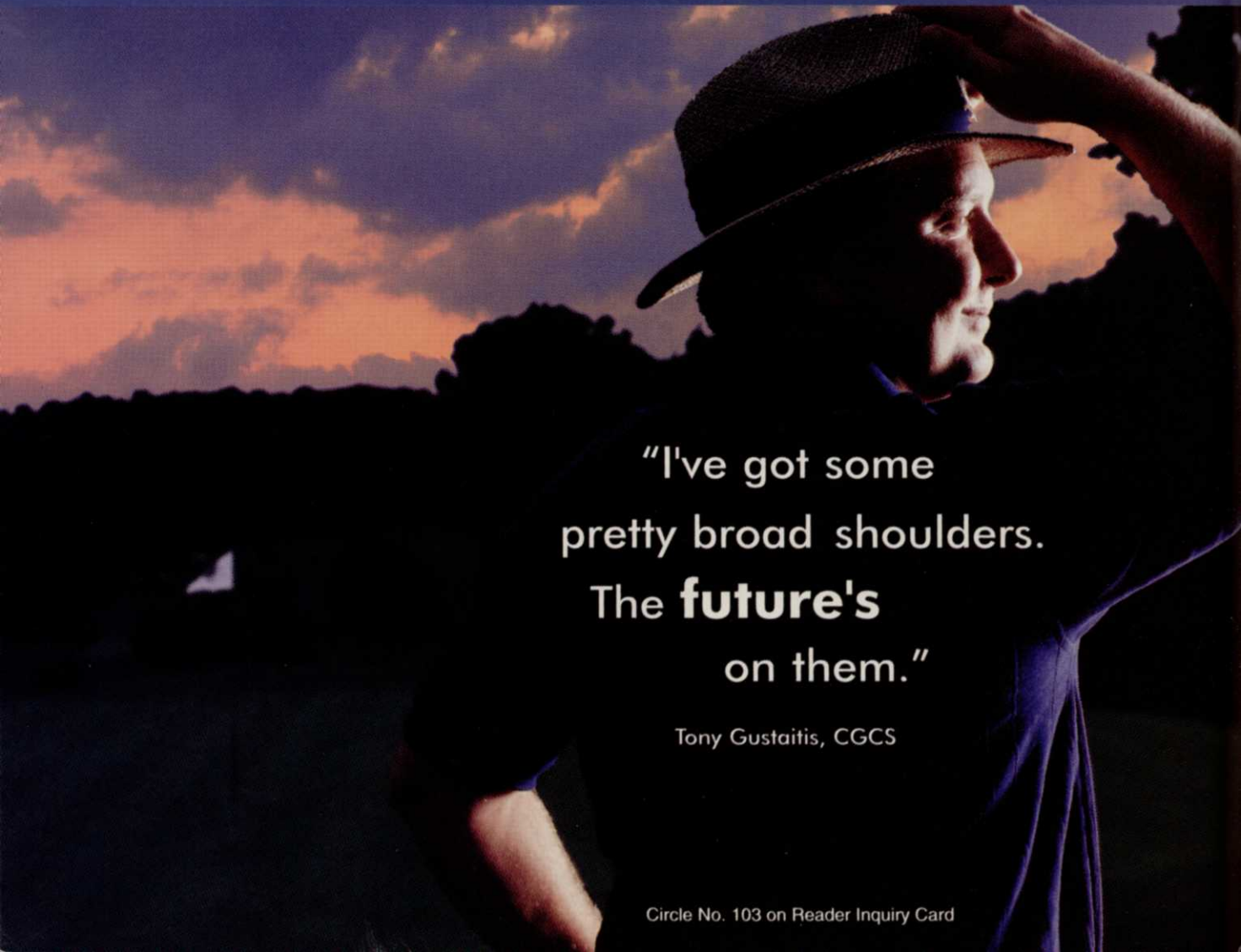
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Tony Gustaitis, CGCS

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THE VOICE OF THE GREEN INDUSTRY

LANDSCAPE management



ON THE COVER: THE MANY TEXTURES OF A WELL-DESIGNED LANDSCAPE ARE FOUND IN THIS HOME GARDEN.
PHOTO BY LARRY LEFEVER FROM GRANT HEILMAN.

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This is a great industry, with a great history of achievements, discoveries and advancements on all fronts: landscape; lawn care; golf course; athletic turf; grounds facilities.

We plan to highlight some of those achievements in our *35th Anniversary Spectacular*, in October, but we need your help.

This month's "Talkback" (page 54) contains a form we'd like you to complete and send back to us. We want to know how you got into the green industry, when you got started, what you were doing, and what you're doing now. We want to know what you think have been the most exciting, positive developments to come along over the past 35 years.

► From equipment, to control products, to business management, to golf course turf, to athletic fields...we want to hear

what you've liked, and what you've not been so crazy about since 1962, (or whenever you got into the industry).

► What have been your "personal bests" in the green industry? Is it building a top-flight business? An award-winning design/build staff? A model athletic field operation? Let us know!

► We also want to know what you think of this magazine. We have strived, since the days of *Weeds and Turf*, and later, *Weeds, Trees & Turf*, to be a comprehensive green industry publication, one you keep on your desk and refer to often.

So, how are we doing? Which stories have made the most lasting impression on you and the way you manage your operation? What would you like us to do differently? What are the issues

you face daily you would like to see us cover more often. What would you like us to give more coverage, whether it be industry trends or news?

► Where do you think the green industry is headed as it nears the year 2000? What are you most excited about? Do you see any signs of in your local economy that make you especially glad to be in this industry at this particular time?

► What do you think needs to be done for the green industry to keep up with the times, in terms of service, agronomics, employee relations, government relations, turf management, or business management? Where are we headed, in your opinion?

► State and local associations: we want to hear from you as well. When did you get started, and what has been some of your history in terms of growth, activities and benefits to members?

► We'd also like any of you who respond to include a photo or two (one you can part with) from the days when you first got started.

Use an extra sheet if necessary. That space on page 54 is pretty small for 35 years of memories.

Send your "Green Industry Memories" to:

The Editors, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130; fax: (216) 891-2675; e-mail to lscope@en.com

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Terry McIver

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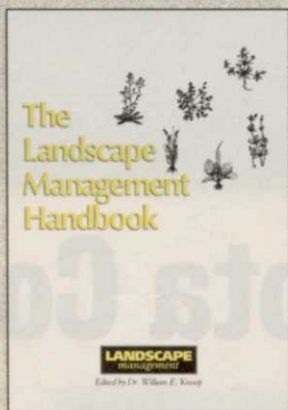


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EDITORIAL STAFF

Fax (216) 891-2675
E-mail: lscape@en.com

Terry McIver **Editor-in-Chief** (216) 891-2709
Ron Hall **Managing Editor** (216) 891-2636
Dr. Bill Knoop **Technical Editor** (903) 860-2410
Vernon Henry **Group Editor** (216) 826-2829
Lisa Lehman **Art Director** (216) 891-2785
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Leslie Montgomery **Administrative Coordinator** (216) 826-2856
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Sandy Ollah **Green Book Supervisor** (218) 723-9618
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ADVERTISING OFFICES

Headquarters 7500 Old Oak Blvd.
Cleveland, OH 44130-3369
(216) 243-8100 Fax: (216) 891-2675

John D. Payne **Publisher** (216) 891-2786
E-mail: jpayne222@aol.com

Sean Carr **Regional Manager**
(216) 891 2767 Fax: (216) 891-2675

Tom Galligan **National Sales Manager**
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Kenosha, WI 53144-1830
(414) 653-9523 Fax: (414) 653-9524
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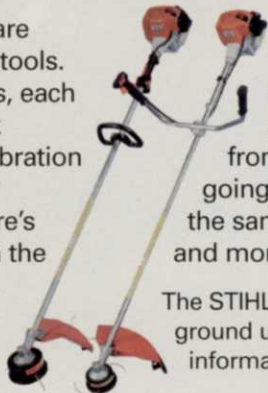
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The poop on bird waste

Our tree climbing crews are concerned about catching disease germs from bird droppings on trees. Is this possible? If so, what can we do to prevent it?

—INDIANA

A National Wildlife Health Center representative indicated that if bird droppings contain this "disease agent," it is possible for humans to be infected. However, if climbers protect themselves with proper safety clothing, gloves, goggles, hard hat, boots, and practice proper hygiene, this will help minimize exposure and in turn reduce their chance of being infected with a disease. In addition, cleaning boots and soiled tools in a mixture of two full caps of bleach in one gallon of warm water will help disinfect contaminated items.

A specific disease has been identified as a potential health problem when large numbers of birds roost during the night and large amounts of their droppings are in one area. A soil fungus called *Histoplasma capsulatum* can grow in bird droppings and cause Histoplasmosis in humans.

The fungus spores are usually inhaled, and produce a lung infection which is often mild and often goes unnoticed. A few severe cases result in fever, coughing, sweating and loss of weight. The potential for this disease is increased if the contaminated area is in an enclosed space. To help minimize the exposure, workers should wear

face masks to protect themselves from inhaling the fungal spores.

Reports indicate that most people who are exposed to this fungus develop an immunity without suffering any symptoms.

Flooded fairways: help!

We sprigged a golf course fairway with Bermudagrass during the summer of 1996. The heavy rains of early March have left the area under water for about a week. What kind of recovery should we expect from the Bermudagrass?

—KENTUCKY

Do the following as soon as possible:

- 1) Remove debris or silt.
- 2) Remove, core or slice the thin crust of deposit.
- 3) Have the soil tested for pH, soluble salts and nutrient levels. Provide corrective treatments as needed.
- 4) If there are thin areas or no sign of Bermudagrass recovery, resprig as needed.
- 5) Since the turf was under water for an extended period, provide good cultural practices to help improve the plant health.

The lack of aeration and subsequent suffocation of living tissues is the major problem. Often, turfgrass under lowlands may encounter flooding from time to time and perhaps adapt to it. The problem usually comes from the length of time water is submerging or drowning the plant. Other factors which influence flooding injury

are: 1) turfgrass species; 2) depth of submergence; 3) physiological condition of the plant tissue; 4) temperature; and 5) light intensity. Another problem is the silt, sand and debris deposit on turf during a flood. Receding water may wash away the surface soil, exposing the root system. The chances of insect and diseases such as Pythium root rot may increase.

Soil deposits, salt and debris may be more of a problem in slow moving water. This debris, if found, should be removed immediately. Deposits of two inches or more should be removed or incorporated into the soil by vertical mowing such as dethatching or plowing. This is important to save the buried turf from dying. If the silt deposit is less than one inch, it may not cause permanent damage. Even in this case it is a good idea to remove as much as you can by gently washing the turf, or by vertical mowing or slicing to break the crust and allow air exchange and light penetration. Consider using a slicer seeder, dethatcher or aerifier to break the crust of silt or salt.

In addition to water-logging, submerged turf may show yellowing because of nitrogen deficiency or accumulation of some toxic bioproduct, etc. Flooding may also affect soil pH. It may increase the pH of acidic soil and decrease the pH of alkaline soil. **LM**



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Where Great Grass Begins

Flood repairs begin in Ohio, Kentucky

by TERRY MCIVER, Editor-in-chief

LOUISVILLE, Ky.—The river ran through, and then came the clean up.

The floods of 1997—another in what seem to have become annual, weather-related mishaps across the U.S.—hit southern Ohio, Indiana and northern Kentucky hard. Now, landscape companies and golf course superintendents are busy mopping up.

"Floyd's Fork Creek rose and covered 12 of our holes," says Tony Littrell, CGCS, Midland Trail Golf Course, Middletown, Ky., about 10 miles east of Louisville.

"We didn't have any major problems, a little bit of siltation, that kind of thing," says Littrell. "We'll have it cleaned up before the month's over. We're using our Sand Pro where it's dry enough to push the silt into piles, because it's too wet to get out there with loader tractors."

Littrell reports that most of the silt on the golf course was a high sand content, "and all that did was improve the soil. Some sand bunkers were completely washed out."

"Better to have a golf course in a flood prone area rather than a house," observes Mark Wilson, CGCS, of Valhalla Country Club, Louisville, Ky., site of last year's PGA Championship. Wilson reported the water was receding as of March 10.

Wilson assessed the situation by saying the course had "no real turf damage, but tons of debris."

The clean up is monumental, as silt, leaves, logs and the garbage that was left behind is scattered everywhere.

It was about a 10-day clean up job for Wilson. "There was as much as three inches of mud on the cart paths. The



Golf courses in Ohio and Kentucky were covered by flood waters at different times during the week, depending on location. Shown here is Valhalla in Louisville.

Turf aerification a priority after flooding

"Aerify, aerify, aerify," to reduce compaction and layering problems, says Dr. Bill Knoop, LANDSCAPE MANAGEMENT technical editor, when asked what advice he would give superintendents at flooded golf courses.

"And remove aeration cores, if possible. You want to pick up as much of that silt as you can," advises Knoop, of Mt. Vernon, Texas.

"You've got to get oxygen into the root system, and allow carbon dioxide to escape."

On courses where the silt is deep enough to prevent light from reaching the plant for an extended period of time, "the war is probably over," suggests Knoop.

Weeds could become another major concern. "The river water brings in an incredible amount of weed seed," says Knoop.

So, how long can turf usually live underwater?

"It's a function of water, temperature, time, and turf variety," explains Knoop. "Some grasses do better than others. Generally, the warmer the water, the worse off they are.

"You have to be more concerned with bluegrasses. Bermuda will come up through asphalt!" The bunch types—ryegrasses, tall fescues—will have the toughest time surviving because of the way they spread, says Knoop.

"Bermuda, St. Augustine, zoysia, can handle this kind of adversity much better because of the way they grow. You can almost literally bury bentgrass and it will come up."

Trees will need attention, too, says Knoop.

"All root systems have to exchange gases. A tree is going to root in relationship to the soil texture. The heavier the soil, the root system will tend to be closer to the surface. If you seal that surface with silt or clay, you're going to kill that tree. It could be a year before you notice any damage."

T.M.



PHOTOS COURTESY MARK WILSON

Mark Wilson's Valhalla crew made bridge repair a priority.

bunkers were destroyed by the 11 inches of rain in two days. Basically, we're still working on bunkers one at a time. With the bunkers we're scraping the silt, trying to clean the contaminants out of the white sand.

"We lost the handrail on three concrete bridges," continues Wilson. Liability concerns made replacing the rails a priority, at a cost of \$5000. A thousand foot stretch of security fence was "flattened," says Wilson, and cost \$6000 to replace.

"It's all labor intensive," says Wilson. "You can't even get small carts to those wet areas."

Valhalla tees, fairways and greens are seeded with Penncross bentgrass. Roughs are bluegrass; long

roughs are fescue.

Wilson is able to find a silver lining in this cloud: mowing isn't a prime concern right now, since the turf's just getting started. And, he says, Valhalla uses "one of the best water tolerant grasses you can find," in bentgrass.

"Bentgrass is probably the best survivor underwater," says Wilson. "We were under water for three days, and there's no harmful effects on the turf."

Wilson had to hire workers from a temporary service to meet the need for extra labor. □

Leaf blower issue still swirls in Calif., NY, Ore.

The ban on leaf blowers is still an active issue in the green industry, as concerned professional users try to educate everyone from irresponsible operators to misinformed activists.

In November, Los Angeles City Council voted 9-3 to approve an ordinance banning the use of gasoline-powered leaf blowers within 500 feet of a residence. The ban takes effect on July 1, with a maximum fine of \$1000. Fifteen other California communities have banned the tools, and dozens of others have approved ordinances restricting their use, according to the Portable Power Equipment Manufacturers Association, Bethesda, Md.

Municipal governments in New York and Oregon are watching the Los Angeles events as they consider measures to respond to what is called "a growing concern over community noise."

It's the operator!

Michael Bellantoni of White Plains, NY, executive director of the New York State Turf and Landscape Association, and president of Michael Bellantoni, Inc., says the Association is considering filing a lawsuit to overturn a ban on leaf blowers in Scarsdale, NY, which, ironically, is the first city where the leaf blower was ever used. The Association had won an earlier ruling allowing professionals to use leaf blowers, but that ruling was overturned due to a procedural error.

"Leaf blowers are a lot quieter than many other powered tools," explains Bellantoni, who says that when the noise issue is challenged, anti-noise advocates change their tune, and say blowers contribute to the spread of carcinogens in the air.

"Limited use restricts work," says Bellantoni. The Association has suggested a compromise to the Village of Scarsdale instead of going to appeals court once again. "We want to seek a happy medium for the landscapers and Scarsdale," says Bellantoni.

That happy medium would be to restrict blower use to the hours of 8 a.m. to 5 p.m. Monday through Friday.

"We would support a heavy penalty for any violators, without warnings," says Bellantoni.

A roundtable discussion sponsored by the Portable Power Equipment Manufacturer's Association took place in November, and included most manufacturers of two-cycle equipment.

"The ideas expressed spanned the spectrum of alternatives, including educating users in the industry to fighting the laws in the court system," says Larry Wilson, president of NYSTLA. "Many thought that a public relations campaign would help. Everyone agreed that unity was important." □



Bellantoni: fines for violators.

>HOT TOPICS**NTEP funds cut again**

BELTSVILLE, Md.—The United States Department of Agriculture has again cut funding for the National Turfgrass Evaluation Program, this time for fiscal year 1998.

The action took NTEP by surprise, especially after a successful green industry effort to restore funding in 1997.

"[USDA] took the same projects that were identified last year, and cut them again," says NTEP director, Kevin Morris.

"When the funding was restored last year, we actually got a five percent increase, to \$55,000. Then, they went and cut it again, the whole thing. If they don't set aside any money for us, we lose our connection to USDA, unless we want to pay them for rent, which we don't want to do and won't do."

Morris says the green industry is going to work on getting the money restored at the congressional level, but will also try to get a full-time position established at NTEP.

"That will help to keep us from getting cut in the future. It's easy to cut money when there's no employees attached to it, because you don't have to worry about putting them in a new position, retraining or relocating," suggests Morris, who is employed by the National Turfgrass Federation, a non-profit corporation, not by USDA.



Morris: NTEP 'out on a limb.'

The NTEP was started in 1980; its first manager was the late Jack Murray.

"When Jack retired in 1988, his position was cancelled," explains Morris, who has been with the program for nine years. The USDA has not had a full-time person in the turfgrass program since 1988.

"A couple years ago, all the projects within the agricultural research service were rated in terms of their importance. The administrators rated our project 'low,'" recalls Morris.

"They're using the same ratings now, to determine which projects to cut. We're still an easy target."

"USDA has at least 10 full-time scientists working in ornamentals," says Morris, "so it's not like the green industry doesn't have any support here. In fact, the ornamental people got \$200,000 additional funding for this fiscal year. The ornamental people have congressional support. They've put a good case forward, and the congressional people have agreed to it."

Green industry professionals are urged to contact their congressional representative to voice support for the NTEP/USDA cooperative effort.

"Let them know it's important to have that link between the USDA, the green industry and NTEP," says Morris. **LM**

Events**APRIL**

10-12: Landscape Maintenance Association Annual Equipment Show Roundup Palm Beach Airport Hilton, W. Palm Beach, Fla.; Fred Williams, (407) 672-0633.

22-23: Integrated Turfgrass Pest Management for Professionals University of California Extension, Davis, Calif. Call (916) 757-8899.

27-30: North American Snow Conference sponsored by the American Public Works Association, Kansas City, Mo.; (816) 472-6100; fax (816) 472-1610.

26-27: Leesburg Flower and Garden Festival Sponsored by Leesburg (Va.) Department of Parks and Recreation. Call (703) 777-1262.

30-May 5: Western Chapter ISA Conference Disneyland Pacific Hotel, Anaheim, Calif. Contact Western Chapter ISA at (916) 641-2990.

MAY

3-5: Turf & Ornamental Communicators Association Annual meeting, San Diego, Calif. Call (612) 758-5811; fax (612) 758-5813.

3-7: New York State Recreation & Park Society Conference Holiday Inn Sun Spree, Lake Placid, NY. Call Rob Marchiony (518) 584-0321; fax (518) 584-5101.

5-6: Florida Nurserymen & Growers Assn. Menninger Tree Conference Leu Gardens, Orlando, Fla. Contact Linda Vanderzee (407) 345-8137; fax (407) 351-2610.

5-7: Southeastern Turfgrass Conference 51st annual, Tifton, Ga. For more information contact Jeanne Werner (912) 386-3416; fax (912) 386-3822 or e-mail, jwerner@uga.cc.uga.edu.

7: Organizational Meeting for EETC Holiday Inn DFW Airport North, Irving (Dallas), TX. Contact Virgil Russell (512) 442-1788; fax (512) 442-1789.

12-18: American Society of Golf Course Architects Annual Meeting, Hotel Inter-Continental, Toronto. The Society celebrates its 50th birthday at this meeting. Contact the Society at (312) 372-7090.

14: North Carolina Turf & Landscape Research Field Day North Carolina State University, Raleigh, NC. Call Gene Maples (910) 695-1333; fax, (910) 695-1222.

29-30: Color Magic—Florida Nurserymen & Growers Ass. sites in Kissimmee/Orlando. Linda Vanderzee (407) 345-8137; fax (407) 351-2610. **LM**

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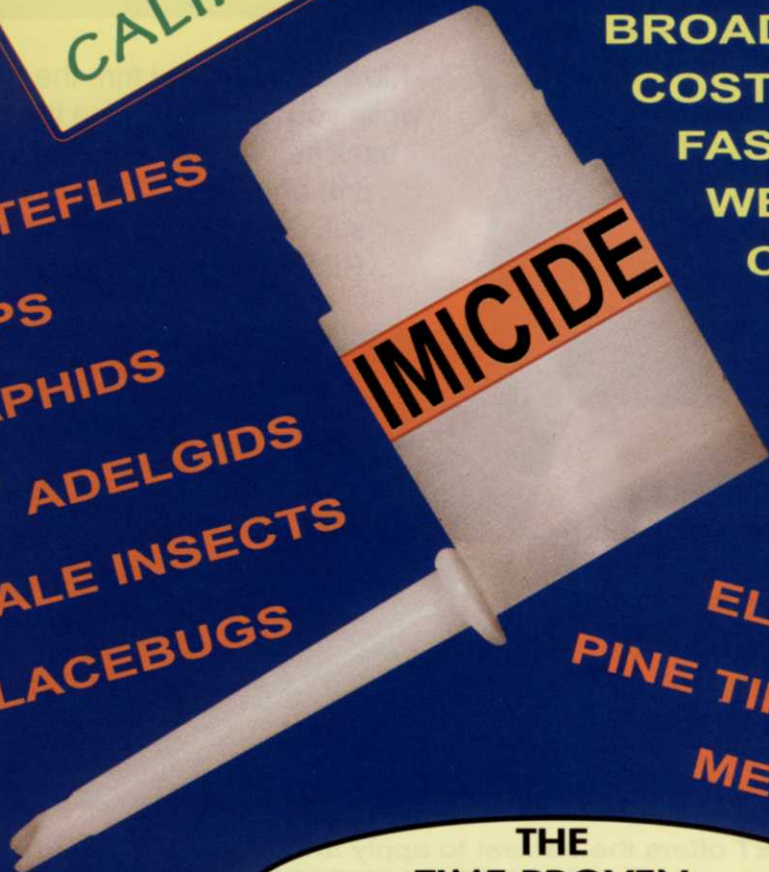
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Via mail, e-mail, fax, etc.

STMA says 'thanks for your support, LM'

This is a quick note to express my appreciation to you and all your staff for the support you have shown STMA over the years. I go back to the very beginning of the association, when you were "Weeds, Trees & Turf." I know we have gone through some personnel changes, but you people have always been supportive of our goals.

We have many successful programs in operation, but I think the one that will become

the most significant is our certification program. Once we have that in place and operational, we will be able to offer a great and much needed service to the industry.

*Mike Schiller
Superintendent of Parks
Rolling Meadows Park District,
Rolling Meadows, IL,
STMA president, 1996-97*

Thanks for the note, Mike. We appreciate STMA's concern for and dedication to improving athletic field management. LM plans to "stay in the game" with useful information for athletic field managers everywhere! —ed.

TurfGrass TRENDS a winner

Congratulations on acquiring TurfGrass TRENDS. TurfGrass TRENDS is the finest technical publication for turfgrass managers today. It has helped me understand and implement cutting-edge technology in my everyday management practices. I have been receiving LANDSCAPE MANAGEMENT for many years, and I know first-hand the high quality of material published in LANDSCAPE MANAGEMENT. I am sure you and your staff are up to the challenge in maintain-

ing TurfGrass TRENDS' reputation. What would make me satisfied as a reader is to see little change in TurfGrass TRENDS.

*F. Dan Dinelli, CGCS
North Shore Country Club
Glenview, IL*

Plans are to keep TurfGrass TRENDS as useful and up-to-date as it has always been, Dan. Agronomic information is high on our readers' list of priorities, and we plan to meet their needs with every issue! —ed.

SEND YOUR LETTERS TO: THE EDITORS, LANDSCAPE MANAGEMENT, 7500 OLD OAK BLVD., CLEVELAND, OH 44130



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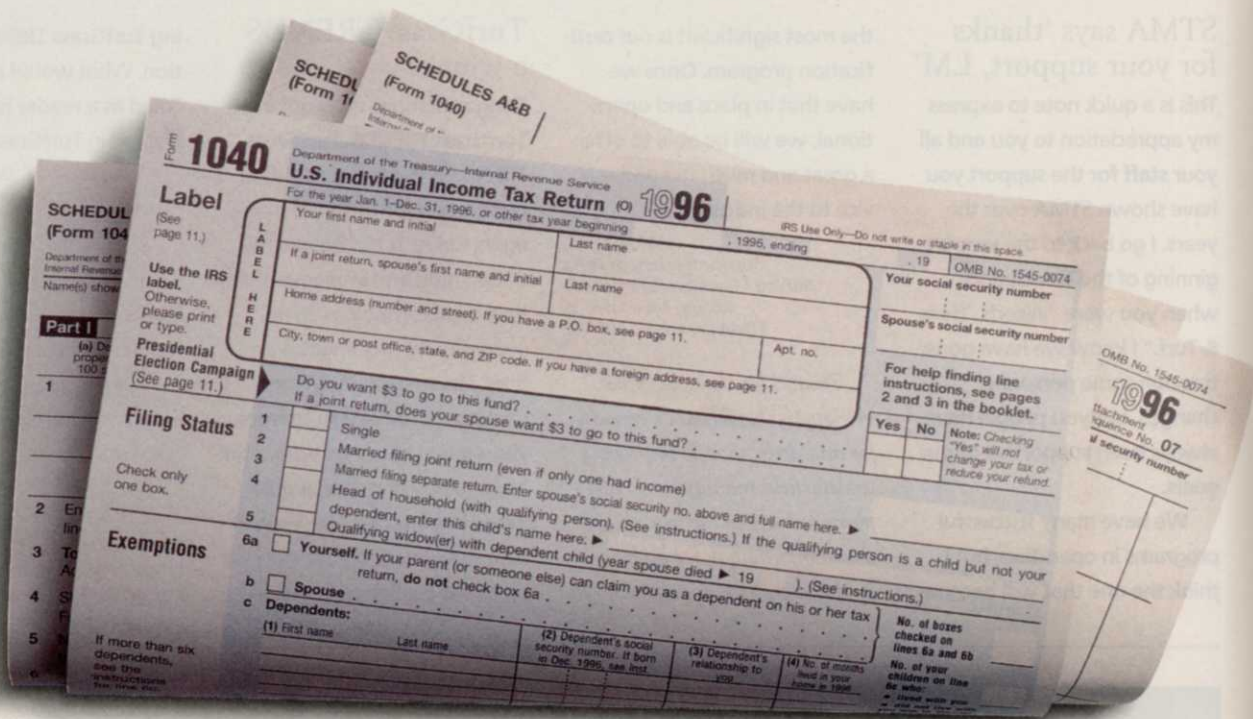
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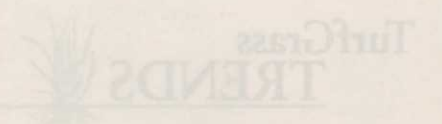


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EMPLOYEES: your biggest assets

So treat them as such, with opportunities to grow within the company. by JON EWING

At Landtrends, San Diego, Calif., employee retention has been regarded as a very important element to the success of our business.

I believe employee retention begins when *you believe* it is important.

You must understand that employees are your "biggest asset." This is a philosophy I learned from Ken Cook, founder of Springtime Growers, and president and founder of Signature Trees.

Sports analogy fits

"You're only as good as your worst player," is an observation that is as true as the concept that employees are your biggest asset. A strong firm can only grow, represent itself, complete quality projects and service a multitude of clients with a good staff.

Let your staff know that they are important to you. I tell my employees that my number one responsibility in the business is to provide them with a "growing opportunity." It is imperative that I create an atmosphere which enables my employees to grow.

Levels of growth

You'll find there are varying levels of desired personal growth. Some employees strive to be great gardeners, sales people, managers, or, perhaps, supervisors. You, as an owner or business manager, should assess a person's interests, and provide a road map for his or her success, not drive the car. The employee must drive his or her own vehicle. They're the one who makes it happen.

You first have to know why employees are your biggest asset. Then, set an example, by complimenting employees in front of others, and privately.

Keep employees informed with notes and letters the firm receives from clients or other industry professionals. Involve them. Spread out responsibilities.

Help individuals succeed by giving them attainable goals, then praising their efforts. Set the next goal a little further out and make it just a little more challenging. Make it a pleasure for your employees to realize the satisfaction of attaining their goals.

Set company goals and objectives with your staff's

input. Their input will result in their buying in to the purpose of these efforts.

Clear road map

Have a clear organizational chart and then break-out the responsibilities and criteria of each position. List each area of responsibility and think of what characteristics and knowledge are required. Define the roles your field crews serve. At Landtrends, we no longer use the term "laborer." We now break out our field staff as follows: novice employee, gardener, advanced gardener, leadman, foreman, supervisor.

Manage them well, develop work opportunities within the desired product range. Sell good jobs that fit your business focus.

Develop evaluation forms that clearly define the individuals current capabilities and illustrates what their areas for improvement are. **LM**

Jon Ewing is president of Landtrends, Inc., specialists in landscape services, San Diego, Calif. The company's "Landscape Maintenance Training Program" has become one of the models for the green industry.

Is turnover an opportunity?

There are things employers can do to reduce their turnover rates and take advantage of the vacancies.

—Who does the hiring? Do they understand the critical success factors that determine the best fit between the applicant and the job? Sit in on the next interview they conduct and see for yourself.

—Do you conduct pre-employment screening on new people? Do you believe everything they tell you? Have you checked back with the previous supervisor?

—Do you have a formal employee orientation session? Do employees understand where they fit in, and how important their performance is to your business?

—Does anyone sit down with new employees and see how things went after their first week on the job?

—Track "turnovers" in regard to: how long they worked for you, who they worked for, what kind of work they performed.

Track this for a while and you'll get an interesting slant on your turnover trends.

—Dave St. John and Larry Fish, FSJ Services, Inc. FSJ is an Atlanta-based human resource consulting firm.

Leadership in selection

Bill Hoopes, of Barefoot Grass, Worthington, Ohio, says there are many reasons to believe that you can hire and retain productive, long-term employees, but it starts with the selection process.



Hoopes: give the interview process high priority.

Hoopes says business owners and managers want to know:

- 1) How can I attract more winners?
- 2) How can I get people in the door that have a high probability of staying with me?
- 3) Where does interviewing come in?

How do you advertise?

People are surprised by job seekers they attract, and the reason is often found in company classifieds.

"If you want sharks, you'll get sharks," insists Hoopes, "because they're hungry! An ad that promotes

quality and reputation tends to attract people who have a higher probability of staying with you. Ads have to target candidates with qualities that you want, not what somebody told you you're going to get. When we run focus groups with homeowners," says Hoopes, "one thing they say to us is, 'we like to deal with the same person again and again,'"

Priority to applicants

Hoopes says company managers don't prepare for interviews.

"When it gets down to hiring, it's something you might do at the end of the day when you're tired and dirty and pooped out, if there's time," says Hoopes, "and it's wrong!"

The applicant's first interview confirms things that are most important to the candidate, things he or she is looking for.

"People have beliefs, values and standards. They will look at you to see if you're the kind of outfit they want to work for. Be honest about job responsibilities. You have to be honest about the work, but always end on a positive note."

Open-ended questions

Hoopes relies on "probing questions" to get to know people beyond the 'yes' and 'no' answers.

- ▶ 'What about the people you worked with; how did you feel about them?'
- ▶ 'Why did you leave?'
- ▶ 'What kind of experience have you had that would make you better than anybody else off the street?'

- ▶ 'What do you like about yourself?'
- ▶ 'On your last performance review, was there anything they told you you needed to improve? How did that grab you?'

▶ 'If I give you this job, will you give me your word that you'll stick with me for six months, because it's gonna take that long to teach it to you? Can you give me that commitment today?'

"The ones that work there are ones who *want to work there*," says Hoopes. "And those are the ones that have the highest probability of success."

Terry McIver

10 steps to 'positive' employees

1. 'Thank you' is often more important than a raise. Studies show employees on average respond better to praise than they do to raises.

2. You may consider providing certificates commemorating advancement and your employees position within the company.

3. We annually conduct an Employee Appreciation Dinner and a multi-media presentation that includes shining examples of employees efforts.

4. Send occasional thank you notes and personalized letters to thank employees for special activities.

5. Employee barbecues are relatively inexpensive ways to reach out to the entire staff, and offer a good opportunity to create a "Team" atmosphere.

6. Create an organization employees can take pride in.

7. Keep your vehicles clean.

8. Organize and maintain your offices and compounds.

9. Require a professional dress code.

10. Offer educational and/or training seminars that assist in employee advancement.

J.E.



Ewing: if you settle for less, why should your staff settle for anything different?



PHOTO COURTESY DAVID J. FRANK LANDSCAPING.

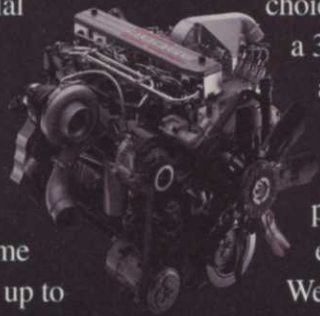
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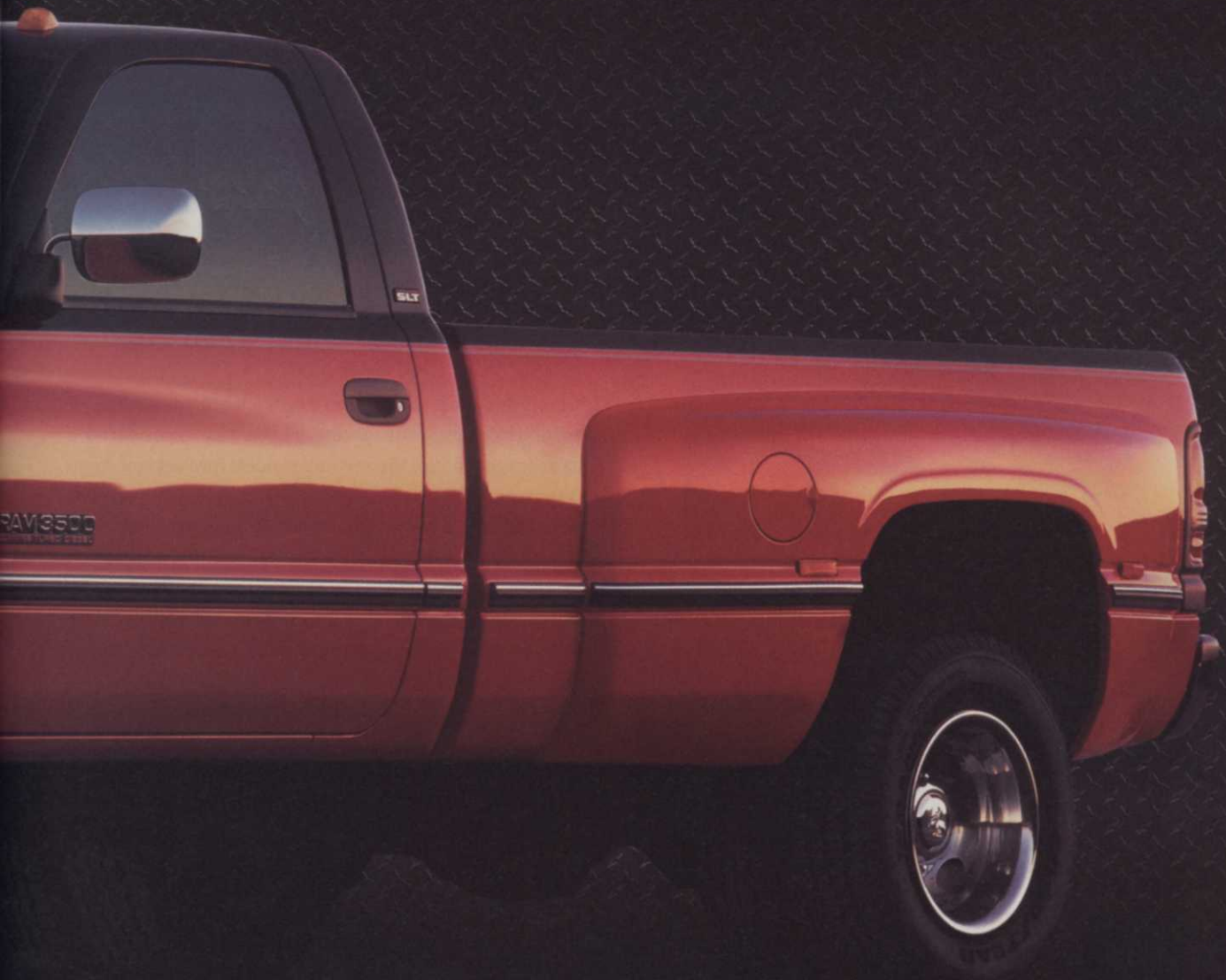
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The Gandy Company overseeder holds 100-125 lbs. seed and seeds a width of 42 inches. Several Gandy models available.



Verti-Seed overseeders in models with 34-inch and 50-inch working-widths. Compatible with tractors with at least 17 hp.



Here's a unit from Great Plains Manufacturing for really big seeding jobs. Smaller Landpride models also available.

SEEDING FOR GREAT TURF

Decisions you make before you begin a turfgrass seeding project will determine your success. That's why experienced turfgrass managers break the seeding process into several steps:

- ▶ Determining the types of turfgrasses best suited for your conditions and purposes. This includes obtaining quality seed from a reliable supplier.

- ▶ Preparing the soil to give the seed its best chance for establishment—leveling, debris removal, tilling, smoothing, covering the seed with an appropriate layer of soil, rolling.

- ▶ Seeding at the most opportune time(s) for establishment and survival for a particular location or climate. In the northern United States the best time to seed is late summer or early fall although early spring seeding can be successful too. In the warmer regions, the preferred time is in the spring as soon as the soil is warm enough for turf to green up.

- ▶ Post-germination care including irrigation and fertilization.

Although none of the steps is any more critical than any of the others, the most laborious involves soil preparation and the seeding process itself.

Fortunately, turfgrass managers can choose from a wide range of equipment, including precision seeders, to make seeding projects affordable and more likely to succeed. Check out these labor savers:

Aer Way
(800) 457-8310; for Pacific Coast: (800) 663-8196
Circle No. 250

Pull-behind turf harrows in 4, 4½ and 6-foot widths. Can be hooked together to 24-foot wide. Often used to work in seed and fertilizer.

Bannerman
(800) 325-4871; Canada (800) 665-2696
Circle No. 251

Easy to handle six-foot seeder, Model No. BTNS6, ideal for thickening turf and filling in worn or bare spots. Drag mat to work in and cover seed. Optional spring tith tines or cut grooves with ground-driven star wheels.

Bush Hog Corporation
(205) 872-6261
Circle No. 252

RT Series Rotary Tillers, 38 to 80-inch tilling widths. For 12- to 70-hp tractors. Also 6400 Series Rolling Cultivator, and 6401 Disc Better prepares beds in 30 and 40-inch row spacings.



Level Best Grading System consists of grader box, laser transmitter and tripod, laser signal receivers, and an on-board control panel.

Emrex Incorporated
(717) 288-9360
Circle No. 253

Two models Verti-Seed overseeder, one with 34-inch working width, the other a 50-inch working width with cutting depth up to 1 1/4 inches. Seed density fully adjustable. Smaller model requires tractor of 17 hp, the larger a tractor at least 22 hp.

Also from Emrex, Rotadairon heavy-duty soil renovators in working widths from 40 inches to 120 inches. At least six different models. Increase versatility by adding stainless steel precision seeder for fine seeding.

Finn Corporation
(800) 543-7166
Circle No. 254

Ground-Hog landscape tillers in 60 and 80-inch widths with spiral-mounted steel teeth to prepare seedbeds. Adjustable 3-way hitch. From-the-seat control. Instant depth control. Replaceable skid shoes.

The Ground-Hog's "business end" has spiral-mounted steel teeth that turn soil up to 4 inches deep. The tilling rotor churns into the soil against the running direction. No tire tracks mar the seedbed.

First Products Inc.
(912) 382-4768; outside of GA
(800) 363-8780
Circle No. 255

Seeder roller and rake attachments available for the AERA-vator available in Model AE-60 (60-inch swath) and Model AE-80 (80-inch swath). AERA-vator: as the rotors freely roll, the PTO powers the tines to vibrate rapidly in burrowing motion to penetrate and fracture harder soils.

Gandy Company
(800) 443-2476
Circle No. 256

Two overseeders. Choice of Model 2848SS to include disc assembly or Model 2848SA to include shoe assembly. Steel

20-gauge, 42-inch with cover. Hopper capacity 3.5 cu. ft. volume (100-125 lbs. seed). Seed rows two inches.

Glenmac
(800) 437-9300
Circle No. 257

Roller Packer Wheel fits all Pro-6 & 8 and T-6 & 8 rakes to firm up soil and leave a perfect "dimpled" seedbed to hold seed and fertilizer.

Great Plains Manufacturing Inc.
(913) 823-3276
Circle No. 258

Landpride Turf Solid Stand Seeders. Model OS1548 with 51-inch seeding width; OS1572 with 72-inch seeding width; PS35120 with working width of 120 inches. Slices through turf, meters all varieties and sizes of seed, proper placement of seed to surface. Ground-driven seed metering. Plant two varieties at once with optional second seed box with independent seed rate adjustment handle.

John Deere
(704) 588-3200
Circle No. 259

Tillers for compact utility tractors. The 550 tiller has a working width of 50 inches and the 660 a working width of 60 inches. Working depth up to 8 inches. Offset design lets you center the JD tiller or

offset it to the right when working close to obstacles.

Lesco
(800) 321-5325
Circle No. 260

The Renovator 20 seeds, slices and dethatches turfgrass. 8-hp Honda engine. Approximately 35 lb. capacity, 1 1/2 cu. ft. hopper. Seeding width 20 inches. Precise metering with independent, ground-driven rotor-bar agitation. Seed metered and dropped before slicing for optimum incorporation into the soil.

Massey Ferguson
(414) 284-8669
Circle No. 261

MF landscape rakes available in 5 to 8-foot widths. Tandem disc harrows, front and rear disc gangs adjust to four angle settings for penetration in widely varying soils. Working widths from 52 to 83 inches.

McMillen
(800) 234-0964
Circle No. 262

The Eliminator TR3 3-in-one grading tool—scarifer, box scraper and grading rake, all in one. Floating dragbar gives the operator the ability to push soil backwards and pull off rocks.

New Holland
(717) 355-1371
Circle No. 263

Tiller, box scraper, blades and landscape rake attachments matched to 25 and 30 Series "Boomer" New Holland tractors (25 to 34 gross engine hp).

Toro 205 Seeder with patented Delta Reel blades to cut slits. Powered by a 5-hp Briggs and Stratton engine.



Power Trac
(800) 843-9273
Circle No. 264

The PT-184 four-wheel hydrostatic drive tractor has over 20 different attachments including a 48-inch tiller, 60-inch aeration roller, and a 60-inch rake.

Precision Laser Services
(401) 785-1671
Circle No. 265

The Level Best Grading System's computer-aided earth moving technology allows a level of accuracy within 0.25 inches compared to the generally accepted industry standard of one inch. The Level Best allows one man to do in one day what it used to take three men to do.

Ransomes
(800) 228-4444
Circle No. 266

Mataway Overseeder/Dethatcher. Disc-tower delivery system feeds the seed directly into the slits for uniform seed/ground contact. Powered by 11-hp Kohler engine. Working width 19 inches. Hopper capacity 0.83 cu. ft. Seed density fully adjustable. Seed gate automatically shuts off when unit is raised.

Steiner
(216) 828-0200
Circle No. 267

Terra rake and tiller attachments for all five Steiner tractors, from the 16-hp Model 410 to the 23.5-hp Model 525.

Toro
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Cool-season insect control:

know the symptoms

by J. KEVIN MATHIAS, Ph.D.

Prior to a turfgrass field day, a number of entries in a Kentucky bluegrass study were turning brown. The facility manager suspected herbicide drift and the turfgrass pathologist leaned toward summer patch. An entomologist found the real culprit: billbugs. It's important to properly diagnosis the cause of turfgrass damage.

When monitoring:

- ▶ you need to know key pests and key plants,
- ▶ use effective sampling techniques and
- ▶ become familiar with insect damage symptoms.

Key plants are plants most likely to be damaged by insects. For the cool-season turfgrasses, the non-endophytic grasses such as the Kentucky bluegrasses, creeping bentgrasses and some of the fine fescues are more likely to be damaged by surface-feeding insects such as chinch bugs, sod webworms and cutworms. Shallow or poorly rooted turfgrasses are also considered key plants since root-feeding insects will easily damage these plants.

Key insects are the insects which occur most often within a geographic region. In Maryland, the Japanese beetle and masked chafer grubs are the predominant white grub

species. In New York, the European chafer is one of the most damaging grubs in home lawns. Learn the key pest insects within your area. Sampling techniques such as irritant soap flushes, black light trapping, flotation, pit-fall traps, and soil sampling alert you to the presence of insects, but they can also help determine if action thresholds have been reached. Action thresholds are the number of insects per unit area, in which damage will



occur if some type of control action is not taken.

Scouting for white grubs can be as easy as pulling back a piece of turf.

Action thresholds for turfgrass insects can vary due to differences in the host plants or the level of plant stress from environmental conditions or management practices. (See page 30 for monitoring, diagnosis and control strategies.) □

The author is associate professor of entomology at the University of Maryland.

Some new control products

Talstar (bifenthrin) is a synthetic pyrethroid recently labeled for the turfgrasses. It joins other pyrethroids such as Tempo (cyfluthrin); Scimitar and Battle (lambda-cyhalothrin); Mavrik (fluvalinate) and Astro (permethrin). Talstar comes in different formulation and labeling (restricted and general use) for golf course and home lawn uses. Talstar will control surface-feeding insects such as chinch bugs, sod webworms, adult billbugs, adult annual bluegrass weevils, armyworms, cutworms and atae-nius adults. Nuisance pests such as ticks, fleas and ants are also covered in Talstar labeling.

MACH 2 (halofenozide) is awaiting final registration and may be available for the 1997 season. This product mimics the insects' molting hormone—ecdysone—and will cause premature molting. In field tests it has provided consistent and excellent control for a number of white grub species.

Like Merit, this product can be applied early (May-July) and provide season-long control. The level of control is greater on first instar grubs than on later instar grubs. It also has activity against lepidopteran pests, such as sod webworms and cutworms. RohMid will be marketing this product and it will be initially available as a 2SC formulation.

Conserve SC is a new product developed by DowElanco and is in a chemical family known as spinosyn. The active ingredient of this product consists of fermentation products or metabolites of a specific bacterium found to have insecticidal properties. Current labeling is for Conserve to be formulated as a soluble concentrate to control sod webworms, black cutworms and armyworms.

Conserve SC will be active against all larval instars with rates ranging from .08 lb. to 4 lb. of active ingredient per acre. Current plans are to have it available by mid 1997.

Cruiser is a new nematode product from Ecogen labeled for white grub control.

Cruiser contains the nematode *Heterorhabditis bacteriophora* and has good to excellent activity against white grubs. Current recommendations are at the 1.0 to 1.5 billion nematodes per acre rate, and the product is effective on all larval instars. Supply is limited for Cruiser in 1997 with increased production planned for 1998. □



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MONITORING, FIELD DIAGNOSIS AND CONTROL PROGRAMS, COOL-SEASON INSECTS

INSECT PEST

Billbugs

Field diagnosis/monitoring

Adults begin to move from overwintering sites into turf in April/May. Use pitfall traps to determine spring activity. Billbug larvae will bore into crown and stem tissue and then exit into the soil. Look for sawdust-like material in stems. Also, plants, when pulled will sever at the crown. Damage visible by June on key plants, such as Kentucky bluegrass, zoysiagrass.

Control action

Preventive applications if pitfall traps indicate high adult counts (2-5/day). Use Dursban, Tempo, Battle, Talstar and Scimitar for adult control in April/mid-May. Control difficult when larvae are in the stem. Vector or Merit can be used at this time. Soil insecticides such as Sevin, Turcam, Oftanol, Diazinon, Crusade, Mocap, Mainstay and Triumph are labeled. Cool, wet summers favor a fungal disease outbreak of *Beauveria* sp., which will reduce billbug populations. Plant endophyte enhanced grasses.

INSECT PEST

Black turfgrass ateniensis

Field diagnosis/monitoring

Adults begin to move from overwintering sites into turf in late March/April. Adults are attracted to lights. Damage by first generation grubs will be seen by late June. Second generation grub damage will be seen by late July/early August. A serious problem on golf course turf where annual bluegrass and creeping bentgrass are grown.

Control action

Preventive applications may be done if past history dictates it with Dursban and Talstar in April or Merit in May. Soil insecticides such as Proxol/Dylox, Turcam, Crusade, Triumph, Mocap, Oftanol and Mainstay are recommended in June to September period.

INSECT PEST

Chinch bugs

Field diagnosis/monitoring

Prefer warm, dry, sunny locations. Emerge from overwintering sites as temperatures reach 70 degrees F. Flotation sampling is effective. Damage symptoms are irregular brown areas, often seen from July through September. Fine fescues are very susceptible. Other key plants are the creeping bentgrasses and Kentucky bluegrasses.

Control action

Preventive application in April/mid-May for habitual problem sites. Dursban, Diazinon, Sevin, Triumph, Tempo, Oftanol, Mainstay, Battle, Talstar, Astro and Turcam are labeled for control. Cool, wet weather during summer favors fungal pathogens which control chinch bugs. Plant endophyte-enhanced grasses. Big-eyed bug is a beneficial predator.

INSECT PEST

Cutworms/armyworms

Field diagnosis/monitoring

Consists of five main species and may be seen (caterpillars and adults) from May to September. Turfgrass thins. Irritant sampling techniques will flush insects to surface. Common problem on bent-

grass putting greens. Adults are attracted to lights.

Control action

The following are labeled for control: Sevin, Dursban, Battle, Diazinon, Proxol/Dylox, Scimitar, Tempo, Talstar, Crusade, Triumph, Mainstay. Biorational insecticides include: Steward, Dipel, Vector, Cruiser, and Turplex Bioinsecticide. Light irrigation to work material into thatch may be required for some of these. Plant endophyte-enhanced grasses.

INSECT PEST

Sod webworms

Field diagnosis/monitoring

More than 20 species of sod webworms in the U.S. Defoliation damage visible from May to September. Webbing and frass noticeable from larval feeding. High risk period is July to late Sept. Irritant sampling techniques flush larvae to surface.

Control action

Refer to insecticide list for cutworms and armyworms. Oftanol, Astro, Turcam and Orthene are labeled for sod webworm control. Plant endophyte-enhanced grasses.

INSECT PEST

Grubs: Japanese beetle, masked chafers, European chafer, Asiatic garden beetle, oriental beetle

Field diagnosis/monitoring

These white grub species cause root damage. Damage symptoms are brown turf which can be easily pulled up. Begin to monitor in late July to early August for the presence of grubs at or near soil surface. Light trap or pheromone trapping can indicate potential

high risk site area for some of these grub species.

Control action

Soil insecticides will give good to excellent control if watered in with half-inch of water. Product labeled are: Dylox/Proxol, Turcam, Mocap, Mainstay, Crusade, Oftanol, Sevin, Diazinon and Triumph. Can be applied mid August/September or in the spring, April-mid May period. Merit applications perform better if applied preventively or during egg laying period. The new nematode product Cruiser is labeled for white grub control.

INSECT PEST

Greenbug aphid

Field diagnosis/monitoring

Kentucky bluegrass is the major host for this insect. Worst outbreaks appear after mild winters followed by cool, wet springs. Feeding damage causes leaves to turn yellow-orange in color.

Control action

Orthene, Dursban and Diazinon for control in June-September period. Treat if yellowing occurs to turfgrass stand. □

SOURCE: DR. MATHIAS. OMISSION OF ANY PRODUCTS IS UNINTENTIONAL. PRODUCTS LISTED FOR INFORMATION ONLY, AND ARE NOT CONSIDERED TO BE ENDORSEMENTS.

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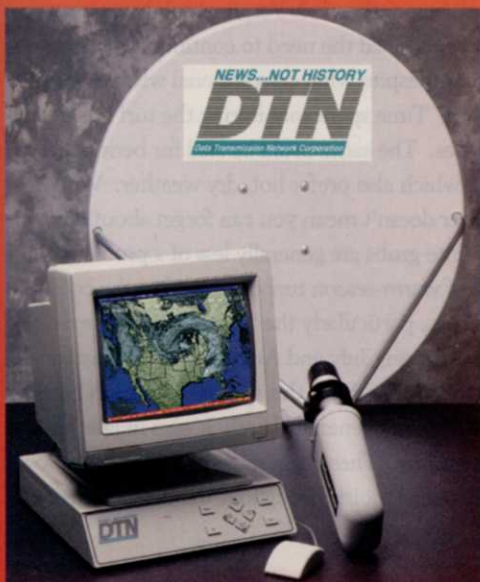
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Warm-season turfgrass insect management:

looking ahead to 1997

R. L. BRANDENBURG / Turf Entomologist,
N. C. State University

No matter where you are located in the United States and regardless of the turf types you manage, weather plays a significant role in determining which pests you will see, where they occur, and the severity of these infestations. Unusual weather often creates unusual pest problems.

The summer of 1996 was unusually wet over many areas of the southeastern United States; particularly in the Carolinas. One tropical depression

tippedegrass, and extensive plantings of hollies in landscape (a host for spittlebug adults).

Despite this general increase in the abundance of spittlebugs we have seen in recent years, we were not prepared for such high numbers in many areas during 1996. High populations were observed on many species of both cool and warm-season grasses. This phenomenon appeared to be a reflection of a wet, cooler-than-normal summer. Does this mean twolined spittlebugs will be a serious problem in 1997? It's difficult to predict this pest for the summer season. Undoubtedly, higher-than-normal populations of spittlebugs overwintered, but we don't know if this will translate into above-normal populations this summer. Be prepared and scout centipedegrass frequently for this pest.

The southern chinch bug is a pest of St. Augustinegrass particularly in hot, dry weather. Despite rainfall that in some areas was more than twice the normal average, we observed damage from chinch bugs. In fact, we saw some of the heaviest infestations we had observed in the past five years. Was this contrary to our accepted understanding of chinch bug outbreaks? Yes, it certainly was, but it also emphasized the need to continually monitor turfgrass despite what conventional wisdom might tell you. Time spent monitoring the turf helps avoid surprises. The same could be said for bermudagrass mites which also prefer hot, dry weather. Wet weather doesn't mean you can forget about them.

White grubs are generally less of a problem in areas of warm-season turf compared to the cool-season zones, particularly the Northeast. However, wet soil during July and August of 1996 may contribute to more grubs this spring. The adult beetles of white grubs generally lay their eggs in late June through July. These eggs must be laid in moist soil that remains moist throughout the development of



Although white grubs aren't usually a major pest threat in the southeast, be alert for them this season because of a wet 1996 season.

and two hurricanes hit North and South Carolina from mid June to mid September plus above normal rainfall occurred every week in between. Short-term we observed significantly higher numbers of twolined spittlebugs, particularly in centipedegrass.

Spittlebug summer

In general, the twolined spittlebug problem has been increasing on warm-season turfgrasses over the past 10 years. This may be due to the increasing population in the South, the increased use of cen-

CONTROL OF WARM-SEASON INSECT PESTS

the very small first stage grubs. If the soil is dry the eggs don't hatch or the very small, newly-hatched grubs die.

Many areas in 1996 had enough rainfall to keep the soil moist during this critical period for egg and grub survival. As a result we probably had above average survival of white grubs over a wider area (especially non-irrigated areas) and those above average numbers overwintered to damage turf in the spring. This may well be reflected in the number of moles attracted to turf areas to feed on these grubs. It may also result in more beetles, such as Japanese beetles to feed on certain ornamental plantings during 1997.

New products for 1997

The past few years have been good to those in turfgrass pest management since a number of new products have reached the marketplace and provide us with additional tools for effective control. Some of these products have been what the EPA's Official Pesticide Programs consider to be safer, reduced risk. In fact, during 1996, the EPA noted that more than half of the new active pesticide ingredients registered are so classified and this continues a several year trend.

Last year we saw the introduction of Merit (imidacloprid) for use in grub control in turf and more recently we have seen good success in mole cricket management. This product has been popular not only in its effectiveness, but also due to its acceptable toxicity profile for non-target organisms. Chipco Choice (fipronil) was also introduced into the mole cricket control market available through contracted custom application and has offered a very effective tool for managing this serious pest.

Recently several synthetic pyrethroids have or are being registered for turf insect use and these include Scimitar, Mavrik, Astro, Talstar, and Tempo. Many turfgrass managers appreciate the low use rates and low mammalian toxicity of the products, but they are relatively toxic to fish. Other products such as Cruiser bioinsecticide (entomogenous nematodes) for grub con-

INSECT PEST

Cutworms, armyworms

Hosts

all warm-season grasses

Damage

Generally clip turf off at soil level. Severe infestations may leave large bare areas where turf has been consumed.

Control Practices

- *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

INSECT PEST

Fire ants

Hosts

all warm-season grasses

Damage

Create unsightly mounds which may also damage mowing equipment. Painful stings of concern in high traffic areas.

Control Practices

- *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

INSECT PEST

Mole crickets

Hosts

prefers bahiagrass and close-cut bermudagrass

Damage

Extensive tunneling is unsightly. Root feeding causes dieback, thin spots.

Control Practices

- *use "soap flush" to detect
- *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

INSECT PEST

Ground Pearls

Hosts

most commonly attacks bermudagrass and centipedegrass

Damage

yellowing and then complete dieback of turf with no new regrowth the following season

Control Practices

- *no known effective control measures
- *practice good turf management to increase turf tolerance
- *irrigate during dry weather

INSECT PEST

Southern chinch bugs

Hosts

all warm-season grasses prefers St. Augustinegrass

Damage

Feeding results in turf becoming yellow and eventually turning reddish-brown.

Control Practices

- *avoid over-fertilizing
- *manage thatch
- *irrigate during dry spells
- *apply pesticides with plenty of water
- *multiple treatments often necessary

INSECT PEST

Twolined spittlebugs

Hosts

all warm-season grasses

Damage

Results in yellowing of

infested turf and severe infestation have noticeable unsightly "spittle masses".

Control Practices

- *control adults on ornamentals like hollies
- *treat on cloudy days when possible, since spittlebugs are higher up on turf
- *begin monitoring in early summer

INSECT PEST

White grubs

Hosts

all warm-season grasses

Damage

Grubs feed on roots and cause drought stress and turf dieback. May attract moles, skunks, etc. which damage turf searching for grubs.

Control Practices

- *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/early September
- *avoid ornamentals attractive to adult stages of Japanese beetles or green June beetles

INSECT PEST

Bermudagrass mites

Hosts

only bermudagrass

Damage

Initial yellowing of leaf tips, followed by shortening of internodes causing a tufted growth. May die under severe infestations.

Control Practices

- *irrigate during dry spells
- *proper fertilization helps turf outgrow damage
- *Resistant cultivars Floratex, Midiron, and Tifdwarf
- *multiple treatments often necessary

trol and Turplex (azadirachtin) are examples of recent introductions of biological materials that help meet a growing demand for such products.

More recently, a new product scheduled for release in 1997 has been receiving a lot of attention. It's a product resulting from a joint venture with Rohm and Haas and American Cyanamid. The new product halofenozide (Mach2) is an insect growth regulator. This product is effective against all stages of grubs and like Merit has a favorable environmental profile.

DowElanco has introduced a new class of insecticides into the turf market with Conserve SC. This product is classified by the manufacturer as being in the Naturalyte class and is derived from a naturally-occurring organism. The EPA has placed Conserve under expedited review for registration as a "Reduced Risk" insect man-

agement product. Its activity is primarily limited to caterpillars attacking turf.

A bacterium is also under development that may offer an effective biological control for white grubs. This new strain of *Bacillus thuringiensis* has shown good efficacy in university studies.

As always it will be interesting to see what 1997 brings us in the way of turfgrass insect problems. The good news is that regardless of what the year brings we have a good selection of products to help us manage those situations and new



Twolined spittlebugs, if conditions allow, can damage centipede turf. Turfgrass managers in the south should scout for them.

products on the horizon that promise to make it even easier. **LM**

PRODUCTS FOR CONTROL OF WARM-SEASON INSECT PESTS

Southern chinch bug:

bendiocarb (Turcam, Dycarb); ethoprop (Mocap); cyfluthrin (Tempo, Decathlon); permethrin (Astro); diazinon; chlorpyrifos (Dursban); isofenphos (Oftanol); isazofos (Triumph); fonofos (Crusade, Mainstay); lambda-cyhalothrin (Scimitar, Battle); acephate (Orthene); fluvalinate (Mavrik)
Timing: apply as needed during hot, summer months.

Thorough coverage is critical. Irrigate immediately after application of granules. Avoid over-fertilizing.

Leafhopper/twolined spittlebugs:

acephate (Orthene); bendiocarb (Turcam, Dycarb); chlorpyrifos (Dursban); diazinon; carbaryl (Sevin); isazofos (Triumph); fluvalinate (Mavrik).

Timing: begin monitoring and treat damaging populations in early summer.

Cutworms, armyworms:

azadirachtin (Turplex); lambda-cyhalothrin (Scimitar, Battle); acephate (Orthene); carbaryl (Sevin); diazinon; isofenphos (Oftanol); chlorpyrifos (Dursban); fluvalinate (Mavrik); cyfluthrin (Tempo, Decathlon).

Timing: monitoring/treatment may be necessary in early spring-late fall.

Mole crickets:

chlorpyrifos (Dursban bait); propoxur (Baygon bait); carbaryl (Sevin bait); bendiocarb (Turcam, Dycarb); chlorpyrifos (Dursban); isofenphos (Oftanol); fonofos (Crusade, Mainstay); acephate (Orthene); ethoprop (Mocap); fluvalinate (Mavrik, Battle); entomogenous nematodes (Vector MC, others); imidacloprid (Merit).

Timing: soap flushes to monitor egg hatch. Treat nymphs in early summer.

White grub:

bendiocarb (Turcam, Dycarb); diazinon; isofenphos (Oftanol); isazofos (Triumph); fonofos (Crusade); ethoprop (Mocap); imidacloprid (Merit); entomogenous nematodes (Cruiser) trichlorfon (Proxol, Dylox).

Timing: treat small grubs in late summer and fall for best control.

Ground pearls:

No known effective chemical controls. Follow proper turf management practices and irrigation.

Not all trade names are mentioned, and the ones listed are used as examples. No endorsement of product is intended nor does omission of any product imply criticism.



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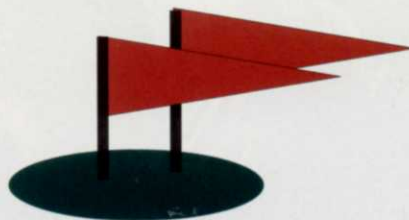


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Prizm	6.2	
Manhattan 3	6.2	
Brightstar	6.1	
Cutter	6.1	
SR 4400	6.0	

Genetic Color Ratings (LSD Value = 0.2)

PENNANT II	7.7
Manhattan 3	7.2
Brightstar	7.1
Prizm	6.8
Cutter	6.6
SR 4400	6.1
Saturn	6.0

Percent Living Ground Cover (Summer)
(LSD Value = 7.5)

PENNANT II	91.1
Prizm	88.9
Manhattan 3	88.7
Brightstar	88.1
Cutter	86.9
SR 4400	84.7
Saturn	80.1

Mowing Quality Ratings (LSD Value = 0.1)

PENNANT II	6.7
Top Hat	6.3
Brightstar	6.0
SR 4400	6.0
Cutter	5.7
Manhattan 3	5.7
Saturn	5.7

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Insect control in landscape ornamentals

by TIMOTHY ABBEY

As trees, shrubs, turfgrass and flowers are pushing forth new growth, insect activity is starting to increase due to the warmer temperatures and longer days.

To keep pace with these persistent pests, it is best to lay out an efficient and effective battle plan before they reach crisis levels.

Many of you may be familiar with Integrated Pest Management, and the steps needed for its successful implementation. IPM is a decision-making process that uses biological, chemical, cultural, physical and regulatory tactics to manage disease, insect, weed and other pest problems. IPM includes both the production and maintenance of ornamental plants in a way that minimizes risks to human health, society and the environment.

Since the focus of this article is specific pests, and not IPM, I will only present four main components. Individual modifications can be made to an IPM program based on personnel, pest problems and specific site locations.

1) Properly identify the plants, pests and miscellaneous creatures found in the landscape.

2) Establish a routine monitoring/scouting plan that enables you to track potential pest populations over time so that they do not explode.

3) Once a pest has reached a level that requires attention, a decision must be made regarding how to control it. This involves using one or a combination of the options mentioned previously.

Maintaining plant health, through proper cultural practices (plant selection, fertilization, irrigation, pruning, etc.), reduces the chance of most pest problems. For example, more landscape plants are killed from mower and weed-wacker injury than from any insect.

4) Evaluate individual pest management decisions and the overall effectiveness of the yearly IPM program. Hopefully, this introduction to IPM sparks the interest of people not using it. It is not intended as an in-depth exploration. □

'Least wanted' insects

The key insect pests featured in this article were selected based on: their routine occurrence in the northeast each year; a wide host plant range; or their ability to cause serious plant damage. Depending on your specific landscape locations and their respective plant composition, other insects may cause more headaches. The following pests are grouped according to how they feed on plant material.

Piercing-sucking group

Though mites are not insects, the following two mites are common landscape pests. The **spruce spider mite** (*Oligonychus unguinis*) is found on conifers such as arborvitae, hemlock, juniper, pine and spruce. Adults have a dark-green to almost black body with a tan area directly behind the head. Their activity peaks during the cooler seasons (spring and fall) in the northeast. Immature stages have six legs as compared to the eight legs of adults. Spruce spider mites overwinter as red-colored eggs, and there can be several generations each year.

To monitor for this pest, tap tree or shrub foliage onto a white sheet of paper. If mites are present, they will stand out against the white background. They are about the size of the period at the end of this sentence. A 10X to 20X hand lens makes observing mites easier. These mites often produce webbing but by the time it's apparent, there may already be plant damage.

Mite feeding first causes discoloration to both the top and bottom of a needle. They



Birch leafminer damage

use their mouth parts to rupture individual plant cells in order to feed on the contents. This pin-point type damage is called stippling. Later, after more feeding, damage areas coalesce giving each needle a brownish, gray color. Heavy feeding activity can lead to needle drop and affect overall plant health.

Treatments for spruce spider mites may not be necessary unless more than ten mites are discovered at each limb jarring.

Twospotted spider mites

(*Tetranychus urticae*) are green-colored with a dark spot on either side of the back. They feed on numerous hosts including roses, viburnum, *Buddleia*, euonymus, flowering fruits and assorted vegetables. Unlike spruce spider mites, twospotted mites prefer hot, dry summer conditions. These environmental factors promote rapid development leading to numerous generations a year. They overwinter as orange-colored females in leaf debris or soil crevices.

Monitor for this pest beginning in early June when populations are low. Twospotted spider mites favor the underside of leaves, but noticeable discoloration appears on the top. Pull back plant material to see active mites and shed skins which look like



Black vine weevil notching this rhododendrum, one of the pest's favorite foods.

white specks. Also, remove individual leaves and count the mites. Use a hand lens. Early detection allows you to follow their populations over time. This ensures that treatments are applied at the best time.

Early feeding damage appears as stippling, but can quickly lead to bleached out leaves. Large populations will cause leaf drop and produce webbing. The webs permit quick movement to adjacent plants, or individual web strands can catch wind currents and disperse mites.

Naturally occurring predatory mites often keep populations in check. If plants are treated with selective miticides, which have less of an impact on predators, twospotted spider mites may never be a major concern. Again target the underside of the leaves.

Individual **lace bug** (Family: *Tingidae*) species feed on specific host plants such as azalea, cotoneaster, rhododendron and sycamore to name a few. The adults are $\frac{1}{8}$ - to $\frac{1}{4}$ inch with white, lacy wings held flat over the back. Though similar in general body shape, the immature stages (nymphs) are black with spines. Lace bugs that feed on evergreen hosts overwinter as eggs, while those that feed on deciduous plants overwinter as adults. There are two or more generations per year.

As the adults and nymphs feed on the underside of leaves, they cause discoloration to the upper surface. Plants, such as azalea and *Pieris japonica*, that are under attack in full sun suffer the greatest.

For this pest examine the underside of leaves on susceptible hosts. If done by early June, the populations should be small and have caused little visible damage. When observing the bottoms of the leaves, look for the presence of dark fecal spots stuck to the leaf surface. The waste products of lace bugs distinguishes the damage from the similar feeding of mites or leafhoppers.

Unfortunately, natural predators and parasites do not provide sufficient control of lace bugs. If spray treatments are necessary with a contact insecticide or horticultural oil, direct the spray at the leaf undersides. Systemic insecticides, chemicals absorbed by the plant and then ingested by piercing-sucking insects, work well with thorough coverage to any of the leaf surfaces.

There are too many species of **aphids** (Family: *Aphididae*) to discuss individually, so they are presented here as one general



Twospotted spider mite damage on over 50 percent of leaves

group. Aphids are approximately $\frac{1}{16}$ - to $\frac{1}{8}$ - inch in length. Body color can range from green to orange to black. Some aphids produce a white wax-like material to cover themselves. Wings can be present or absent depending on the aphid species or the time of year. Plant hosts include assorted weeds, shrubs and trees. Certain aphids use a primary host plant early in the growing season and feed on an alternate host in the summer. Winters are spent in the egg stage. Several generations can occur each year.

Aphids prefer to feed on young, succulent growth particularly on the underside of leaves. Focus monitoring in these locations. Another sign of aphid feeding is the waste product of aphids, a sticky substance called honeydew. This can often be found on plants, sidewalks, cars, etc. located below heavy populations. Also, sooty mold, a dark-colored fungus, grows on the honeydew turning surfaces an unsightly black.

Plant damage appears as discolored and distorted leaves. Severity depends on aphid numbers and the host plant. A number of naturally-occurring predators and parasites affect aphid populations. These include adult and larval ladybeetles, green lacewing larvae, flower fly larvae and tiny wasp parasites. Often these insects do such a thorough job that no other control is necessary.

Also, horticultural oil can be a valuable management tool.

Chewing pests - leafminers and borers

Another common pest in the landscape is the **birch leafminer** (*Fenusa pusilla*). Its favorite hosts include gray birch, *Betula populifolia*, and paper birch, *B. papyrifera*. The adult birch leafminer is a small ($\frac{1}{16}$ inch), black wasp called a sawfly. Adults emerge in the spring with females laying eggs in leaves that are at half-size. The green-colored larvae feed inside the leaf. A second generation of adults will emerge in late June or early July, but it is not as severe the first. In some parts of the northeast, there is a third generation. The leafminer spends the winter in the soil as a larva inside a cocoon.

The larvae feed inside the leaves between the upper and lower epidermal layers causing small mines. Over time, these mines expand and run together forming noticeable brown blotches on the leaves. A heavy infestation can give a tree an overall brown cast. If heavy populations continue over several consecutive years, and if the tree is subjected to other environmental stress, the overall health of the tree declines. The tree is now more susceptible to attack from another pest, the bronze birch borer.

In order to optimize tree protection, reduce the first generation of birch leafminers. The adults are found around or on trees when the leaves are expanding. Place yellow sticky-card traps in birches to monitor for adult activity. The early-stage mines can be seen by holding a leaf up towards the sun. They appear as small pin-point discolorations.

One option for control is to replace susceptible species of birch with ones more resistant to this pest. These include *Betula davurica*, *B. costata*, *B. maximowiczana* and *B. schmitii*. Also, remove adventitious tree growth which only serves to attract leafminer adults. At this time, there are no other effective non-chemical controls. Chemical controls can target adults and larvae. Apply contact insecticides when adults are first detected on sticky cards or by visual inspection. The larvae can be killed with sys-

temic insecticide applications when mines are first observed. Systemic products containing imidacloprid can be applied to the soil as a preventative larval treatment before adult activity begins. This type of preventative application doesn't follow IPM guidelines, and should be used when the birch leafminer is known to be a problem.

Chewing pests - leaf feeders (adults) root feeders (larvae)

Black vine weevils

(*Otiorhynchus sulcatus*) damage many landscape plants. Adults and larvae primarily feed on azalea, rhododendron and taxus, but they also attack other evergreen plants. The adults are a black beetle approximately $\frac{1}{2}$ inch in length. A hand lens reveals the small yellowish spots found on the back. Weevils do not fly. They move to new landscape areas by walking or on infested nursery stock. The immature stages (larvae) are small, white, legless grubs that live in the soil feeding on roots. There is one generation of black vine weevils each year. Most overwintering as grubs.

The grubs consume small roots and girdle larger ones. This causes tremendous damage that kills the plant. The foliage of plants that have suffered heavy root damage will turn yellow. The adults chew C-shaped notches in leaves.

Adult black vine weevils hide in debris or soil crevices at the base of the plant during the day and do not move onto plants to feed until dusk. Scout in late May/early June for the first indication of leaf notching. Pit-fall traps, consisting of plastic cups inserted into holes in the ground, can be placed to catch the wandering adults. Another option is to take a piece of burlap, fold it into pleats, and then wrap around the base of the plant in question. The weevils use the folds as a daytime shelter and can be detected by unfolding the burlap. Larval detection can only be accomplished by exposing the root zone.

Control must be more effective than with some of the previously mentioned insects. First, before installing any new plant



Aphids. Note the shed skins.

material, examine the root ball for larvae and the soil surface for adults. The best method for black vine weevil management is to not introduce them into a planting bed. Also, do not use an excessive amount of mulch which increases the protective areas favored by the adults. Second, place barriers of aluminum flashing or plastic into the soil around uninfested areas to protect them from surrounding trouble spots. Since the adult weevils can only walk and not fly into the area, this reduces the chance of further infestations. Due to the feeding depth of the larvae, and the screening-effect of the foliar canopy, insecticide soil drenches are ineffective for grub control. Entomopathogenic nematodes (microscopic, soil-dwelling worms that attack certain insects) are an option for larval control in certain situations. No predators or parasites control the adults. The best approach is to treat the foliage with an insecticide, preferably at dusk, so that the chemical residue is fresh when the weevils crawl up to feed.

The next insect pest is one that is all too familiar. **Japanese beetles** (*Popillia japonica*) are oval-shaped with copper-colored wing covers and small white tufts of hair around the sides. The adults feed on 300 species of plants. A few favorites are roses, Japanese and Norway maples, flowering crabapples and cherry. Adult activity is at its peak on the warmest, sunniest days. These beetles group, usually in large numbers, to feed and mate. The grubs are white, C-shaped with six legs. They feed on the roots of turfgrass. Japanese beetles have only

one generation a year and overwinter as grubs in the soil.

Unlike black vine weevils, the feeding damage of adult Japanese beetles can be extreme. They strip away leaf material leaving behind only leaf veins. Roses and other flowers can be destroyed. Turf dies and turns brown as the grubs consume the roots. Larval feeding can strip away turf roots so that areas can be rolled up like a carpet.

Watch for the first adults to emerge in late June or early July. They may be active until late August. The only way to be sure that grubs are responsible for turf damage, and not other insects, disease or drought dormancy, is to use a knife or shovel to cut back the turf and search in the soil. The commonly available adult traps can be used to monitor for early adult emergence. However, there are two important drawbacks to consider. The attractant that pulls in the adults is a combination of a pheromone and floral scent. Pheromones are chemicals given off by insects to induce specific behaviors in other individuals of the same species. The pheromone used here is a mating pheromone that will attract males. The floral scent will draw in both males and females. Not all of the beetles brought to the area will enter the trap. Thus, since both the males and females feed on plant material, serious damage can be done to any surrounding host plants. The other problem is that both sexes have now been conveniently brought together to mate. This increases the chance that the female will deposit eggs in the turfgrass near the trap.

There are several options for managing both the adults and grubs. If new plants are going into the landscape, less susceptible adult hosts can be installed. Adults can also be hand-picked and destroyed if the population is small. Crows and skunks dig up turf areas as they search for grubs. The wasps *Tiphia vernalis* and *T. popillivora* will parasitize grubs. The fly *Istocheta aldrichi* will parasitize adult beetles. None of these should be relied on to sufficiently control the populations. Their effectiveness and distribution is limited.

The entomopathogenic nematode

species *Heterorhabditis bacteriophora* and *Steinernema feltiae* can be purchased commercially and applied for grub control. Once applied to the turf area, the nematodes search for and then enter grubs. They multiply inside and then burst out to search for more beetle larvae. Though nematodes are effective, follow labelled application steps carefully. Focus Insecticide treatments on late summer and early fall grub populations. Depending on turf conditions, treatments may not be necessary unless there are more than eight grubs per square foot.

In some sections of the northeast, **Oriental beetles** (*Exomala orientalis*) have not yet reached the status of the Japanese beetle, but their damage is on the rise. The adults are smaller than adult Japanese beetles and are a mottled tan and brown.

Grubs are white, C-shaped and have six legs. There is one generation a year with grubs as the overwintering stage. The adults cause some feeding damage on flowering shrubs and perennials. The larvae feed on turfgrass roots and on the roots of ornamental plants.

Unlike the Japanese beetle, adult feeding damage is minimal. Since the grubs feed on roots other than just turfgrass, they can affect more host plants than Japanese beetles. Often these two species, and other beetle grubs such as European and masked chafers and Asiatic garden beetles, can be found feeding together.

Scout for adults starting in mid-June and continuing into August. Adults are most active during warm days, but can also be found near lights at night. Management efforts should focus on the late summer and early fall grub populations. Use nematodes or contact insecticides. As with the nematodes, there are some points to consider when using insecticides. Some of the chemi-



Feeding Japanese beetles cause much damage to many plants.

cal products bind to organic matter like thatch or excessive mulch. If this material is plentiful, there is little chemical penetration into the root zone, and thus grub reduction is poor. Also, after exposure to some of the insecticides, it may take over a week for the grubs to die. Proper follow-up evaluation of treatments is essential to the success of IPM. If the turf is healthy, treatments may not be required unless there are more than eight grubs per square foot. **LM**

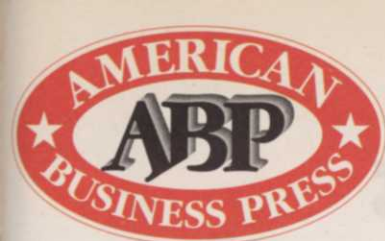
Timothy M. Abbey is the Nursery Crops Integrated Pest Management Program Coordinator for the University of Connecticut Cooperative Extension in Haddam, CT. Thanks to Edmond Marrotte, Univ. of Conn. Department of Plant Science, and Thomas Rathier and Kenneth Welch, Connecticut Agricultural Experiment Station for their help with the pest list.

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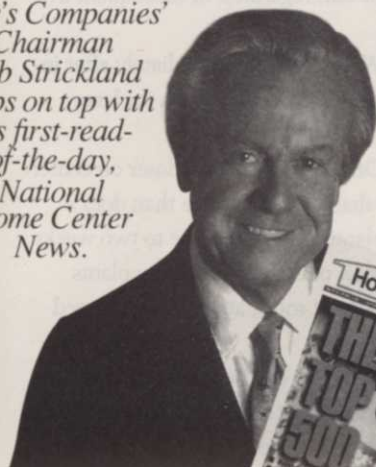


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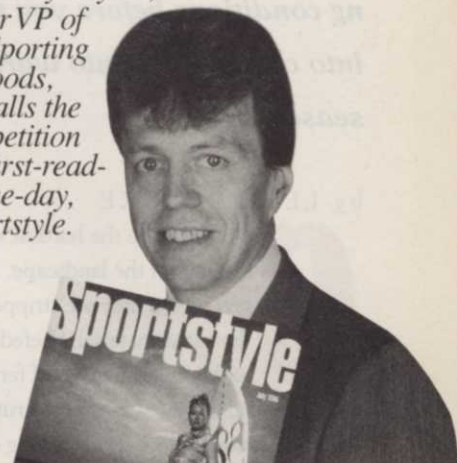
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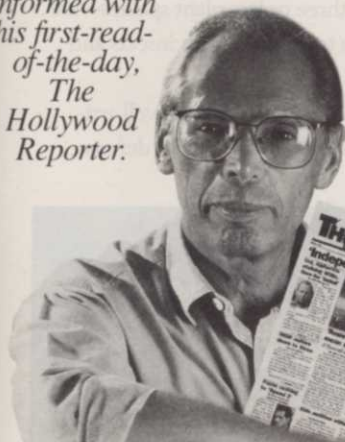
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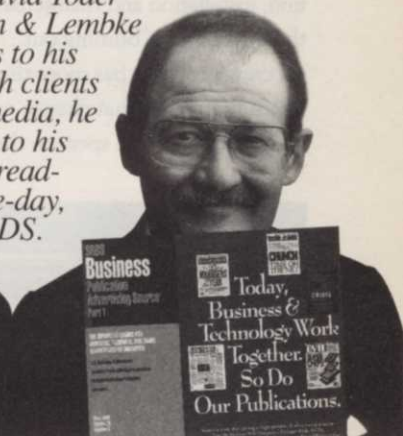
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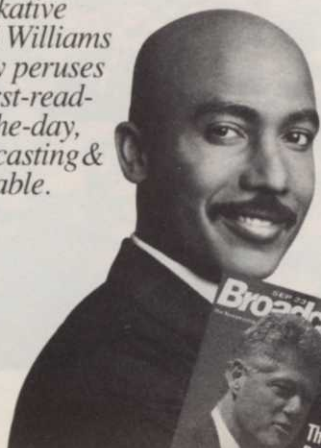
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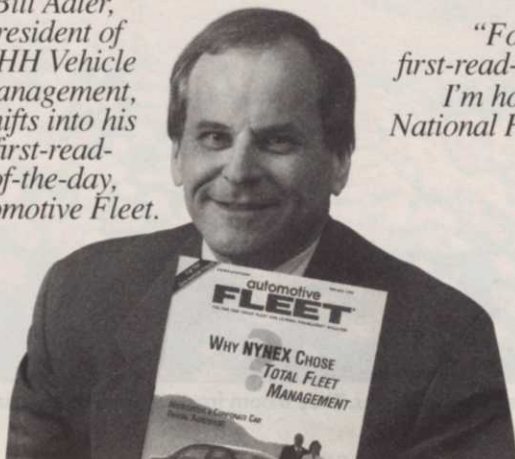
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"For my first-read-of-the-day, I'm hooked on National Fisherman."



Revive soil for best warm-season color

Take time to evaluate planting conditions before you rush into change-outs into warm-season soils.

by LEAH ROTTKE

Color beds are the hardest working soils in the landscape. Every few weeks they are stripped of the plant material, beefed up with amendments and fertilizer, replanted and unveiled for close scrutiny, with professional reputations resting on each new planting.

Only regular farming of truck crops makes such intensive use of the soil. Follow an equally intense program of site preparation, installation and maintenance to keep these soils from "burning out". A race car pit crew probably has more time on their hands that crews that change out color beds! But time well spent in the "pit stop"

pays off in the long run, in crisper, lasting, low maintenance plantings.

Organic matter essential

Herbaceous color set out just inches on center is especially dependent on adequate organics in soils.

Southeastern soils tend to deplete heir supply of humus rapidly due to hot, humid summers that speed decomposition, and rainfall, which leaches the soil.

Southwestern soils are typically poor in organic matter because arid climates slow the formation of humus. Monitor the organic content of the root zone at every changeout. Amend to keep the level of organic matter close to one third of the soil volume. For example, if the root zone is six inches deep, two inches of it needs to be organic matter (compost, peat, rotted manure).

Moist bed, plants well watered

1. The prepared bed should be damp, not wet, at installation time.
2. The plants to be set out must be well

watered. Dry plants put into dry soil will not root out, regardless of subsequent irrigation.

3. Water the bed immediately after installation, or every 200 sq. ft. for large areas.

4. Only turf has plants closer on center with a shallower root zone than does a color planting. The first one to two weeks is a critical period, and the new plants must be kept moist at all times to speed rooting.

5. Irrigation can be modified to a more deep, infrequent style after this. Early morning is the choice time; it allows the foliage to dry off in the cool of the day, which avoids mildew and sunscald.

Insect/disease control

Densely packed monocultures—or designs using three or less plant species—are more prone to damage from insects and diseases.

Vigorous plants in a vital, well-irrigated soil is a good first line of defense.



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Six for the south (and southwest)



Cape Marigold

Diormorphotheca sinuata, Cape Marigold: 12 inches high, with two-inch daisy-like blooms that close at night and in overcast conditions. Flower from orange to creamy yellow on the same plant. Needs good drainage, but blooms freely in sun, heat, drought and alkaline soils.

Cosmos bipinnata, Cosmos: Plants are three to five feet tall, blooms are three to five inches across. Mass at the back of the border. Gets rangy, so rogue after best show. Colors: white to pink through burgundy, bicolors and rolled petal forms available. Fast from seed, self-sows and the hybrids do not breed true. Full sun, withstands drought and poor soils.

Verbena hybrida, Garden Verbena: Well-branched plants to 12 inches high, spread to three-inches. Tiny individual flowers cluster to form flat bloom heads two to three inches across. Hybrids with colors from clear primaries to

muted pastels, everything but orange and yellow. Needs full sun and deep, infrequent watering to bring out best appearance. Prone to mildew with shallow overhead watering.



Tagetes patula, French Marigold

to three feet tall. Fine-textured foliage and 3/8-inch blooms in scarlet, salmon and yellow are set along upright stems. Tough, drought-tolerant answer to vertical color needs after snaps have gone by. Likes full sun and good drainage.

Salvia coccinea, Scarlet Sage: Species to 24-inches; hybrids are more compact. Bloom spikes carried above foliage, deep red. Vertical color at a controlled height makes the hybrids useful in formal plantings. Provide full sun, sharp drainage for best performance. Species is native from Florida west to Texas and Mexico.

Ipomopsis: Both species, aggregata and rubra, are southern U.S. native plants. Garden form grows L.R.



Cosmos bipinnata

PHOTO COURTESY COLOR SPOT NURSERY

Plant material must be healthy and pest free on delivery.

Crowns need to be at the soil level on installation. Too low beckons crown rot, too high leaves root tissue exposed. Good air circulation works like a tonic against mildew and rust. Maximize it when possible. Make good culture part of the design process. The wrong plant in the wrong place eats up maintenance time. Choose cultivars for their disease resistance and flower-bearing qualities. **LM**

The author, a horticulture/irrigation consultant, is based in San Diego, Calif. Photos by Leah Rottko.

The ups and downs of pH

Check the pH of the soil with every changeout, in more than one place in the root zone for large plantings, especially if some portion of the bed showed poor performance compared to other portions.

Peat moss tends to acidify soils; irrigation water is often alkaline. The amount of lime needed to raise pH a half point (from 6.0 to 6.5) is 1 lb., 6 oz./100 sq. ft. for a sandy soil. The rate is four times that for a clay loam.

Science gets a lot fuzzier for those trying to lower pH. The action of the agricultural sulfur is not as exact as that of dolomitic lime. To bring pH down from 7.5 to 6.5, use 1 lb., 2.5 oz./100 sq. ft. for sandy soils, twice that rate for clay soils. These rates and the results, will be more approximate for alkaline soils than for acid soils. Salt accumulation must also be monitored at changeout time. For arid landscapes, this hazard is ever present. Leaching the bed before changing the planting can help, as can the addition of gypsum with the other amendments.

L.R.



Tagetes hybrids, bicolor Safari Mix.

PHOTO COURTESY COLOR SPOT NURSERY

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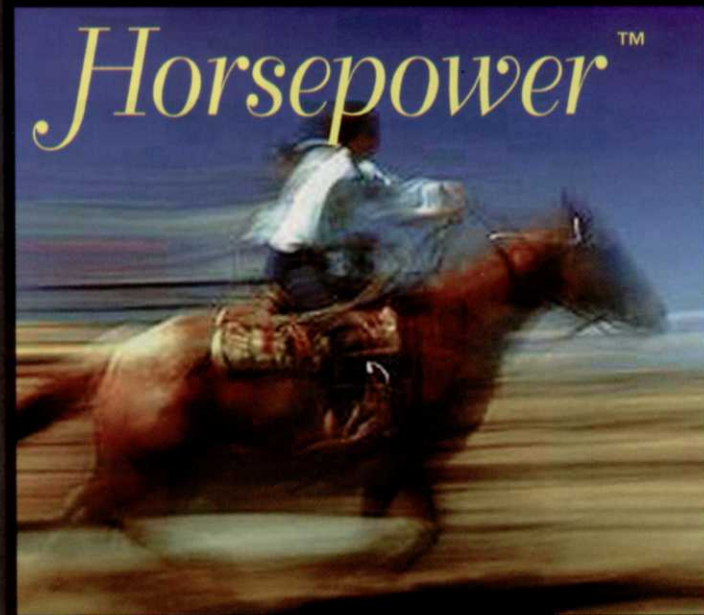
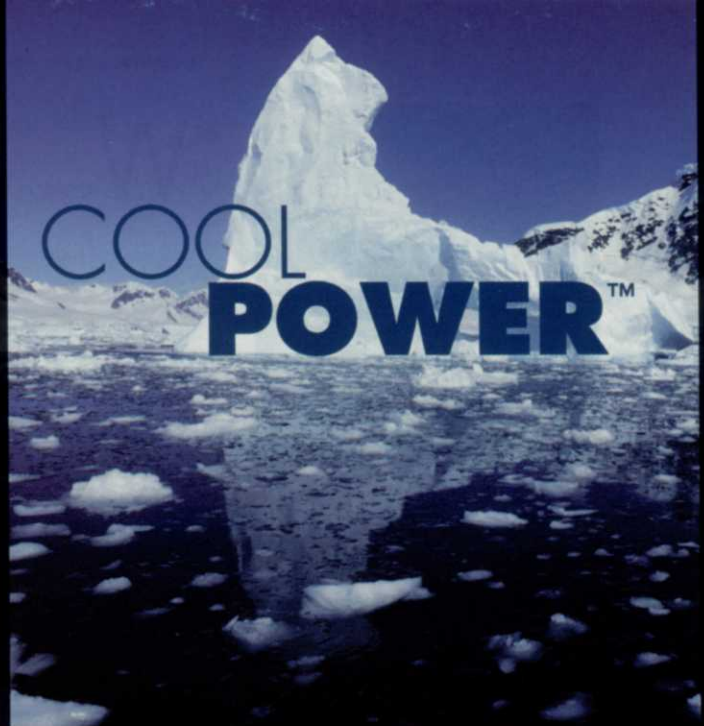
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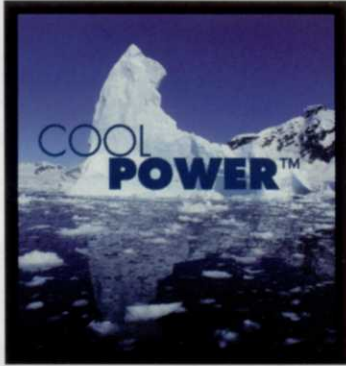
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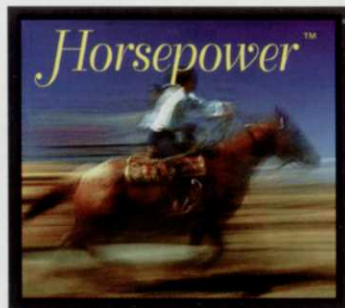


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The "Golden Anniversary Challenge" presented by the American Society of Golf Course Architects for GCSAA members immediately got my attention.

Having been with the PGA Tour for seven years as both a construction and golf course superintendent, I had worked with some of the best tour players in the country as well as some of the best people in the golf industry.

I was fortunate to learn from these people what makes a challenging, but fair, golf course.

The property selected for the contest consisted of a 327-acre site, mostly wooded, with three meadow sites, a large pond and a creek that

presumably had adequate flow for irrigation purposes. The topography was moderately sloping with an overall elevation change of about 180 feet.

I studied the "topo" for about three days, and then started to draw in corridors for holes, based on natural features, orientation to prevailing winds, the sun and topography.

I looked for natural areas to incorporate water features such as ponds. Finally, I chose sites for the clubhouse, cart barn, parking lot, practice facility and maintenance facility.

I designed number 13 first. It was a natural, along the existing creek, with no significant amount of disturbance to the creek or the surrounding area. The second holes created, numbers 3 and 4, were worked around the new ponds on the south side of the property. I wanted the 1st and 10th tee as well and the 9th and 18th green, to be near the clubhouse, for operational purposes.

I used the topography and the remainder of the natural features to route the remainder of the holes to make a continuous loop. The side hill, par 3, 12th was the only "forced" hole in the design, due primarily to the fact that at one time during the drawing, I only had 17 holes and needed a return to number 13.

Design test builds respect for the game



DAVID ANDERSON

DAVID ANDERSON,
CGCS
Guest columnist

GOLF

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Arizona course stays native

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Community relations builds image

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'Very dwarf' bermuda wins fans

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Liability concerns merit attention

Yardage is fairly well-balanced, with some long, tough 4 pars as well as a moderately short par 5. Fairway bunkers on longer 4 and 5 pars is set up more for target/definition or collection more so than penalty, while on the shorter 4 pars, the bunkers are more penal.

I tried to incorporate "bail outs" around the greens so that there was a safe area to recover from with either a putter or a wedge. Landing areas are generous, with no blind shots. Each par 3 has a special feature that stands out--bunkering, water, length or severity of green contour.

Even if I hadn't been one of the three finalists in the ASGCA's contest, the exercise made me more aware of how a good golf course design compliments the game and preserves the environment. A superintendent's responsibilities include maintaining and fostering the integrity of the architect's original design, and having a thorough understanding of the game of golf and how design leads to success. **LM**

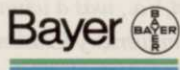
Guest columnist David Anderson, Evergreen Country Club, Haymarket, Va., was a winner in the ASGCA's "Golden Anniversary Challenge," held to mark the Association's 50th year.

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Greens Committee will love it. To find out more, contact Bayer Corporation, Specialty Products, Box 4913, Kansas City, MO 64120. (800) 842-8020.

Merit

Cultural strategies against turf disease

Protection starts with turfgrass selection, and then is managed in part by mowing practices.

by BRUCE J. AUGUSTIN,
Ph. D.

Turfgrass diseases develop according to the classic plant pathology relationship triangle of host plant/pathogen/environment. The interaction of these factors can be the potential development of turfgrass diseases. Environmental and physiological stresses caused by high levels of turf management are often the major causes of turf disease development.

The principle cultural activities of turfgrass management include turfgrass selection, mowing, fertilization and irrigation. This discussion will focus on how these various turf management factors influence disease development in turf.

Turfgrass selection

The ultimate ability of a turf manager is to select and plant the grasses he has to manage. This gives the turf manager the power to choose the grasses that are best adapted to the use site and potentially the easiest to grow. However, the final choice



Stressed plants are more predisposed to diseases when favorable conditions for disease development exist. High levels of management may often cause disease stress.

of a turfgrass is often a compromise of the best available candidates or sometimes the least objectionable candidate.

Turfgrass species are divided into three basic categories of ecological adaptation; northern, transition zone and southern grasses. These categories are determined by the ability of the grass to survive and grow in these geographical areas. There are grasses in each of these areas that grow best under management practices varying from a low to a high density of culture (mowing, fertilizing and irrigation), if the desired turf

is a roadside or home lawn or golf green.

Turfgrass breeders have also expanded the usefulness of the turfgrass species by developing many

cultivated varieties or 'cultivars' with a broad array of turf characteristics. Darker green color, lower growth habit, high leaf density, finer leaf textures, improved pest tolerance, and drought tolerance are some of the major traits sought in turf breeding programs. Some species like Kentucky bluegrass have over 200 named cultivars while others like bahiagrass have only a few.

The National Turfgrass Evaluation Program (NTEP) is a nationwide program of turfgrass cultivars conducted by state universities. NTEP produces reports by species that rank the cultivars for a broad range of adaptability, color, growth, and pest tolerance characteristics. Disease evaluation rankings are often conducted on species where a particular disease is a limitation to turf growth, such as brown patch in tall fescue or dollar spot in bentgrass. NTEP reports are the best source of non-biased, scientific performance data.

MAINTENANCE LEVELS FOR TURF

Maintenance level	Northern	Transition	Southern
Low	fine fescues		Bahiagrass, centipedegrass
Medium	ryegrass, Ky. bluegrass	tall fescue zoysiagrass	St. Augustinegrass
High	bentgrass		Bermudagrass



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SPRAY PATTERN INDICATOR
BY MILLIKEN CHEMICAL

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Growing a turfgrass or a cultivar that is not adapted to a particular use or geographical region can lead to a number of physiological stress problems resulting in a higher than normal susceptibility to disease. For example, growing bentgrass golf greens in the deep south, mowing Kentucky bluegrass fairways at less than $\frac{3}{4}$ of an inch or growing tall fescue in the southeast under moderate to high fertility are a few conditions that do not favor successful, long-term turf culture.

The ultimate success or failure of a turfgrass in a particular situation is often the careful application of management practices in a timely and judicious manner. Knowledge of how to manipulate the key practices of mowing, fertilizing, irrigating, and pest control is the key to successful turf management.

Mowing helps, but can hurt

Mowing is the principle management practice that separates turf culture from all other forms of agriculture. Frequent mow-

ing of turf at the correct height encourages a dense, low growth habit with a smooth and uniform surface. Each turfgrass species has a height of cut it will best tolerate. Mowing frequency is dictated by the turf growth which results from favorable growing weather, the fertility level and irrigation. The rule of thumb is to mow turf frequently enough to remove $\frac{1}{3}$ or less of the total height per mowing.

Physiological stress on turfgrass plants results from improper mowing at lower than normal heights or infrequent intervals. Stressed plants are more predisposed

to diseases when favorable conditions for disease development exist. For example, extremely low mowed bentgrass golf greens, maintained at $\frac{1}{8}$ of an inch or less, can grow and survive in the spring and fall with normal maintenance practices. However, in summer, with added heat stresses, only a rigorous fungicide program can prevent severe disease outbreaks of Pythium and Brown Patch. A high height of cut allows turfgrass plants to be physiologically healthy and better to tolerate potential disease development.

Mowing provides a constant potential for infection. Every mowing exposes fresh cell

sap at the cut leaf blade ends. The cell sap is an ideal growing media for fungi. However, in the field it is rare to observe this causing major disease problems in turf. Occasionally under ideal conditions one can observe a top dieback on leaf blades of bluegrass or bentgrass caused by the Dollar Spot organism.

The most common effect of mowing on the development of turf diseases is the mechanical spreading of the disease organism. Spores and fungal hyphae are easily dragged or blown on grass clippings from the mowing equipment. Classic examples of this problem are observed every year on golf greens where pythium or dollar spot symptoms are linearly streaked across greens by mowers.

Other cultivation practices such as aerifying, vertical mowing, spiking or grooming of turf on golf courses have not been shown to adversely affect disease development. These practices tend to encourage healthier turf which in turn creates plants that are more tolerant to disease development. □

The author is product service lead for Zeneca Professional Products. Look for Part II of this series on cultural disease control in our May issue. Photos by Bruce Augustin.

IDEAL CUT & FREQUENCY

Turfgrass Species	Height of Cut (inches)	Frequency of Cut (days)
Bahiagrass	3-4	10-14
Bentgrass greens	<0.25	daily
Bentgrass fairways	0.25-0.75	daily-7
Bermudagrass greens	<0.25	daily
Bermudagrass fairways	0.5-1.5	2-3
athletic fields	0.75-1.5	3-7
home lawns	0.75-1.5	3-7
Centipedegrass	2-3	10-14
fine fescues	1.5-2.5	7-14
Kentucky bluegrass	1.5-3.0	7-14
perennial ryegrass	1.5-2.5	7-10
St. Augustinegrass	3-4	7-14
tall fescue	2-3	10-14
zoysiagrass	1-2	10-14

Mowing provides a constant potential for infection. Every mowing exposes fresh cell sap at the cut leaf blade ends.



Knowledge of how to manipulate the key practices of mowing, fertilizing, irrigating, and pest control is the key to successful turf management.

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When Poa is healthy...

Some supers let annual bluegrass thrive as a putting surface. And some turf researchers, such as Drs. Joe Vargas and Tom Cook, think that's just fine.

Terry McIver / Editor-in-Chief

Dr. Tom Cook, Oregon State University, is never bothered by *poa annua* (annual bluegrass) on golf greens, as long as it's healthy.

Superintendents in other parts of the country will usually try to eradicate annual bluegrass from greens, but as any golf course superintendent from the Pacific Northwest will tell you, it's about all they can grow.

"Regardless of what [turf variety] we start with, this is what we end up with," says Cook.

Cool, moist climates ideal

Poa annua thrives in cool, moist climates. According to Cook, the *Poa* that thrives in the U.S. is actually a perennial biotype of annual bluegrass.

"In 1972, on the coast, very few fairways were irrigated, so we had relatively high proportions of annual biotypes and very few of the perennial types. Today, in all areas where annual bluegrass is irrigated, it's definitely the dominant species and it's perennial."

"The conversion time from bentgrass to *poa annua* ranges from three, to a maximum of 20 years," says Cook, "depending on what you planted and how you maintain your golf course."

Competitive turfgrass

Dr. Joe Vargas, Michigan State University, advises superintendents on golf courses in other geographic regions to take advantage of *Poa*'s aggressive growth habit if the variety is becoming dominant.

Everybody talks about "that lousy *poa annua*," muses Vargas, and they miss realizing that *Poa* has a lot going for it, so

much that it often succeeds where creeping bentgrass fails. *Poa annua*'s competitiveness and genetic diversity," Vargas explains, "results in there being more than 50 different cultivars of annual bluegrass. That ge-

netic diversity allows annual bluegrass to adapt to compacted soils, sun or shade."

Creeping bentgrass really only does well in well-drained soils and open sun.

"Creeping bentgrass does have an advantage when it comes to cold tolerance, but what matters is *poa*'s reproductive speed," says Vargas.

Poa annua reproduces by seeds rather than by stolons. "Any day of the week," insists Vargas, "seeds will fill in a fairway divot or ball mark quicker than stolons."

Shade, stress tolerance high

Annual bluegrass has better shade tolerance; better stress tolerance; is able to survive in poor soils and poor environmental

conditions; and it's able to make use of fertilizer quicker. *Poa annua* likes high nitrogen, creeping bentgrass does not.

"You can't grow creeping bentgrass if it does not receive morning sun," teaches Vargas. "If it gets morning sun but doesn't get afternoon sun it'll be all right."

Aerification schedule

Cook recommends coring be done at three times during the year:

- in spring, before the spring rooting period—around April 1—with hollow tines, $\frac{3}{8}$ -inch wide.

- summer, right after flowering;
- fall, right after Labor Day.

The typical procedure to obtain a good seed bed is to core aerify, remove the cores from the green, and then topdress heavily to backfill the holes. The combination of coring and topdressing is a critical component to maintaining *poa annua*.

"When surfaces are maintained this way, the *poa annua* is generally healthy, and the greens tend to be soft," says Cook. □

Rx for Poa annua

Fertility

Cook: Maintain turf vigor. Don't starve them and don't push them too hard. Do not keep a sustained, low fertility rate. One to two pounds of phosphorus per year, says Cook. **Potassium:** a 1:1 ratio with potassium and nitrogen.

Vargas: 3-4 lbs. nitrogen/season. Keep the sulphur levels down.

pH: Between 5½ and 6½—7 pH.

Aeration

Cook: Maintain rootzone aeration, primarily from coring.

Vargas: Core aerify after green up and after seedhead production, says Vargas

Moisture


Cook: Uniform rootzone moisture, irrigate consistently, avoid frequent dry-down cycles.

Vargas: Apply light, daily irrigation

Work the turf

Cook: Work the surface by double-verticutting, topdressing and grooming; whatever it takes to keep the surface "in motion." Maintain turf vigor and topdress frequently, in one to three week cycles, with USGA-specification sand at very light rates per 1000 sq. ft.

Vargas: Deep, vertical mowing after green-up



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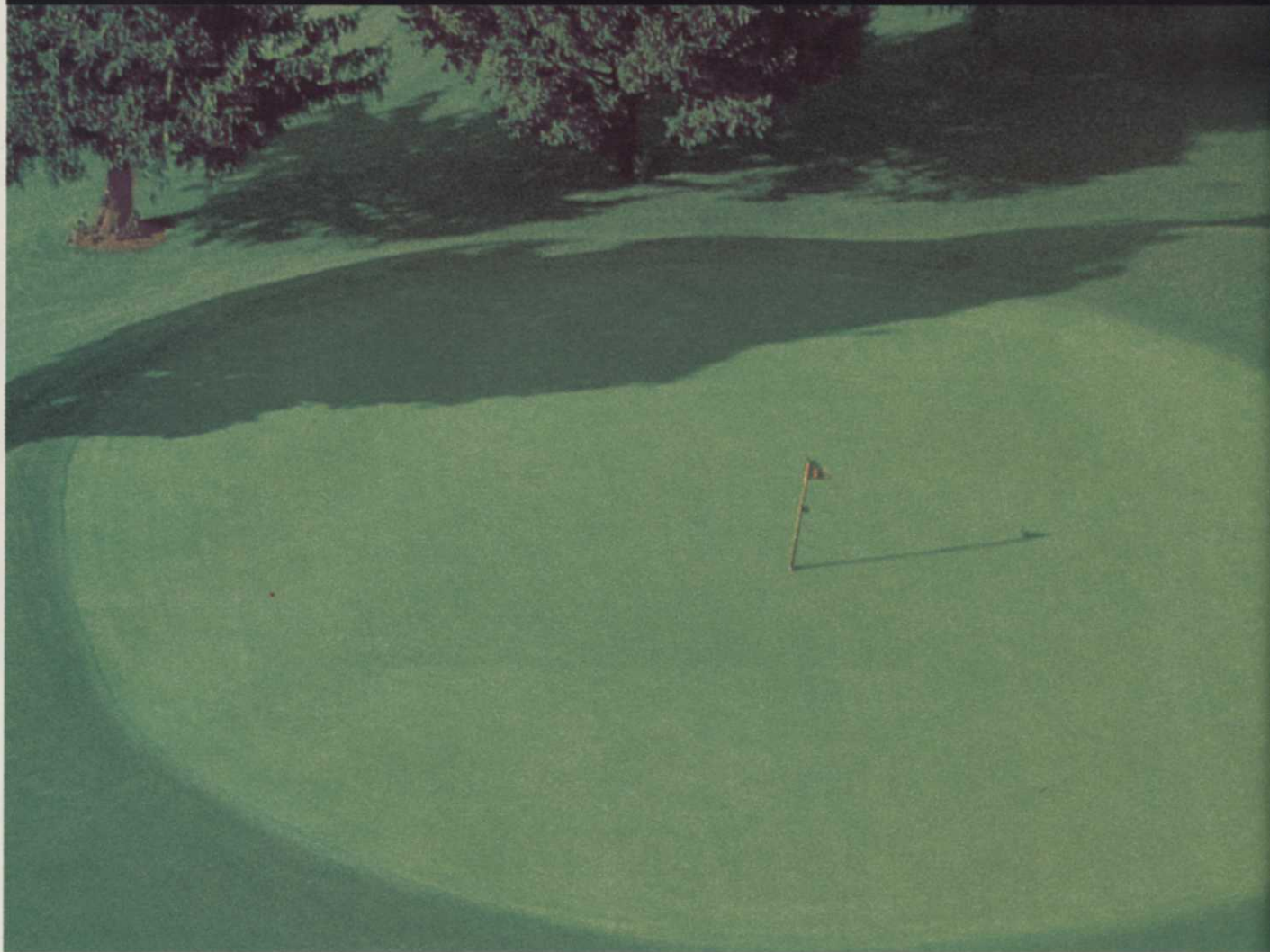
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Put the power of EAGLE®

Superintendents tell why they rely on Eagle to prevent stubborn turf diseases.



Mike Jones
Valley High Country Club
Elk Grove, CA

"Then about July, the decline starts and it's a constant battle all through September."

Mike's solution was to intensify his preventative fungicide program with Eagle®, while raising fertility levels.

"We go into the season with really nice greens," says Mike Jones, superintendent at Valley High Country Club in Elk Grove, CA.

Mike's experience was no surprise to us. We've been saying all along that Eagle provides dependable, long-lasting protection against 14 major turf diseases — protection unmatched by any other systemic fungicide. Better yet, Eagle is now registered to control summer patch and spring dead patch.



Rich Hardebeck
Eagle Lake Golf Club
Farmington, MO

Tackling dollar spot and brown patch

Rich Hardebeck is superintendent at Eagle Lake Golf Club in

Farmington, MO. When he first came to Eagle Lake, he experienced extremely heavy dollar spot on his ryegrass and bluegrass fairways.

"Last year," says Rich, "I applied Eagle preventatively in April and again in September and didn't see dollar spot all summer."



Dave Anderson
Evergreen Country Club
Haymarket, VA

Dollar spot was also Dave Anderson's problem, as well as brown patch on his ryegrass fairways.



to work for you.

Dave is superintendent at Evergreen Country Club in Haymarket, VA.

"I used Eagle exclusively on the fairways," he says, "and they were the best fairways I've ever had, especially considering the extreme heat."

"Late in the year," Dave continues, "I alternated Eagle with a contact fungicide to control gray leaf spot and got excellent results overall."

Effectiveness is just the beginning.

In addition to the long-lasting protection of Eagle, superintendents

appreciated its outstanding turf safety, low-use rates and water-soluble packaging.

"I don't have the safety concerns with Eagle that I do with other sterol inhibitors," says Mike Jones. "And rates are so low, I have the flexibility of using it in the fall if I need to."

The flexibility of Eagle is further enhanced by the new extended spray schedule—now up to 28 days.

Those are powerful reasons for using Eagle. Dave Anderson gives the final word.

"Considering its length of control, low-use rates and cost,"

he says, "Eagle offers the best of both worlds."

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Circle No. 160 on Reader Inquiry Card

Grass and beyond

As galleries grow with more spectators and the media's demands increase at major tournaments, superintendents find themselves being stretched beyond being 'just' great turfgrass managers.

by RON HALL/ Managing Editor

Winged Foot Country Club hosts the 1997 PGA Championship in August. In 1984 this venerable course just north of New York City was the site of the U.S. Open.

Veteran superintendent Robert Alonzi says the biggest difference between the two events, separated by 13 years, can be explained in a single word—size. Everything is so much bigger now.

Professional golf tournaments, because of their visibility and popularity, now require incredible coordination and logistical support. PGA people arrived at the Tillinghast-designed course almost a year before the tournament to begin organizing committees and subcommittees.

"Growing grass is secondary to most of us," says Alonzi. "But everything else has grown to such large proportions."

So, in addition to making roughs challenging enough and greens fast enough, superintendents at courses hosting major tournaments must also help prepare areas for the huge influx of spectators, corporate sponsors and media.

For instance, Alonzi says the media tent at the 1997 PGA Championship will be about 30,000 square feet, three times larger than it was for the U.S. Open in 1984. The corporate tents have likewise grown several times larger, and will probably be 30,000 square feet also.

The tents will probably have to be erected on Winged Foot's East Course. The East Course was used for parking for the 1984 U.S. Open, but that

didn't work out too well, remembers Alonzi. Only players, caddies and media will be allowed to park at Winged Foot for the PGA Championship, believes Alonzi. Others, including spectators will park offsite and be shuttled by bus to the tournament.

Much of Alonzi's attention prior to the tournament will be directed at the "corridors" on the course, and developing a plan to ease the flow of spectators. Planning for the placement of television towers and bleachers. Checking for things like hazard tree limbs.

The course itself, barring something unforeseen, should be in tournament condition. It is most of the season anyway, says Alonzi.

Bigger concerns include gaining the understanding of Winged Foot's 700 neighbors, and the cooperation of the many nearby small communities.

"Westchester County has really shown great support for the tournament," says Alonzi. A tournament that's grown so large that the local power company won't be able to meet its needs, and extra generators will have to be used.

Unlike Winged Foot that hosts periodic major tournaments, some courses host annual tour events. Their concerns can be different.

Several years ago when Amy Alcott blistered the Nabisco Dinah Shore Tournament at Mission Hills Country Club, LPGA officials complained that the Rancho Mirage, Calif., course wasn't challenging enough. That was addressed, says superintendent David Johnson, by narrowing some of the fairways to 28

yards wide. He also started fertilizing the roughs prior to the annual event so that the grass would be four to five inches instead of two inches.

"It went over real big with the ladies and they seemed to be happy with the tougher conditions," says Johnson, superintendent for eight LPGA tournaments at Mission Hills.

Johnson says he was expecting LPGA officials to



Robert Alonzi and Winged Foot CC hosting '97 PGA.

to give him "a little booklet" describing what conditions it wanted when he prepared the course for his first Dinah Shore event eight years ago. But the tour tells you what it wants—it's your job to figure out how to get it done, he says.

"As a superintendent, you can't always adjust things at the last minute," adds Johnson.

Cal Roth is director of golf maintenance operations Tournament Player Courses (TPCs). He works for the PGA Tour Golf Course Properties, a network of TPCs. This month Sugarloaf in Atlanta, the 14th TPC, opens. TPCs will host 13 PGA or Senior PGA events during 1997.

Roth works closely with agronomists and visits sites prior to major tournaments. He meets with superintendents at these courses to set standards for such specifics as green speeds and mowing heights.

In many cases the superintendents do not have to change much because they maintain their courses at championship standards throughout the season anyway. The most common change, says Roth, generally is mowing frequency. If the greens need more speed they're mowed in the evenings and again in the morning, for instance.

Roth says there is no single template in advising superintendents prior to tournaments. He says the PGA recognizes the uniqueness of each course.

"Each facility (course) is set up independent of the rest of them. Green speeds are adjusted to the types of grass on the course and the time of the year," says Roth. "A week before the tournament we usually start around 10 (stimpmeter reading), and then we adjust it to the site. It could be 11 one week, 10.6 the next because of conditions."



David Johnson made Mission Hills CC a challenge.



Cal Roth gets TPC sites ready for busy 1997.

A representative of the LPGA visits Moon Valley Country Club, Phoenix, three months prior to that club hosting the Standard Register Ping Tournament. That person meets with superintendent Paul McGinnis to talk about matters like which trees should be trimmed, bunker conditioning, and height of cut.

Since Moon Valley hosts the event annually, McGinnis has a good idea what to expect. He generally doesn't change Moon Valley's maintenance schedule that much other than to mow the fairways from 2

a.m. to 6 a.m. That gives his crew time to drag or vacuum the clippings off. Also his crew rolls the greens to make them faster.

"Once the tournament starts, the maintenance of the golf course is in the morning," says McGinnis.

One recurring problem when hosting a professional tournament is the mood of the club membership. As a rule, not all members are happy about not being able to golf at their club for a week even if it does mean hosting a major event.

McGinnis tries to lessen this by preparing Moon Valley for a major ladies "guest day" the Monday following the LPGA tournament. Also, in May he prepares the course for a special men's invitational event. "We try

to provide the same preparations as we would for the (LPGA) event," he says.

Alonzi, McGinnis, Johnson and Roth made these comments at a press conference during the GCSAA Conference this past February in Las Vegas. □

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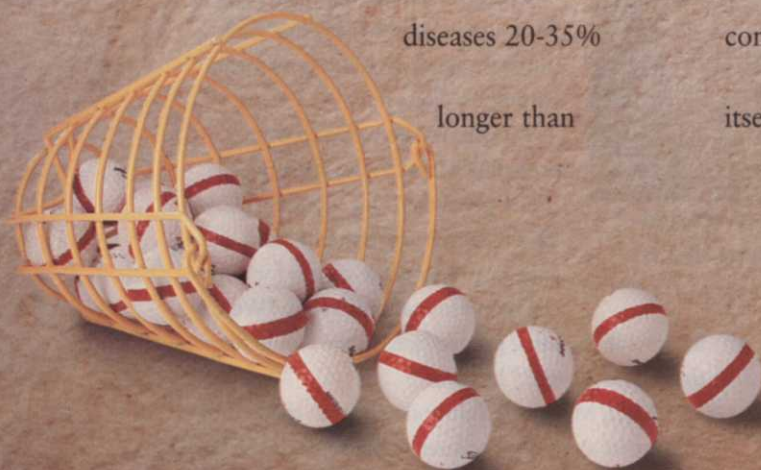
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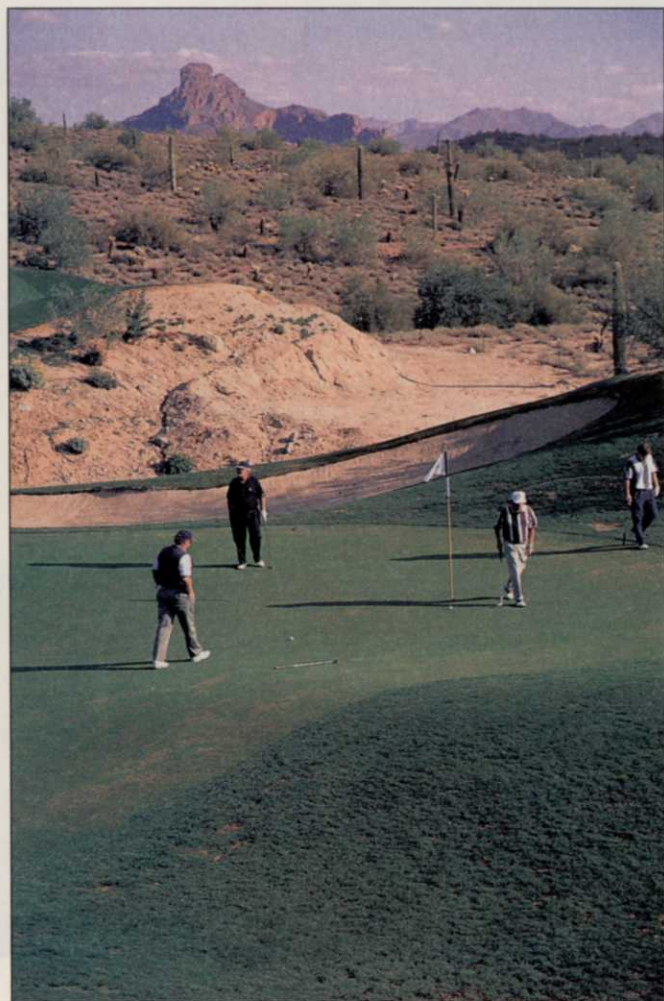
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Eagle Mountain climbing higher

This top-rated Arizona golf course lays claim to some of the lushest fairways around, thanks to some redesign work that included soil modification and drainage repair.

by LESLEE JAQUETTE



"We envision [revegetated] areas of the course to look like they've been here 100 years," says Superintendent Kevin Smith.

Named as Arizona's top new course by Phoenix newspapers, Eagle Mountain aspires to offer some of the most interesting and plush fairways in the state.

Designed by Scott Miller in the foothills of the McDowell Mountains, the 18-hole public course opened in January of 1996.

There have been some problems along the way, but changes have been made. Golf course superintendent Kevin Smith and his staff of 30 have developed a number of creative ways to improve greens as well as increase employee safety and satisfaction.

Returning to Eagle Mountain last fall after four years at Hampton Cove, Huntsville, Ala., Smith found that the bermudagrass fairways had been over-seeded to a point at which they would not go dormant in winter. As a result, the perennial ryegrass could not mature to the desired color. With summer heat, the fairways looked burned and spotty.

Smith over-seeded in September and October. Elevated sections of the course—where high wind and wide ranging temperatures are common—were aerated heavily, every 30

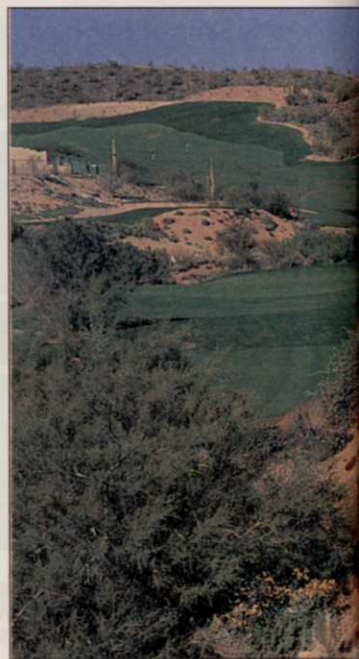
days, with an Aera-Vator turf drill.

The machine bores and swivels the top two to three inches of turf without leaving noticeable holes or cores.

Smith says the machine achieves maximum turf penetration and enhances water retention.

After aerifying, the crew applies sand topdressing, Zeolite and compost.

Smith also applies a spray mixture of charcoal, ferrous sulfate, potassium nitrate and seaweed-based biostimulants. He found the mix worked well, and brought some greener color to the course. Smith



plans to continue the applications every two weeks as long as cold weather persists, to coax the color along and avoid low temperature stress on the bermudagrass.

"We've fooled Mother Nature by changing the carbon to nitrogen," says Smith.

Better growing conditions

Besides bringing up the ryegrass color in the winter, Smith hopes this program helps establish an improved growing media. Due to the nature of the rocky desert soil, it appears imperative to cultivate a thatch independent from the soil, in which the grasses can develop into turf. With constant attention, Smith hopes to have the fairways well-established after next summer.

The foothills terrain has many fairly steep inclines. In order to make them more accessible and easy to climb, the crew has built steps on holes 2 and 17. The steps enhance play, golfer comfort. Native vegetation along the steps re-

duces the need to water what used to be turf.

Smith is experimenting with artificial turf to cover high traffic areas. Due to the excessively rocky and inhospitable soil, heavy use areas remain beaten and scarred. Smith has installed about 1000 square feet of artificial turf, and applied an athletic mix called Redi Play. He describes the mix as sprigged sand over artificial turf, with bermudagrass on top.

Smith plans to experiment with the mix on fairways, and wants to eventually use it to cover up to 10,000 square feet.

Irrigation adjustments

Variations in weather patterns are a challenge for the irrigation system programming. The course is exposed to the south and warmer than neighboring courses. It's also warmer due to the wind and elevation. Every night, the wind blasts through the canyon at 10 to 15 knots.

Some parts of the course are 7-10 degrees F warmer at

Back to the desert

Kevin Smith has been trying to restore much of the Eagle Mountain course back to the "desert look."

He uses burr sage, cactus and other plants to revegetate numerous perimeter areas, but

adds that it is difficult to revegetate. First, irrigation is complicated by the fact that cactus are very sensitive to over-watering, and require good drainage.

On the other hand, plants such as burr sage need more water. When starting the sage, Smith's crew fills the planting holes with organic plant material, to help retain moisture.

"We envision these areas of the course to look like they've been here 100 years," says Smith.



Smith has installed about 1000 square feet of artificial turf, and applied an athletic mix called Redi Play.

night, and 3-5 degrees colder during the day than nearby courses. As a result, the staff must continually adjust irrigation and overseed.

He adds that they choose a late date when the weather cools down to overseed.

Safety, friendliness

Smith holds in-house seminars for the staff on safety and maintenance etiquette. The safety seminars educate the staff on how to keep productive even during periods of play. They advise employees where to stand while golfers are in the area, and still continue working. Smith also outfitted the staff

With constant attention, Smith hopes to have the Eagle Mountain fairways well-established after next summer.

with "bump caps." Using a plastic insert in their ballcaps, the staff can work safer and still be comfortable.

Smith urges the staff to be outgoing, to help golfers rake traps and look for balls.

"We're getting great customer feedback because people enjoy being pampered," says Smith.

"We try to make pleasing their every whim part of the routing. We feel maintenance can have a tremendous effect on guests' overall perception."

During Employee-of-the-Month barbecues, the top employee receives a plaque and a gift certificate. □

Leslee Jaquette is a freelance writer based in Edmonds, Wa. Photos by Gary Olson.



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Circle No. 143 on Reader Inquiry Card

Community relations *will enhance your image*

It's what people don't know that scares them. So make your community outreach a way of letting people know about your responsible pesticide use, and any projects that might otherwise cause an uproar.

by STEVE & SUZ TRUSTY

People have a hard time coping with the unknown.

Stress rises as we wait for the results of a medical test. The "downsizing" trend is a certain cause of worry among many. And when it comes to suspected groundwater or food contamination by pesticides, the unknown is especially close to home.

So, how do you move from the unknown to the known, and into your community's comfort zone?

First, get your act together. Whether your company is in the spotlight by choice or involuntarily,

you must be able to prove you're one of the "good guys" for you to have any chance of surviving public scrutiny during a crisis or perceived crisis.

Examine all aspects of your operation, to insure your services are based on sound agronomic principles geared to the precise needs of individual properties. Review the effectiveness of your IPM program. Make sure you are using the appropriate products in the safest form, and that company personnel are applying product properly. Document training and safety programs. Keep good product use records.

Visually check the course's building and property, all equipment and vehicles and company personnel. Does the image you project match your desired level of professionalism?

When all internal systems are in order, you're ready to reach out.

Reach out to community

Use prepared resources provided by associations with your own advertising and direct mail as a starting point for your course's community outreach. To become a "known" and thus non-threatening entity, you need to become a visible, reliable information resource.

Make the message easy to hear;

High profile sites are frequent, easy-to-hit targets of anti-pesticide commentaries in print and broadcast media. Be prepared to explain the benefits of your course to the community and environment.



Tips on lobbying

A big facet to public relations these days is telling your story to legislators, the people who sometimes pass laws before they know all the facts relative to certain issues. Here's some suggestions on what to do to get your story before your senator or congressman. -ed.

1) Develop a relationship with your lawmaker before it is needed.

Attend a fundraiser, if you like. Essential, after you meet a congressman or senator, send a letter of thanks. Try to cross paths with legislators, and send a follow-up letter after each meeting. Get to know the staff in the capitol and district offices, since they read your letters first.

2) Know the issues. Write a clear, concise message, make points quickly. Know the status of important bills, sponsors and other key information.

3) Know who you face on the opposite side of an issue. Know who shares your opinion and use that information wisely.

4) Respect their time. Legislators' days are not always very glamorous, and they are always busy.

5) Tell the truth. Be frank regarding the whole situation, including the opposition.

6) Know how the issue relates to and will affect the lawmaker's district, and make certain they know you are a constituent.

7) What do you want them to do? Tell them, and pay attention to what eventually happens. Acknowledge the outcome in a letter.

8) Never mention issues and fundraising together. Don't refer to your campaign contribution



or how you voted.

9) Make your communications effective. Use short promotional pieces and save the longer analysis for staff. Don't use videos unless you view them together at your meeting. Phone calls, fax and e-mail are okay. No postcards.

Condensed from remarks by Bev Hansen, Californians for Compensation Reform, speaking at the 1997 Green Industry Legislative Conference. Source: GCSAA's "Green and Grassroots."

Residential communities often border golf courses. Turf maintenance programs thus affect players and residents. Plan to communicate pertinent information to both groups about your total turf care program and procedures.

be available. Offer to speak at community groups, neighborhood associations or garden club events. Deliver a message tailored to the needs of the group and gives them information they can use, rather than a "sales pitch."

Use facts and figures you can back up, but don't get too technical. Allow sufficient time for questions and answers. Leave them with worthwhile handout material that lists your company's contact information. Tell reporters you welcome follow up phone calls for additional information.

Work the media

Many people rely on the print and broadcast media to "distill, condense and dispense" informa-

tion for them. With no way to analyze news stories, the public often believes everything they read, whether or not the report is accurate.

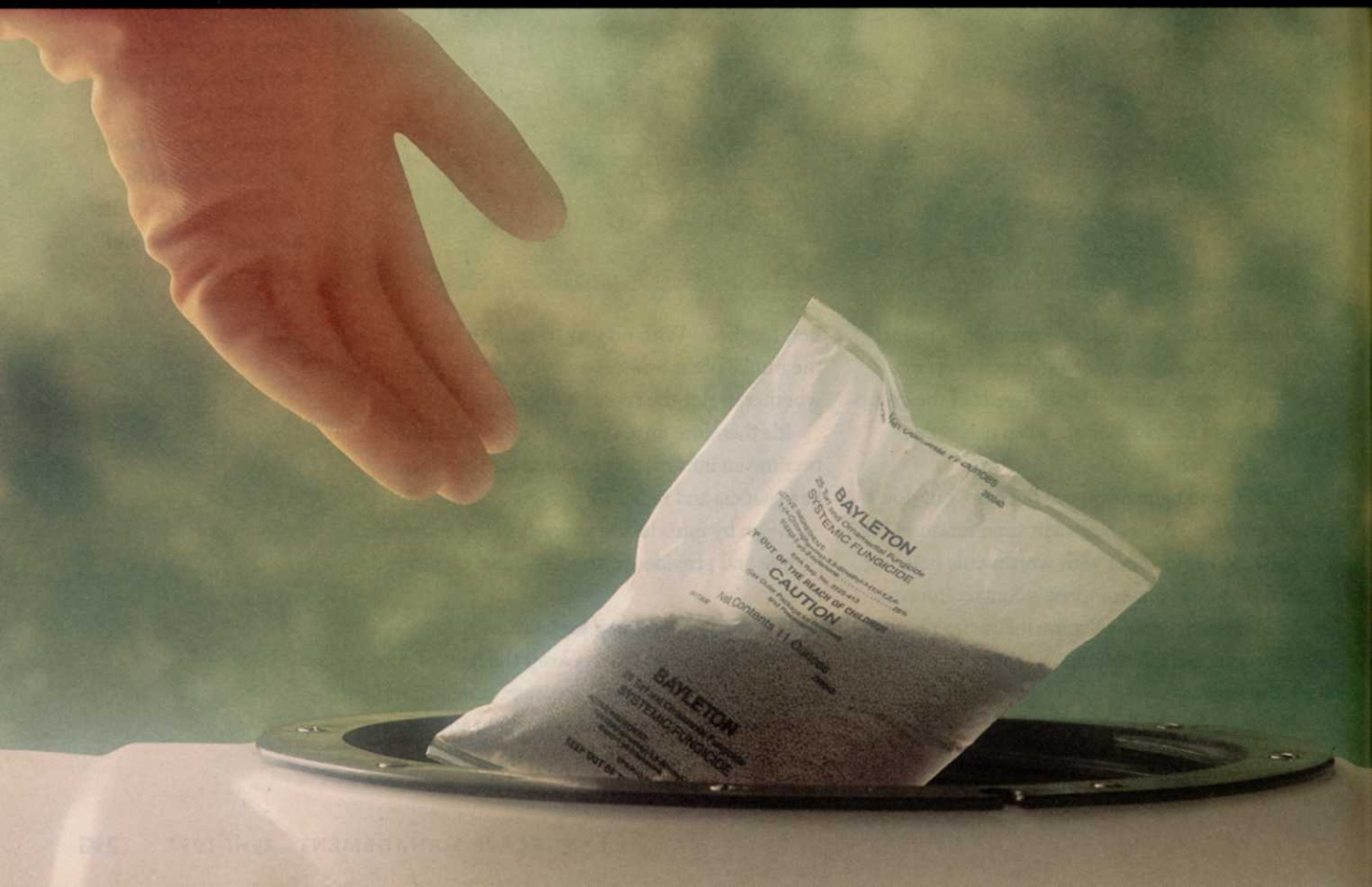
It's therefore important for superintendents to become an information resource for their local newspapers and radio/TV stations.

Begin by introducing yourself to the appropriate people and provide worthwhile input on pesticide issues.

Anticipate issues, track legislation

After you break the ice, keep the lines of communication open. Supply accurate, timely, pertinent information. Respond immediately to any requests for information, and respect reporters' deadlines.

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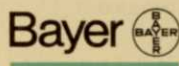
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Circle No. 107 on Reader Inquiry Card





You can use public areas to explain the benefits of turf, from on-site demonstrations or a seminar on turf maintenance.

Be an information provider

Communication with the public and media is equally important if you "sell" recreational opportunities made possible by your services rather than your direct services.

This applies to golf courses, schools, parks and recreation facilities and sport turf sites.

Because of the high level of maintenance required for the most visible turf areas around these facilities, and the need to fit certain maintenance procedures into limited blocks of time, the actions of crew members may be observed and those actions may be questioned.

In addition, these high profile facilities are most likely to fall under scrutiny at the community, regional and national level. Every spring brings an onslaught of commentary—passed off as news—in the print and broadcast media about the dangers of pesticides and the overuse and abuse of pesticide products, especially on golf courses and public-use areas.

Communication with the community and media is both easier and harder for turf managers at these facilities.

Happenings at your facility are of interest to many within the community and thus will be deemed worthy of coverage by the media.

General turf care information can be included in

Certain "hot topics" earn national attention, while others become vital concerns at the regional, state or local level.

Track pending legislation through your national and regional golf course association. Monitor the discussions and actions of your community's elected officials, boards and councils and appointed advisory groups. Anticipate issues by learning who is concerned about what, how intense the concern is and what actions could be expected if controversy arises.

Then, if a problem or crisis develops, you're in a position to tell your story first, accurately and honestly. And, you have a chance that your story will be heard. □

The authors are based in Council Bluffs, Iowa. Steve Trusty is executive director of the national Sports Turf Managers Association.

the facility's newsletter or posted on a bulletin board.

Pre-season or off-season seminars on turf maintenance can be conducted at the facility. It's easier to establish "how to do it" plots on site because you have control of their placement and can manipulate user traffic patterns to insure the plots are seen.

You can alert facility users and those living near the facility of scheduled maintenance, explain why it's needed and what it entails.

But since all your facility users are your "bosses," whatever you do or intend to do can become a point of discussion. The scrutiny becomes even greater when the facility is supported by tax assessments.

If your average facility user aerates once a year, fertilizes twice, averages one weed control and one insect control application per year, and mows once a week, no matter what the turf growth rate, expect your maintenance program to appear excessive without adequate explanation.

Use informal sessions, print materials, charts, graphs and, if possible, demonstration plots to illustrate the effects of stress, wear and compaction on turf and to show how your management program works to overcome those negative effects.

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'Very dwarf' bermuda looks good for greens



As a golf course superintendent at an up-scale daily fee golf course or country club, you want to give your customers the best possible putting surface.

by BILL KNOOP, PH.D.



Brad Fluitt's ready to go for a tournament, and likes the color of the Champion dwarf bermuda.

You know that the density of the putting surface has a great deal to do with putting quality. It's a well known fact that, so far, the bentgrasses have proven to be able to produce the highest plant density under the close mowing associated with putting green management.

The kicker is...you're in the south.

The text books say the best temperature growing range for a cool-season turfgrass—and, of course, all the bentgrasses are classified as cool-season turfgrass—is from 60 to 75 degrees F. In the south, the night time temperatures usually don't get that low for months during the summer. This means that any cool-season turfgrass may be under a prolonged period of high temperature stress, which could result in the increased possibility of a disease and also a general loss of plant vigor and density. This is exactly what you don't want or need during the busiest time of the year.

We want the high putting green quality from bentgrass, but no one wants all those summer time headaches that may be associated with growing a bentgrass putting green in the south. Most will agree that we haven't had a bermudagrass that could pro-

In many parts of the south, it may be possible to keep this turfgrass from going dormant by using greens covers. Shown are Champion Dwarf Bermudagrass and Tifgreen 328.

duce as high a quality of putting surface as bentgrass, but that's no longer true.

We are at the beginning of what may be a significant movement in the south: back to bermuda!

The driving force is the coming availability of new, very dwarf bermudagrasses, such as Champion dwarf bermudagrass that produces a putting surface that rivals the density of any bentgrass putting green. Golf course superintendents like Dale Miller at Barton Creek Country Club, Austin, Texas, and Larry Clanton at Indian Ridge Country Club in Palm Desert, Calif. have both had it with bentgrass and have chosen Champion Dwarf Bermudagrass for their greens.

Brad Fluitt, golf course superintendent at Bentwood Country Club in San Angelo, Texas, chose to replace his Tifgreen 328 with the dwarf bermudagrass.

"Bentgrass just isn't doing well at all during the heat (over 115 degrees F.) of July and August," says Clanton.

"Bermudagrass is more native to the Texas climate," adds Miller, who doesn't get the summer heat like Palm Desert, but does get weather warm enough to put the bentgrass under continual heat stress for months at a time.

Miller feels that with less summer stress, the

need to use pesticides will be significantly reduced.

Fluitt wanted a bermudagrass that would produce as dense a putting surface as possible at very low mowing heights.

Going native

One item high on the list of ways to implement an Integrated Pest Management (IPM) program, is the use of plant material that is native or as close to native as possible to the intended use area.

As with other hybrid bermudagrasses used for putting greens, Champion Dwarf Bermudagrass has to be sprigged. Research found that while the grass did not have high vertical growth rates, it has superior lateral growth rates. Clanton was able to re-open his greens in 62 days, but Dale Miller had full coverage in seven weeks, as did Brad Fluitt.

Barton Creek in Austin is an up-scale golfing facility and is known for its dedication to protection the environment. Miller

says the change to the new grass is "the best thing Barton Creek has done with its course to date."

Clanton has heard golfers describe ball roll as "incredible." Stimpmeter reading has been over 11.5.

Cutting height, topdressing

Clanton's problem has to do with mowing heights. He says he can only lower the greens mowers to 0.085 of an inch and get an even cut, and would like mower manufacturers to design in "ultra-low" mowing heights on greens mowers.

Because of the extremely high density that the dwarf bermudagrass produces, says Clanton, even at the 0.085 inch mowing height, only the finest topdressing particles work their way down to the "soil" surface. This makes "quality control" of topdressing even more important.

Low temperature damage is a concern with bermudagrass putting greens, especially in the upper south.

Fluitt overseeded his first-year Champion greens with a mixture of poa trivialis and bentgrass. His greens stayed under 32 degrees F. for five days in a row with lows around 6 degrees F. With green covers, soil temperatures were 10 to 15 degrees warmer on the coldest days than the uncovered greens.

"We're probably in better shape than we've ever been for March 13," says Fluitt, who hosts the YMCA Pro-Am Tournament in mid-March.

In many parts of the south, it may be possible to keep this turfgrass from going dormant by using greens covers, which could make overseeding unnecessary.

Is there a "back to bermuda" movement in the works? These three superintendents think so, and think that just maybe, they can take a summer vacation. □

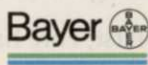
The author is LANDSCAPE MANAGEMENT technical editor.

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The foundation of good disease management.



Supers are design winners at ASGCA meeting; Sarazen to get Ross Award at May Toronto event

Winners of the American Society of Golf Course Architect's "Golden Anniversary Design Challenge" are David Anderson, Evergreen Country Club, Haymarket, Va.; Bruce Scott, Colorado State University; and Jim Ramey, CGCS, Sunriver Golf Club, Sunriver, Ore. The winners each received a framed copy of their design, signed by judges Jack Nicklaus, Rees Jones and Art Hills, and an autographed copy of *Golf Has Never Failed Me* by Donald Ross.

The "Golden Anniversary Challenge" commemorated the ASGCA's 50th Anniversary. The Society was founded in 1947 by 14 of America's finest golf course architects, and has since grown to include 128 leading golf course architects in the U.S. and Canada.

Golf great Gene Sarazen has been selected to receive the ASGCA 1997 Donald Ross Award.

The Donald Ross Award will be presented to Sarazen at a banquet on Friday, May 16, at St. George's Golf and Country Club during the Society's annual meeting in Toronto.

"As the golf industry enjoys a time of unprecedented popularity, it is fitting that we honor Gene Sarazen, whose rise from the caddy ranks to become one of the game's best players is truly inspiring," says Denis Griffiths, president of the Society.

Sarazen, now 95, was 20 years old when he edged Bobby Jones in the 1922 U.S. Open.

Sarazen was the first of only four golfers ever to win the four Grand Slam events of golf: the U.S. Open; the PGA Championship, British Open and Masters.

Past recipients of the Donald Ross Award include golf course architect Pete Dye; agronomist Dr. James R. Watson; ASGCA founding member, Robert Trent Jones; entertainer/golf advocate Dinah Shore; and James Rhodes, past governor of Ohio.

Moore leads new USGA construction program

James Francis Moore, former director of the Mid-Continent region of the United States Golf Association has been named to the new post of Director of Construction Education programs.

The program provides education and information to persons interested in or associated with golf course construction.

Moore is coordinating a program in cooperation with the National Turfgrass Evaluation Program to evaluate bentgrass cultivars for greens at existing golf courses throughout the U.S. The USGA is providing funds to build approximately 10 bentgrass greens and five Bermudagrass greens. The greens will be exposed to regular play, most likely as practice greens. The goal of the program, according to *Cornell University Turfgrass Times*, is to generate data under more realistic conditions, and show the golfer the variety of choices available to a superintendent when selecting a bentgrass.

Liability on the premises a concern

The West Texas Golf Course Superintendents Association and GCSAA report "Premises Liability" is becoming a growing area of litigation for golf facilities. In a reported case, a Wisconsin golfer—who consumed eight beers and five mixed drinks in six hours—tripped when his golf spikes caught in a brick ramp. The golfer fell face first, breaking his jaw and shattering his teeth. He was awarded \$41,540, despite the testimony of a doctor who described the man as

being in "a stupor," with a blood alcohol level of 0.28 (90 minutes after the accident). The court opined that gaps in the bricks could have caused even a sober person to fall.

To avoid or minimize liability, WTGCSA suggests any

man-made change such as a brick path should be examined as part of a golf club's liability prevention program to eliminate dangerous situations, or, be sure to give appropriate warnings to the public.

New D.C. digs for National Club Association

The National Club Association has settled in to a new headquarters address:

National Club Association, One Lafayette Centre, 1120 20th St., N.W., Suite 725, Washington, D.C. 20036. Phone: (202) 822-9822; fax: (202) 822-9808. The NCA's toll-free number remains, (800) 625-6221.

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Circle No. 141 on Reader Inquiry Card

GOLF COURSE PHOTO BY JOHN R. JOHNSON

GCSAA reviews stand on 'alternative' spikes

The Golf Course Superintendents Association of America plans to examine scientific and agronomic data as it rethinks its position on the merits of "alternative" golf shoe spikes.

Previously, the GCSAA recommended individual courses adopt a policy that best served their respective operations. However, an ad hoc committee has started to examine a position based on stronger evidence that the alternative spikes do, indeed, reduce wear on golf greens.

"There is an obvious trend towards a conversion from metal to alternative spikes," says outgoing GCSAA President, Bruce R. Williams, CGCS.

"However, we owe the membership a policy decision that is based on complete and accurate information."

Williams says the Association's policy is to: present complete, relevant and useful information; suggest that course management consult with the superintendent when establishing a policy; stay in touch with research on the subject; and encourage golf facilities to examine the merits of using GCSAA resources to examine their current position.

A white paper will be presented to the board this spring. Information packets should be available for distribution June 1.

The United States Golf Association Green Section reports that alternative spikes are "here to stay in the southeast," and that more than 1500 golf courses have mandated "spikeless" shoes.

During a day of golf, a green sustains more than 12,000 holes from golf spikes. Spikeless shoes, reports the USGA Green Section's *Clippings*, result in better putting quality, improved turf health and less damage to high-traffic areas. □

Met Golf Assoc. starts member help committee

The Metropolitan Golf Course Superintendents Association, Elmsford, N.Y., reports it has formed a Club Relations Committee, to offer a variety of services to golf clubs and member superintendents.

"The committee is prepared to help with just about any problem that could exist in the business, whether it's turf-related, political or even personal," says John Carlone of The Meadow Brook Club, who serves as committee chairman.

"If there's an issue that goes beyond the scope of our committee's expertise, we could certainly find someone in the association with the necessary knowledge and experience to help," adds Carlone.

The MetGCSA draws its membership from New York, Connecticut and New Jersey. Superintendents in those states who would like more information on the Association may call (914) 347-4653. □

OPEI adds golf products to program

The Outdoor Power Equipment Institute has added golf equipment to its Shipments Program, a new program to enhance the industry's efforts at obtaining information on member products.

Data from members and distribution of final reports is to be included in ADSTAR, the OPEI's computerized tracking system.

Current products included in the program are:

walking/riding greens mowers; triplex trim mowers; riding fairway mowers; tow-behind gang reel mowers; greens aerators; powered fairway aerators; ground drive fairway aerators; utility vehicles; and sand trap rakes.

OPEI members with question on the program may call Michael Sherman at Association Research, Inc., at (301) 948-1262. □

Williams loves L.A., moves West to LACC

Bruce Williams, immediate past president of the GCSAA, has been named superintendent of the Los Angeles Country Club.

For the past 20 years, Williams was superintendent at Bob O' Link Golf Club, Highland Park, Ill. Williams' dad, Bob, preceded Bruce at Bob O' Link.

"There are mixed emotions when you leave a place after 20 years, especially when you have the honor of succeeding your father," says Williams. "But this move presents a tremendous professional opportunity. The Los Angeles Country Club is perennially ranked among the top 30 courses in the nation. Who

knows, perhaps we will start a 'new' Williams tradition in Los Angeles."

Williams will first oversee a renovation of the 18 greens on the club's South Course, to USGA specs. South Course green side bunkers will also be renovated. □

PAGE 4L ▶

Sugar Land, how 'sweet' it is!

PAGE 8L ▶

Smallwood's recruiting smarts

PAGE 10L ▶

Old fashioned selling still works

PAGE 12L ▶

McClure: industry image improved

PAGE 16L ▶

Multi-use equipment makes sense

Sports turf managers: 'Do the field no harm.'

Like a medical doctor, the sports turf "doctor" doesn't want to damage or kill a the patient while trying to cure a simple ailment.

Or, as Tim Anderson puts it: "Do the field no harm."

Anderson spoke at a recent conference conducted by the Keystone Athletic Field Managers Organization (KAFMO). He is a district sales manager for Beachley-Hardy Seed Company. Because of his job he's on the road and looking at lots of sports fields.

Talk about real-life examples of "dumb and dumber" sports field screwups, Anderson has seen and photographed a few. At the conference he whisked through a tray of slides he took in the course of his travels in several of our eastern states.

Some were so outlandish that they raised chuckles from the 100 or so turf pros and field managers attending his presentation in the auditorium of Allegheny College,

Meadville, Pa.

So, you've got to wonder about the school official that couldn't understand why his new sports field failed even after it was sodded. . . over an asphalt parking lot.

Or the people responsible for laying sod over actively growing turfgrass in several other locations Andersen has visited. Or, in one instance, laying fresh sod over a cinder track.

How about the field manager who drives a huge bucket loader onto a wet field to more easily topdress areas that he says are— you've guessed it—suffering from wear and compaction.

These problems aren't typical of those that most of you, as sports turf managers encounter. Anderson says most sports turfgrass problems are almost always caused by:

▶ Overuse, the number one cause of wear and compaction. Some sports field are literally pounded to death.

▶ Mowing the turfgrass too short. Most high school and park fields should be mowed at 2½ to 3 inches, certainly no lower than 1½ inches.

▶ Poor surface drainage.

▶ Incorrect fertilizing and liming.

▶ Playing on a field when you shouldn't, like when it's drought or heat stressed, or too wet, or before it's had a chance to recuperate.

▶ Poor water management.

If your sports field is struggling, start with these possible causes first. Investigate. Poke around the field a little bit. Get down on your knees. Look.

If you're still stumped, look for something almost too obvious. How about that patch of dead turf that looks like a fungal disease, but isn't? Uhm, isn't the base of that nearby trash receptacle exactly the same shape and size of that dead patch? **LM**

Questions? Comments? Phone Ron at 216/891-2636; fax him at 216/891-2683 or e-mail him at lscap@en.com.



Ron Hall

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Senior Editor





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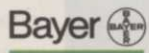


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Sugar land, how 'sweet' it is

The Spencer Company's award-winning landscape services make the New Territory development just outside Houston a special place to live.

by RON HALL/ Managing Editor

L

arry Anderson, who grew up there, remembers when Sugar Land, Texas, only had about 2,000 people. Now, he's landscape supervisor for a master planned community within that onetime tiny Houston suburb that, by itself, has 3,500 homes, with more to be built. Sugar Land may have 80,000 people, and one of its landscape showcases is also Anderson's employer—the New Territory development, 3,100 acres of beautiful new homes, parks and landscapes.

Specifically, Anderson works for Markborough Development Co., the developer of New Territory. In that capacity he works closely with The Spencer Company, a 38-year-old company specializing in corporate horticultural services. The Spencer Company is based in nearby Houston.

The relationship has been mutually beneficial. For New Territory, the benefits of high-quality landscape services are obvious, says Anderson. Besides

adding to residents' quality of life, the landscaping improves New Territory's marketing.

The Spencer Company, for its part, has been honored each of the past four years with environmental improvement awards for its work at the exclusive community.

"There is landscaping everywhere in the development," says Lupe Gallardo, The Spencer Company's project manager at New Territory. "Everything here is done first class. Standards are very high."

Gallardo oversees the landscape management operations at the development. He works independently but cooperatively with the developer's representative Anderson. Their chief concern is quality control.

The Spencer Company operates from a satellite facility at New Territory. From there Gallardo organizes the daily schedule for about 24 employees. He relies on Juan Salazar to head maintenance crews, Julian Gamino to spearhead detail work, and John Endres to maintain the community's irrigation system. The work is year-round, although seasonal to some extent.

"In the winter we do a lot of mulching, and we prune the crepe myrtles," says Gallardo. There are over 1600 crepe myrtles. The Spencer Company also installs the outdoor holiday decorations for New Territory, a service it's been providing Houston-area businesses since 1984, says President Gre-



Gregory Spencer, as a kid, started working at the company his dad began in 1959. As its president the past 17 years he's guided it through Houston's boom and bust economy.

The Spencer Company adds to the color of New Territory by providing residents with flowers.



gory Spencer.

Gregory's father started The Spencer Company in 1959, and Gregory became sole owner in 1982. Recently he took on two employees as partners. Brad Wander serves as vice president of Spencer Outdoor and Diana Rolke as vice president of Spencer Florabunda.

Specializing in landscape management in the 1960s, The Spencer Company expanded its services during Houston's office-building boom in the 1970s. In addition to exterior landscape, it developed a tropical plant business along with what became Houston's largest interiorscape service which Gregory sold to Rentokil in 1993.

But, Houston's boom times, because they're tied so closely to oil, sometimes give way to Houston bust times. Gregory Spencer says he's been through the cycle several times. That's why he wants to keep his company nimble.

"The focus of our company will be dictated somewhat by the market itself," he explains, "but also by what we as a company do well, have fun and make money at." And that, through the 1990s, has included a lot of landscape management for high-end commercial properties.

The New Territory contract includes fertilizing and pest control for 252 acres of manicured turf, most of it bermudagrass but over 30 acres of buffalograss too. Gallardo says his crews mow with John Deere riding and walk-behind units, and they use Echo hand-held



power tools for trimming and blowing. Included are 50 acres of lakes, 10 acres of athletic fields, three recreation centers and more than 30 acres of parks. Serious mowing begins in March and doesn't slow until the bermudagrass starts going dormant again in the fall.

Add 10 acres of shrubs and ground-cover beds, more than 8,000 trees and 53 miles of edging (curbs and sidewalks) and Gallardo himself wonders how his crews can get it all done, and still provide such a high level of service, particularly this past winter and early spring.

"The biggest challenge has been the weather we've had here in this part of Texas," says Larry Anderson. "For the past year and a half, until about Christmas, we'd had nothing but drought. But since Christmas we've had nothing but rain."

Over 50 acres of lakes make New Territory a special place to live, but they're a real challenge to maintain.

While The Spencer Company provides services typical of many landscape management companies, it provides some that aren't. For instance, it maintains a "utility crew" onsite that provides a range of services from storm water pollution control to street cleaning.

Also, twice each year it offers New Territory residents the opportunity to purchase annual color plants, fertilizer and mulch at wholesale prices.

Says Project Supervisor Gallardo, "as this projects keeps developing and getting larger, our work grows too." □



As the New Territory planned community continues to grow, The Spencer Company's landscape management responsibilities expand.

JOHN

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Circle No. 119 on Reader Inquiry Card

Recruiting smarts

Prestigious Naples, Fla., firm attracts top talent by giving college students an opportunity to show their stuff.

Looking for fresh talent for your landscape company? Follow the example of Smallwood Design Group and Smallwood Landscape. Develop a college recruiting program. The respected Naples, Fla.-based firm has been refining its college recruiting efforts for the past 18 years.

Jo Ann Smallwood describes it as a win-win situation. A well-run program benefits the participating landscape company, the student, and the student's university.

"At Smallwood we have found that one of the best ways to assure our recruiting needs is through the cooperative work experience or internship program," says Jo Ann. "We gain motivated, skilled, quality-oriented, committed employees, and colleges gain the opportunity for interns to develop their skills in real-life applications. Interns gain experience they wouldn't otherwise have in college."



Jo Ann Smallwood, at the ALCA Conference, told colleagues of some of the benefits of a college recruiting program.

Smallwood's first experience with interns was with the University of Florida Department of Landscape Architecture.

Over the years the company built a rapport with both the department and its head, Harry Smith, who retired in 1996. It's now developing a relationship with his successor Terry Schnadelbach.

'Real world' experience

While landscape design/construction is just one facet of a budding landscape architect's professional training, Schnadelbach says students appreciate the chance to apply in the real world what they've learned in the classroom or laboratory.

"The intern program gives students first-hand experience in construction, and particularly how design interfaces with on-site conditions," he says.

There are about 100 students (undergraduate and graduate) in Florida's landscape architecture program. There are similar programs (and those for landscape construction and horticulture, too) in other universities and community colleges in the United States. Many partner with industry in structured programs.

Smallwood Design/Smallwood Landscape, in fact, recruits at a number of educational institutions, including Lake City Community College (FL), SUNY Cobleskill (NY), University of Georgia, Mississippi State, Ohio State, Penn State, and Louisiana State Universities.


But, it's not a simple matter of showing up and announcing that you've got openings and rounding up the best and the brightest prospects. Not by a longshot.

Smallwood Landscape, for instance, donates to the U. of Fla. student scholarship program ("This is our way of saying 'thank you' and showing appreciation," says Jo Ann.), and it also visits the campus and presents the students with a project to complete. After they complete the task, several people from the landscape company return to the campus to offer a critique and also to share their insights with students. This represents a four-day commitment for the landscape firm.

The Naples company values its interns and, realizing that many are a long way from home, tries to make their experience with the company as comfortable as possible, including furnishing them with employee housing, including special amenities, close to its office, and subsidizing part of the cost.

"The internship program is designed to provide a variety of working and learning experiences for students. Students become potential employees," says Jo Ann Smallwood. "These future employees make better employment decisions, and industry gains a recruiting edge as well as an opportunity to view a potential employee in action.

"At Smallwood we found that our most important asset is our employees." □



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Circle No. 144 on Reader Inquiry Card

'Old fashioned' selling still in style



by LARRY IORII

Your current customers—and potential customers—want responsible companies that are attentive to their needs.

Most good clients want dependability and technical knowledge when they hire a service company. So how does this relate to “old fashioned selling?”

It is simple and amazing that most established companies fail when it comes to the fundamentals of sound selling.

Company portfolio

This sales tool should contain a cover letter from your company that explains your mission statement and accomplishments. List your residential and commercial accounts. It is wise to show a spread of various geographic areas, plus all levels of socioeconomic categories. If you list only the high-end accounts and the exclusive neighborhoods, potential customers may feel intimidated.

Your lower income accounts pay first, while the wealthy pay later in an effort to

earn interest on their accounts payables as long as possible.

Your portfolio should contain pertinent information, such as:

- pesticide license number
- insurance company, and name of sales agent
- business license number.

The information makes the sales prospect feel very secure in today's business climate of broken promises and irresponsible businesses.

Furthermore, it usually gives the edge over a competitive bid, or justifies why you may be 10 or 15 percent higher. It shows that you are being a professional in your presentation.

Response time, attitude

The number one complaint from new sales calls is the lax attitude of returning phone calls. Make it a policy to state when your calls will be returned.

What is your attitude and response time to a complaint? Always hear them out and listen carefully. Do not confront

Show prospective clients examples of your work, and invite them to visit the property.

the client. Most of the time, a cool head will defuse the situation and make an angry customer a happy one.

Handle problems quickly. It is much easier to retain a good account than to find a new one.

Do you write notes to customers? Do you know what makes a customer smile? This informal touch creates a bond with the customer. We should never discount the human element as part of the intangible rewards of business.

When was the last time you or an employee called or stopped by a client's home to see how they liked your work? Sincerity, enthusiasm and dedication are qualities not readily found in today's service businesses.

No charge service

Once in a while, it is good to provide a minimal service at no charge to the customer. Examples would be removing a small tree limb that is laying on the lawn from a storm, or removing deadwood out of a shrub next to the entranceway.

For a few minutes of work, a thoughtful deed goes a long way to furthering a business relationship.

This does not mean you regularly provide services at no charge beyond the contract. However, it is smart to make customers feel that we are not trying to squeeze every dollar out of their pocket or budget.

If a counterman tosses you a spool of line trimmer string and says, “It's on the house,” how would you feel? Case in point. □

The author is founder and president of Down to Earth, Inc., Wilmington, Del.

Getting lots of really good new customers is a pain in the you-know-what, but...

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Dayton, Ohio- Are you frustrated by advertising that never makes the phone ring? By being beat out of good jobs by cheap bidders? Feeling like you're starting your business all over again every season? Stuck at a certain level?

A million dollar per year "entrepreneur of the year" says that most of his peers' and competitors' marketing is anemic, me-too-istic, dull, full of costly waste, and ineffective. Arrogant? Egotistical? Marty Grunder says: "React to me any way you like—but one thing is for sure, if you are in the landscaping business or maintenance business, whether you are small or large, my marketing methods can easily double or triple your business in just one year, provide better customers, help you target and get exactly the kind of business you want, increase profitability and stability, and absolutely mystify and trump your competitors."

Big talk? Yes, it is, but this Grunder wisacre has been showing off—and blowing sceptics away—his entire life. As a freckle-faced, red headed Dennis-the-Menace type kid, he started his business with nothing more than a "push" lawn mower and chutzpah. That little business went to 75 regular customers almost overnight. As a full-time student at the University of Dayton, while his buddies drove to school in old "beater" cars and flipped burgers for pocket money, Marty arrived in his Grunder Landscaping Company truck and, at age 21, did over \$300,000.00 in business. Last year he was named Young Entrepreneur of the Year by the Small Business Administration's Midwest Region, in the 1 to 25 employees category. Currently, Marty oversees a staff of 30, 18 trucks, a backhoe, an assortment of other equipment, and a diversified business doing everything from basic residential lawn maintenance to complicated commercial landscaping projects—and, this year, breaking \$1.5 million in annual sales. He's also investing in land, lecturing from time to time, and working with other landscapers as their "marketing coach."

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Grunder DOES have "secrets" for building these types of businesses, too. Here are just a few examples:

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3. The 5 biggest mistakes 95% of the people in this business make when advertising and how to avoid them.
4. **How to stop the "price shopper" in his tracks. How to get good business without being the lowest bidder or offering cheapest price.**



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5. How to avoid the **fatal mistake** of confusing "marketing" with "selling".
6. **Forget wasteful "name recognition" or "getting your name out there"**—learn to "target," create and deliver a "market-matched" message, and **attract exactly the type and size of clients you really want.**
7. Why your "service" should never be the #1 focus of your marketing.
8. Powerful but simple letters and things to say to existent customers to **cause demand for a variety of additional, highly profitable services.**
9. **The "secret" borrowed from the fad-diet business that sells high-priced, high-profit landscaping work like crazy.**
10. How to get people working for you and with you to really contribute like a championship team!
11. How to use "**automated, autopilot marketing**" to bring in new business without you or anyone else even talking with prospects on the phone!
12. Even "poor boy" **dirt cheap marketing** strategies, like what to write on a simple postcard to bring in a flood of new customers.

13. The "4-Page" marketing tool used 6 to 10x a year that is **guaranteed to increase your business by at least 30% year after year...automatically!**
14. How to position yourself as a "famous expert" in your area, get a ton of free advertising and "**fry**" the competition.

And there's a whole lot more. At the urging of a big-time, nationally respected direct marketing consultant and professional speaker who discovered and was "blown away" by everything Marty was doing, Marty prepared an easy-to-read but very complete, provocative Special Report—"How To Re-Invent Your Lawn-Garden/Landscaping Business With Million Dollar Marketing Secrets"—and you may be able to obtain a copy at absolutely no cost whatsoever.

Who Should Get Marty Grunder's Special Report?

Marty asks that you call for his free Report ONLY if: (1) you own your own business or are the President, CEO, manager or marketing manager for the business; (2) you make the decisions about advertising, marketing, and customer service investments; (3) you are currently unhappy with some aspect(s) of your business; (4) you recognize that in today's competitive environment, just "doing a great job" isn't enough to sustain a business; and (5) you are willing to make progressive innovative changes in your business if convinced, even reasonably assured that doing so will dramatically improve sales, profits, customer satisfaction, referrals, growth, and community prominence. (Please do NOT waste your time or Marty's money getting this Special Report if you are close-minded, change resistance, fully satisfied with your income, or just a curiosity-seeker without sincere interest in changing your business for the better.)

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Simply write "Report" on your business card or a sheet of your letterhead and FAX it to 937-847-8067 or, for even more information and to get your Report, call 1-800-399-7135, listen to a brief free recorded message, then leave your name, company name, and address as instructed. You can FAX or call anytime, 24 hours a day, 7 days a week. If you prefer having your report sent confidentially to your home address, just let us know. Incidentally, requesting your free Report does not obligate you in any way; no salesperson will call to follow-up, nothing of the sort. However, this is a limited free offer, so please take care of it right now, while it's fresh in your mind.

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Lawn care image better in '90s

Outgoing PLCAA executive director Ann McClure reflects on green industry changes over the past six years.



This month, Ann McClure leaves her post as executive director of the Professional Lawn Care Association (PLCAA) to become executive director of the International Gas Turbine Institute, headquartered in Atlanta.

LANDSCAPE MANAGEMENT spoke with McClure recently about her six-year tenure with the association.—ed.

LM: Your PLCAA responsibilities began with testimony to a Senate Subcommittee hearing on Toxic Substances. That was quite a start.

AM: "I had the help of some of the major players in the industry as well as media consultants. The PLCAA staff knew the government affairs situation at the time, and the PLCAA committee members helped me understand what was going on in the industry, and what the industry's response needed to be in order to position the industry appropriately. Jumping right in like that and representing the industry on a national level was a good start."

LM: You certainly worked with a fine team at PLCAA. What do you feel are your major accomplishments?

AM: "I wanted to make sure the association had continued respect from the industry; government agencies; and the public.

"We've made such inroads in public perception. PLCAA is used several times a week as a resource for information, whether it's from national publica-

tions, universities, government agencies or state groups. That was my hope and continued to be. I think we've succeeded in establishing a reputation of respect among those constituencies for being knowledgeable, responsible and active on behalf of the green industry.

"The other was to insure that from the inside we had a stable fiscal position, and that the staff was knowledgeable about our financial process, so that each one could see to their individual responsibility comfortably, knowing what they could do and should do, in order to remain [fiscally responsible].

"We have an excellent group of professionals here right now.

"We have grown to a point of featuring and serving the concept that all of our members are 'ambassadors' for the industry, and we're trying to give them the tools they can use to tell their communi-

"I think [PLCAA] has succeeded in establishing a reputation of respect among constituencies for being knowledgeable, responsible and active on behalf of the green industry."


—Ann McClure

ties that they are environmental stewards, and to tell their communities the many benefits of turf. This has been our focus the last couple of years.

"Our members are confirming to us that they want to give back. [The services donated to] Arlington Cemetery recently was a good example of that. I think it's reflected in the PLCAA awards program, which is centered around community service and environmental improvement. This is the message we're helping our member 'ambassadors' carry to their communities."



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LM: How do you see the green industry's growth in the days ahead?

AM: "Our impression has been that there are a lot of small companies coming up in the industry. They're the hardest ones to find, unless they call on the PLCAA for resource help when they're getting started.

"As a general observation, I think a lot of companies are forming every year. In any business, there's always some who make it, and some who don't.

"The ones we're in contact with are so excited

about what they're doing. They're pleased with the fact that they can get the business started, and they're excited about the potential. So if they run their businesses right and are judicious about their business investments as they grow the company, there's an awful lot of opportunity for them.

LM: ChemLawn/TruGreen/Barefoot—good for the industry, or not?

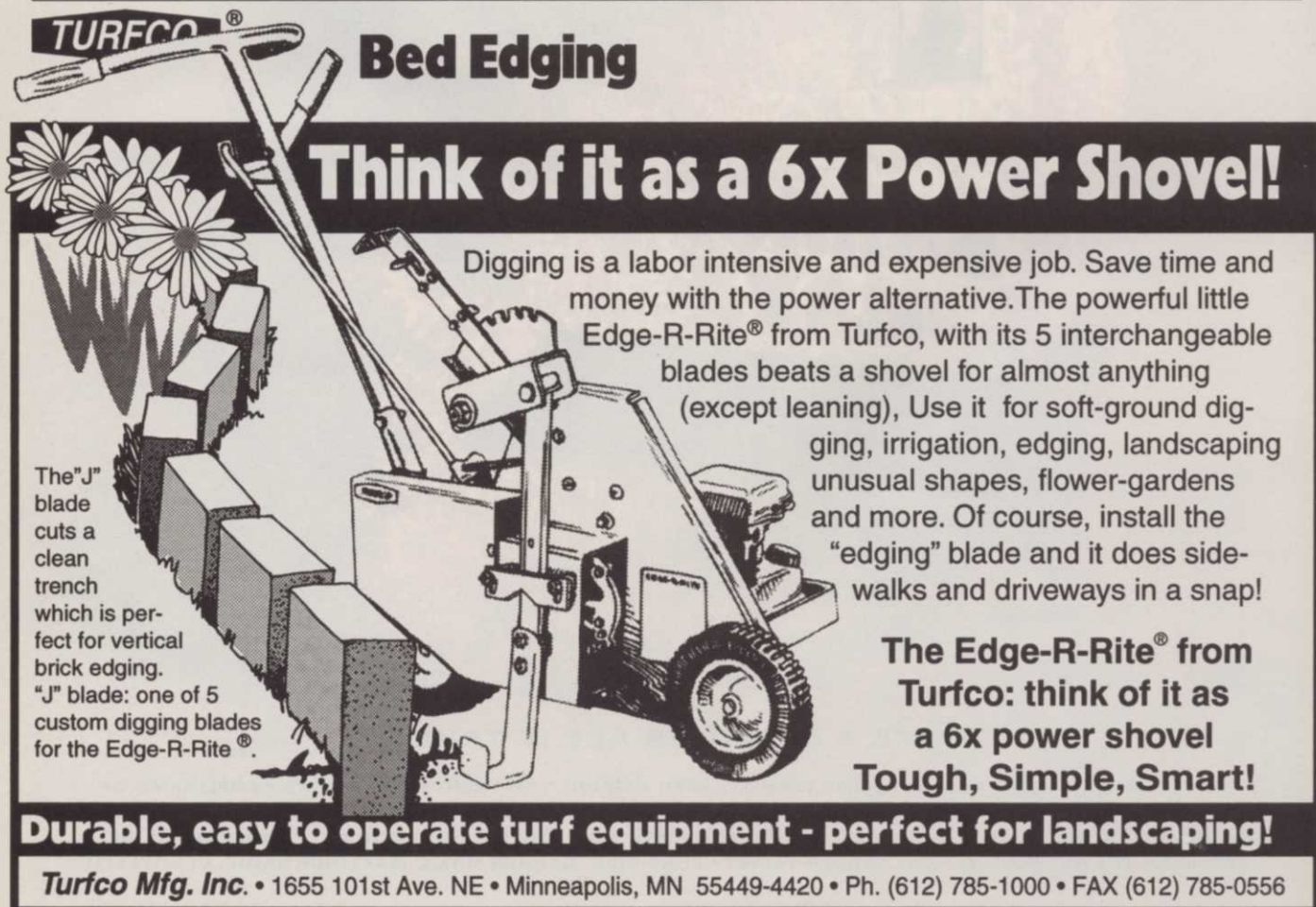
AM: "At this point, the latest [CL/TG/BF] big purchase impacts the industry in that everyone is waiting to see what happens!

"By the same token, what it left us with is a giant in the industry and a lot of small to medium size companies.

"From a management point of view, it's left two major arenas for the customer to choose from: they can choose the giant that works in its way, or they can choose the smaller company that can take advantage of whatever the larger ones can't do.

"Each group has an advantage; how they deal with those advantages is up to any one company.

'We're trying to give our member 'ambassadors' the tools they can use to tell their communities that they are environmental stewards, to tell their communities the many benefits of turf.'



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Circle 139

"The very huge company can work on the basis of gaining from its economy of scale. Whatever advantages they have in doing things in a very big way are obvious. You've still got the smaller companies that can take advantage of the lack of flexibility that large companies often have. And some of the smaller companies grew up in the community rather than coming in from outside.

"Whether you're the big company or the small or the medium-size one, your job is to sit down and identify the advantages you have over the other, and then make sure you take advantage of it.

"It's going to be a lot of fun watching the companies involved work those advantages. It will be interesting to see how it impacts the entire industry. Anyone who says how it will impact is overstepping any point of knowledge he's got. None of us can really say how the chips will fall in the end."

L.M.: What's up with the Green Industry Expo? Will we see any new partners at the next GIE show?

AM.: "There are a number of different industries—and associations representing them—who could potentially have an interest in partnering in some way, or participating in some way in and around the Green Industry Expo.

"With that in mind, the GIE set up a task force to receive any proposals and to see whether there are any groups that might be overlooked.

"Naturally, some folks have said they're interested, some have said they're not; none of it has come to anything specific at all.

"To the best of our knowledge, as a result of the last board meeting, (March 2) it looks as if there will be no obvious change in the 1997 show. For the time being people are just sort of brainstorming on it." □

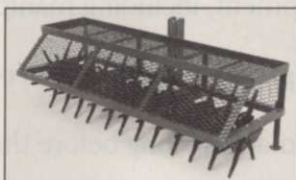
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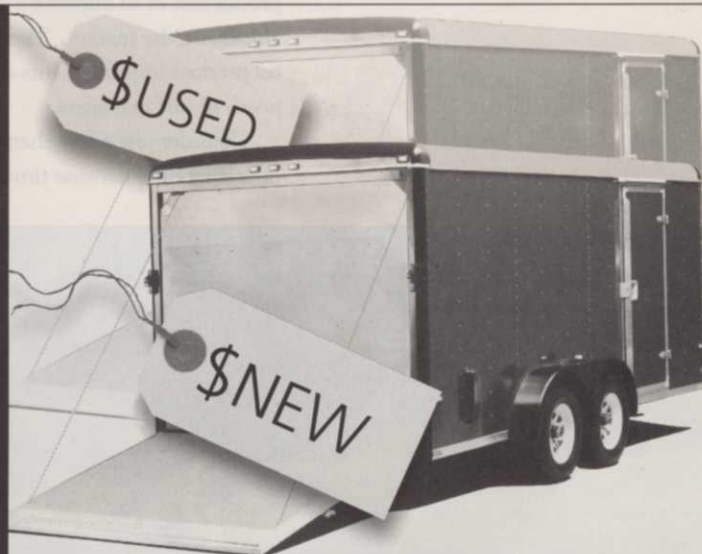
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Circle 140

Multi-use equipment

by STEVE AND SUZ TRUSTY

Manufacturers design equipment to do a specific task better than any other piece of equipment. Extensive research and development, including manipulation of detailed drawings and computer-generated graphics, project the possible uses of a machine long before the first prototype hits the field for intensive hands-on testing.

Once field testing begins, engineers consult with products users and sales and marketing personnel to fine-tune components that will enable the unit to operate successfully under a broad range of actual working conditions to deliver the desired results.

The input provided can be incorporated to make a prototype machine worthy of production or to improve a good machine already on the market. The most successful product improvements answer the needs of turf managers.

Consider just a few changes that cut operating time because time is money in

today's demanding marketplace. Manufacturers have developed wider-deck and multiple-deck mowing units that are capable of following ground contours to deliver a clean cut without scalping yet allow one person to cut more grass in a shorter time. Manufacturers have developed systems for fast and easy attachment and detachment of the various working units of tractors and other multi-use equipment. Other improvements have made turf management easier and more efficient. But innovation doesn't stop there. New options by an equipment manufacturer means more opportunities for turf managers.

New equipment buys are based on how closely the performance capabilities of a specific machine match the jobs that it must tackle. The more hours a unit is "on the job," the more quickly it pays for itself. Ease of operation, machine quality, durability and serviceability are factored into those decisions as well.

The best turf managers are continuously rethinking each step of their daily operations, looking for methods to do the job better, quicker, and easier in a more cost-effective manner. Making the most of their equipment is a key part of this process.

Gary Vandenberg, Director of Grounds, and David Mellor, Assistant Director of Grounds, for the Milwaukee Brewers Baseball Club not only oversee a professional athletic team's facility at Milwaukee County Stadium, they're also pros when it comes to innovation. Mellor's response to the question, "What additional uses have you found to get the most from a specific piece of equipment?" follows.

Tiller distributes clay around infield

"Because so much of the game is played on the skinned area of a baseball field, we



The scarifier located under the middle of this motorized field rake does a good job of working up the skin portion of a baseball infield, particularly the area around home plate.

A blade attached to the front of this field rake makes snow removal a lot easier. The unit's wide tires have a light footprint on fine turf, and even on stadium field tarp.

put a lot of work into getting it just right. We mix two different clay products together at a 1/2 to 3/4 ratio to achieve the consistency we want. Rather than devoting labor hours to hand-mixing, we build a pile of clay in the desired proportions, mount the tiller on the back of our front-end loader, lightly mist the clay pile with a hand-held hose, and use the tiller to mix the two clays uniformly.

Versatile sprayer

"Our spray unit has booms for rapid application of materials over the field," explains Mellor. "It also has a hose adapter unit that we use for spot treatment of problem areas. We've found that this same spray rig, filled with water, and with the hose adapter unit attached, provides a quick method of irrigating the flower beds around the stadium."

Two mowers

"We mow the infield turf with a walk-behind reel mower," says the Milwaukee field manager, "and the outfield turf with a triplex reel mower to get a precision cut and develop the distinctive 'patterns' that add aesthetic appeal to the field. With both units, we'll mow as usual, then disengage the blades and cover specific areas, using the rollers only, to 'etch in' the lines and to make certain areas 'jump out' for the fans in the stands and viewing on TV."

Field rake an MVP

"Our most versatile machine is the field rake with the 'ballpark package.' We use the pointed, scarifying blades, located at the middle of the machine, right under the seat, to work the skinned surface of the homeplate area. Because we don't want to leave 'tracks' on this surface, we use the light-tread tires during this procedure. This same blade can be used to prepare sections of the field for seeding.



PHOTO COURTESY DAVID MELLOR, MILWAUKEE BREWERS.

Mat attachment breaks up cores

"The machine's mat attachment, equipped with controllable hydraulic pressure, is designed for dragging the skinned area," says Mellor. "We'll use the mat, with full down pressure, to break up the cores following aeration. The same mat, with a lighter degree of down pressure, does a good job of 'slightly bending' the grass blades to enhance or 'sharpen' one of our field patterns.

Sod positioning with blade

"The standard method of positioning 48-inch wide-cut sod, in sections or in 'big' rolls, is to have multiple crew members use rake teeth or forks to grip the sod and push it tightly against the row previously put in place. The process can be handled with fewer people by using the front blade on the field rake, evenly lined up with the outer edge of the sod, to 'push' the sod into position.

"Because the field rake is the same machine used on golf courses as a bunker rake, it's designed with a light 'footprint' for little or no compaction and with great traction. We switch over to the 'knobby,' high traction tires and put on the front aluminum blade for 'on-the-field' snow removal. The

aluminum blade is slightly curved on the bottom so it moves the snow without tearing up the turf or the tarp."

Mellor even suggests multiple uses for the hand tool, the action or stirrup hoe.

"We use the action hoe to repair uneven spots on the mound. By gently moving it back and forth, it cuts through clay like a hot knife through butter. We also use it to cut along the edge of the baseline to slice away a high spot that might develop into a 'lip' where the turf and skinned area meet. And, we use it to 'scuff off' paint from a line that we want to repaint or reposition.

Putting equipment to work on multiple tasks does require thinking "out of the box." Once the concept catches on, however, everyone brings their own unique perspective to problem solving and brainstorming innovations. That's how improvements are made. □

The authors are partners in Trusty & Associates, a consulting firm located in Council Bluffs, Iowa. Steve Trusty is Executive Director of the Sports Turf Managers Association.

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Circle No. 142 on Reader Inquiry Card

Database a bank of useful info

Databases allow you to segment, customize and manipulate data to your needs.

by JUDITH GUIDO & MARLENE EICHHOLZ

A database is a collection of data related to a purpose or topic.

Databases don't have to be computerized, but they are most often associated with computer software applications. Today, people need in-

formation quickly. The quicker they can find information, the better equipped they'll be to win over the competition. Computers are the fastest and cheapest way to do this.

Before you begin to organize your information in a database, answer these questions:

1) **Who** will build, maintain and clean (update for accuracy) the company database, and who will use the information you collect? Talk to all employees who will be using the system to get their input. A good database should be used by everyone in the company, from the secretary who looks for

phone numbers and addresses, to the bookkeeper who bills customers, to sales people who want to attract potential business, to the crew foremen who review site contracts.

2) **Where** do you go for help? Look in trade magazines; contact professional organizations; visit computer stores; local community college; computer consulting companies; other landscapers.

Some common databases are MicroSoft Access, ACT and TeleMagic.

3) **What** types of information do you collect? We collect addresses/fax/phone numbers of clients, suppliers, employees (past, present and future); site directions; contract dates; equipment and plant lists; maintenance schedules; material costs, and more.

4) **Why** do you need this information? We need it to better serve our internal and external customers. We can better understand their needs, schedules, expectations.

We generate and qualify leads, sell our products and services and maintain customer relationships through newsletter mailings, surveys, sending special occasion cards, company invitations and announcements.

5) **How** is data collected? Prospective client lists can be bought or expanded through networking. Present client information is collected from contracts. Industry contact lists are created from collected business cards. Suppliers are gath-


ered from trade magazines, trade shows and phone books.

Databases allow you to segment, customize and manipulate data to your needs. For example, you can differentiate your types of clients by economic status or geographic areas and then target them accordingly. This saves time and money. □

Judith Guido is president of Grass Roots Marketing and director of business development and marketing, Laflamme Landscaping Services, Bridgeport, Ct.

Writer Marlene Eichholz is Laflamme's MIS Coordinator.

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Circle 128

To meet your information needs

Databases come in various stages and prices. Some are sold in a fixed format, which gives the user or installer little control over what information is stored, while others allow you to tailor the setup.

▶ Make sure it's compatible with your hardware and software systems, computer memory and processing speed and budget.

▶ Investigate the ease of installation, use and design (is it user friendly?)

▶ Is training provided?

▶ Keep your budget and staff qualifications in mind.

▶ Weigh the benefits of outsourcing against the benefits of training or hiring staff.

J.G/M.E.

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EXPO 97

Show off your best field!

If you manage more than one playing field, make one of them into your 'showcase' field, that really shows what you can do.

by DAVID D. MINNER, PH.D.

Your reputation as a field manager will be built on the quality of your best field, with less attention to resources or number of fields under your care.

Be sure to allocate enough resources to at least one field so that you can show your ability to produce a high quality sports

field. Sacrifice resources used on other fields that are not producing a noticeable improvement. Document additional resources needed to produce a quality field and use the information when requesting future resources to improve inadequate fields. You should be able to define minimal inputs required for a desired level of field quality.



A photographic record of the work that your ground crew does—and, of course, the finished product—develops a sense of pride in a job well done. It also documents the importance of your efforts.

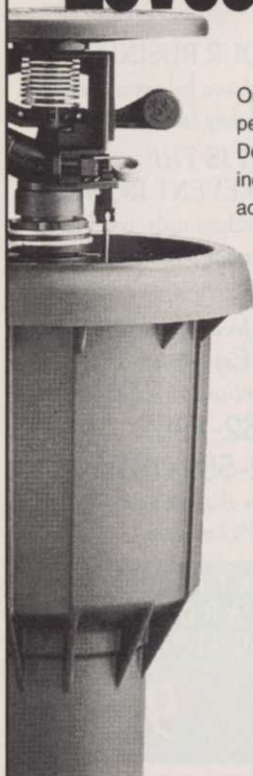
Pick a moderate-use field

Select a field with moderate to light traffic to "showcase". Additional resources may not produce a better field if excessive traffic is the major problem. Buy and use a camera. It's the best way to show the changes that occurred on the facility under your direction. Pictures of construction projects are also a valuable record of what is buried under the facility. Underground irrigation,

drainage, and utilities may need to be accessed and photos are often more accurate than drawings. A photographic record of the grounds crew and their activities can also develop a sense of pride in a job well done. **LM**

David D. Minner is an associate professor in the Department of Horticulture at Iowa State University. Photo by David Minner.

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Why a safety checklist

Develop a one- or two-page safety checklist that is reviewed each year and approved by your boss. include field areas such as bases, mound, and irrigation heads among other areas. Also list non-field areas such as bleachers, fences, dugouts, warning signs, etc. List the priority of each item and indicate those that are dangerous and need immediate attention. Make a column on the checklist for "proposed work completed." Sign and date each item that has been completed and approved. A checklist will document your awareness of problems and that you are taking measures to improve safety of the facility. At first, funding may be directed towards non-field-related items, but eventually resources will be required for field maintenance as indicated by the safety checklist.

D.M.

Circle 129

WIN \$500!

Announcing: the second annual LANDSCAPE MANAGEMENT "Emerald Awards". LANDSCAPE MANAGEMENT magazine is offering a \$500 first prize to the winner of a random drawing to be held on July 1, 1997.

Second prize is \$300 and third prize is \$200 in cash. To be eligible for the drawing, simply fill out the questionnaire at right and return it to LM's editorial offices.

Answers to the questions will determine our "1997 Emerald Awards" winners, to be revealed—along with the contest winner—in our August issue.



CONTEST REQUIREMENTS: Contestants must be owners or employees of landscape maintenance companies or lawn care companies; or maintenance employees of a golf course or country club, including superintendents and assistant superintendents; or an athletic field manager or member of an athletic field maintenance crew; or manager or member of a facility landscape management crew. Employees of Advanstar Communications and their families are not eligible.

All questions on this entry form must be completed, and all blanks filled. One entry per person. No more than five entries from any one employer will be allowed. Entry forms will appear in the February-June, 1997 issues of LANDSCAPE MANAGEMENT.

Completed questionnaires should be mailed to: Emerald Awards, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. They must be received by noon, July 1, 1997.

A random drawing of all eligible entry forms will be held the afternoon of July 1, 1997. Winners will be notified within 24 hours.

OFFICIAL ENTRY FORM

QUESTION:

What is your favorite brand name of...

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| post-emergence herbicide? | <input type="checkbox"/> |
| turf insecticide? | <input type="checkbox"/> |
| turf fungicide? | <input type="checkbox"/> |
| plant growth regulator? | <input type="checkbox"/> |
| compact tractor? | <input type="checkbox"/> |
| turf aerator? | <input type="checkbox"/> |
| pick-up truck? | <input type="checkbox"/> |
| leaf blower? | <input type="checkbox"/> |
| line trimmer? | <input type="checkbox"/> |
| chain saw? | <input type="checkbox"/> |
| Kentucky bluegrass? | <input type="checkbox"/> |
| perennial ryegrass? | <input type="checkbox"/> |
| turf-type tall fescue? | <input type="checkbox"/> |
| turfgrass mix or blend? | <input type="checkbox"/> |
| biological control product? | <input type="checkbox"/> |

NAME: _____

EMPLOYER: _____

CITY/STATE: _____

PHONE NUMBER: _____

(AC) _____

Firm helps peers set 'benchmarks'

ALCA members Karen Corcoran and David Luse are taking a "peer group" approach to professionalism. They're partners in "The Benchmark Group," a firm designed to provide growth and profitability with executives in the design and landscape contract services industry. Corcoran is a former vice president with Rentokil Environmental Services. Luse is chief executive officer of Arteka Corporation, Minneapolis.

A key part of The Benchmark Group service is the "CEO Forum," a two-day re-

treat to give fellow entrepreneurs an opportunity to explore specific current business issues.

"The CEO Forum allows eight to 10 entrepreneurs to get together and help each other establish standards of excellence for each others' businesses, both financially and on management issues," explains Corcoran.

Issues are selected by the group prior to each Forum and include topics such as 'open book' management, employee development and marketing sophistication.

"We were looking at linking similar-sized businesses in different geographic locations so that there's not a conflict of interest," says Corcoran.

"The key was to select Forum members who have similar interests, and are not competitive, and keep that information confidential, whether it's a financial or a management issue.

"We're working through owners, to come up with a game plan and the goals and objectives to make it happen."

Corcoran adds that many entrepreneurs are "out on their own," when faced with the challenges of business, and that's where The Benchmark Group comes in.

"A larger business would have a corporate environment, but a medium-sized company doesn't have those resources."

"CEOs or presidents of com-

panies of any size know it's lonely and cold on top," suggests Luse, "and the dynamics of that make it difficult to really have peers they can get together and benchmark with. We're bringing those folks together."

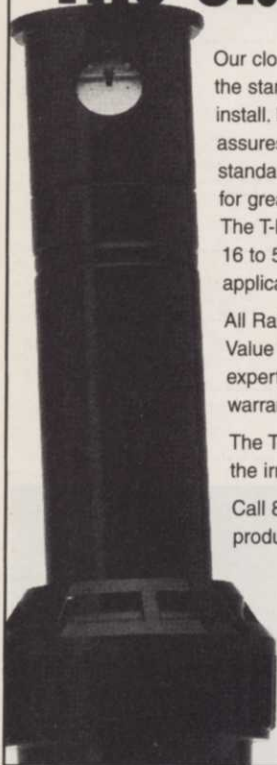
Luse recently hosted a Forum in his home city of Minneapolis, and a tour of the Toro headquarters was included.

Forums are held in member home cities, "to become more in tune with the marketplace that person is in," explains Corcoran.

"The way you market in Atlanta, with the growth and diversity of that culture, is much different, for example, than the market in New York or New Jersey."

To learn more about The Benchmark Group, contact Karen Corcoran at (201) 543-0552; fax: (201) 543-5995. □

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Circle 130

MD/DC/VA show a hit

The Landscape Contractors Association of MD/DC/VA reported success for its winter workshop. More than 450 attended.

"This is a terrific opportunity for landscape professionals to get the information they need to stay competitive, said Sherri Mara, director of administration for the Association.

The LCA of MD/DC/VA is headquartered at 15245 Shady Grove Rd., Suite 130, Rockville, MD 20850. □

PLCAA wants resumés

The Professional Lawn Care Association of America is accepting resumés from qualified association management professionals as it seeks to replace outgoing director, Ann McClure.

Forward resumés by April 15 to: Larry Messina, Lawn Cure of Southern Indiana, Inc., P.O. Box 1295, 1611 Spring St., Jeffersonville, IN 47131. □

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April 1997

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- 05 270 Tree Service Companies/Arborists Other (please specify) _____
- INSTITUTIONAL FACILITIES**
- 09 290 Sports Complexes 16 325 Condos/Apartments/Housing Developments/Hotels/Resorts
- 10 295 Parks 17 330 Cemeteries/Memorial Gardens
- 11 300 Right-of-Way Maintenance for Highways, Railroads or Utilities 18 335 Hospitals/Health Care Institutions
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SUPPLIERS & CONSULTANTS

- 22 355 Extension Agents/Consultants for Horticulture 25 370 Manufacturers
- 23 360 Sod Growers/Turf Seed Growers/Nurseries 26 Other (please specify) _____
- 24 365 Dealers/Distributors/Formulators/Brokers

2. Which of the following best describes your title? (check ONE only)

- 27 10 **Executive/Administrator**- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 28 20 **Manager/Superintendent**- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 29 30 **Government Official**- Government Commissioner, Agent, Other Government Official
- 30 40 **Specialist**- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 31 Other Titled and Non-Titled personnel (please specify) _____

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- 31 A Mowing 36 F Turf Fertilization 41 K Paving, Deck & Patio Installation
- 32 B Turf Insect Control 37 G Turf Disease Control 42 L Pond/Lake Care
- 33 C Tree Care 38 H Ornamental Care 43 M Landscape Installation
- 34 D Turf Aeration 39 I Landscape/Golf Design 44 N Snow Removal
- 35 E Irrigation Services 40 J Turf Weed Control 45 O Other (please specify) _____

4a. Do you specify, purchase or influence the selection of landscape products? Yes No

4b. If yes, check which products you buy or specify: (check ALL that apply)

- 46 1 Aerators 56 11 Mowers (reel/rotary)
- 47 2 Blowers 57 12 Snow Removal Equipment
- 48 3 Chain Saws 58 13 Sprayers
- 49 4 Chipper-Shredders 59 14 Spreaders
- 50 5 De-icers 60 15 Sweepers
- 51 6 Fertilizers 61 16 Tractors
- 52 7 Fungicides 62 17 Truck Trailers/Attachments
- 53 8 Herbicides 63 18 Trucks
- 54 9 Insecticides 64 19 Turfseed
- 55 10 Line Trimmers 65 20 Utility Vehicles

5. Do you have a modem? Yes No

6. Do you subscribe to an on-line service? Yes No

7. Is CD-ROM available in your workplace? Yes No

101	119	137	155	173	191	209	227	245	263	281	299
102	120	138	156	174	192	210	228	246	264	282	300
103	121	139	157	175	193	211	229	247	265	283	301
104	122	140	158	176	194	212	230	248	266	284	302
105	123	141	159	177	195	213	231	249	267	285	303
106	124	142	160	178	196	214	232	250	268	286	304
107	125	143	161	179	197	215	233	251	269	287	305
108	126	144	162	180	198	216	234	252	270	288	306
109	127	145	163	181	199	217	235	253	271	289	307
110	128	146	164	182	200	218	236	254	272	290	308
111	129	147	165	183	201	219	237	255	273	291	309
112	130	148	166	184	202	220	238	256	274	292	310
113	131	149	167	185	203	221	239	257	275	293	311
114	132	150	168	186	204	222	240	258	276	294	312
115	133	151	169	187	205	223	241	259	277	295	313
116	134	152	170	188	206	224	242	260	278	296	314
117	135	153	171	189	207	225	243	261	279	297	315
118	136	154	172	190	208	226	244	262	280	298	316



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management

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ADVANSTAR COMMUNICATIONS INC
PO BOX 5054
PITTSFIELD MA 01203-9697



April 1997

This card is void after June 15, 1997

NAME (please print) _____
 TITLE _____
 FIRM _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP _____
 PHONE (____) _____ FAX (____) _____
 INTERNET/E-MAIL ADDRESS _____

I would like to receive (continue receiving) LANDSCAPE MANAGEMENT free each month: Yes No

Signature: _____ Date: _____

1. My primary business at this location is: (check ONE only)

- 01 250 GOLF COURSES
- 02 255 Landscape Contractors (installation and maintenance)
- 03 260 Lawn Care Service Companies
- 04 265 Custom Chemical Applicators (ground and air)
- 05 270 Tree Service Companies/Arborists
- 06 275 Landscape Architects
- 07 280 Land Reclamation and Erosion Control
- 08 285 Irrigation Contractors
- 09 290 Sports Complexes
- 10 295 Parks
- 11 300 Right-of-Way Maintenance for Highways, Railroads or Utilities
- 12 305 Schools, Colleges, Universities
- 13 310 Industrial or Office Parks/Plants
- 14 315 Shopping Centers, Plazas or Malls
- 15 320 Private/Public Estates or Museums
- 16 325 Condos/Apartments/Housing Developments/Hotels/Resorts
- 17 330 Cemeteries/Memorial Gardens
- 18 335 Hospitals/Health Care Institutions
- 19 340 Military Installations or Prisons
- 20 345 Airports
- 21 350 Multiple Government Municipal Facilities

INSTITUTIONAL FACILITIES

- 22 355 Extension Agents/Consultants for Horticulture
- 23 360 Sod Growers/Turf Seed Growers/Nurseries
- 24 365 Dealers/Distributors/Formulators/Brokers
- 25 370 Manufacturers
- 26 Other (please specify) _____

SUPPLIERS & CONSULTANTS

- 27 10 Executive/Administrator- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 28 20 Manager/Superintendent- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 29 30 Government Official- Government Commissioner, Agent, Other Government Official
- 30 40 Specialist- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 31 Other Titled and Non-Titled personnel (please specify) _____

3. SERVICES PERFORMED (Check ALL that apply)

- 31 A Mowing
- 32 B Turf Insect Control
- 33 C Tree Care
- 34 D Turf Aeration
- 35 E Irrigation Services
- 36 F Turf Fertilization
- 37 G Turf Disease Control
- 38 H Ornamental Care
- 39 I Landscape/Golf Design
- 40 J Turf Weed Control
- 41 K Paving, Deck & Patio Installation
- 42 L Pond/Lake Care
- 43 M Landscape Installation
- 44 N Snow Removal
- 45 O Other (please specify) _____

4a. Do you specify, purchase or influence the selection of landscape products? Yes No

4b. If yes, check which products you buy or specify: (check ALL that apply)

- 46 1 Aerators
- 47 2 Blowers
- 48 3 Chain Saws
- 49 4 Chipper-Shredders
- 50 5 De-icers
- 51 6 Fertilizers
- 52 7 Fungicides
- 53 8 Herbicides
- 54 9 Insecticides
- 55 10 Line Trimmers
- 56 11 Mowers (reel/rotary)
- 57 12 Snow Removal Equipment
- 58 13 Sprayers
- 59 14 Spreaders
- 60 15 Sweepers
- 61 16 Tractors
- 62 17 Truck Trailers/Attachments
- 63 18 Trucks
- 64 19 Turfseed
- 65 20 Utility Vehicles

5. Do you have a modem? Yes No

6. Do you subscribe to an on-line service? Yes No

7. Is CD-ROM available in your workplace? Yes No

101	119	137	155	173	191	209	227	245	263	281	299
102	120	138	156	174	192	210	228	246	264	282	300
103	121	139	157	175	193	211	229	247	265	283	301
104	122	140	158	176	194	212	230	248	266	284	302
105	123	141	159	177	195	213	231	249	267	285	303
106	124	142	160	178	196	214	232	250	268	286	304
107	125	143	161	179	197	215	233	251	269	287	305
108	126	144	162	180	198	216	234	252	270	288	306
109	127	145	163	181	199	217	235	253	271	289	307
110	128	146	164	182	200	218	236	254	272	290	308
111	129	147	165	183	201	219	237	255	273	291	309
112	130	148	166	184	202	220	238	256	274	292	310
113	131	149	167	185	203	221	239	257	275	293	311
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115	133	151	169	187	205	223	241	259	277	295	313
116	134	152	170	188	206	224	242	260	278	296	314
117	135	153	171	189	207	225	243	261	279	297	315
118	136	154	172	190	208	226	244	262	280	298	316

L

andscape managers demand power and hauling capacity in their pickup trucks. They say so and so do the truck makers. And when they reach the job site, landscapers demand the same rugged qualities in utility vehicles, most often used to move earth and haul equipment.

Richard Raymond, foreman

says Raymond. Only the largest pickup chassis are capable of hauling a 12,000 pound trailer. However, most three-quarter-ton pickups can handle an 8,000 pound trailer, if properly equipped.

American Design and Landscape in Parker, Colo., specializing in new construction, also relies on heavy-duty pickups. The firm has 45 dual-wheel pickups, all made by Chevrolet, Dodge or Ford, according to Oscar Guardado, supervisor in the landscape division. The heavy-duty vehicles often pull the company's gooseneck trailers, loaded with materials and equipment.

In fact, truck manufacturers say the most popular pickups for landscapers are the larger ¾-ton pickups including the Dodge Ram 2500, Chevrolet C/K 2500 and Ford F-250. A ¾-ton pickup typically can carry payloads over 3,000 pounds.

The largest pickups, including the Chevrolet C/K 3500, Dodge Ram 3500 and Ford Super-Duty pickups are best for landscapers who typically carry topsoil, stone or other heavy loads. Payloads of more than 5,000 pounds are available.

Full-sized pickups

Here is what is new for 1997 in the full-sized pickup

LANDSCAPE VEHICLES

a must-have for efficiency

Green industry professionals have a great variety of trucks and utility vehicles available to them for 1997.

Attachments and extras, too.

by ARTHUR FLAX

at A.J.'s Landscaping and Design, Inc., a "high-end residential landscaper" in Houston, says the company owns three pickups and three dual-wheel flatbeds, all Chevrolets. All but one are one-ton models, the heaviest you can buy. And what do they haul?

Rocks and soil and trailers too, up to a 12,000 pound unit,

1997 FORD F-150 SUPERCAB



1997 ISUZU HOMBRE SPACECAB



Incentives available

Truck manufacturers are continuing their efforts to help dealers target small business customers.

Chevrolet is most aggressive in marketing vehicles to small commercial businesses. It has established special "Commercial Specialty Vehicle - CSV" dealers who must carry a certain level of truck inventory suited for commercial customers. These dealers are also familiar with the business needs of landscape managers and other commercial enterprises.

Chevrolet also offers free or low cost "Commercial Customer Choice" bin and shelf upfit packages for its vans and trucks. These packages are available at all Chevy dealers, but all dealers may not be aware that they are available. Landscape managers considering a Chevrolet should make it a point to ask about this program.

Dodge offers a rebate program available to landscape managers (who identify themselves as small business owners). Dodge currently offers a \$300 rebate on pickups, \$500 on van and \$600 on gas powered chassis cabs. Call 1-800-WORK-RAM for more information.

Ford does not have any rebates directed at small business, but often offers regional, as well as national rebate programs.

Japanese manufacturers traditionally offer incentives to their dealers rather than directly to the consumer. Landscapers who know about these incentives can use that knowledge as a bargaining chip. Trade publications, such as *Automotive News*, available at larger newsstands, regularly publish retail and dealer incentives. Landscape managers should also ask dealers if they are receiving any rebates.

PRICES

Here are some manufacturers' suggested retail prices on base models for comparison (destination charges not included): Chevrolet C2500, \$17,419; Dodge Ram 2500, \$18,770 and Ford F-250, \$16,355.

truck lines offered by Chevrolet, Dodge and Ford:

Chevrolet full-sized C/K (C models are two-wheel-drive, K's are four-wheel-drive) pickups feature improved power steering and more efficient automatic transmissions. The five speed manual transmission available

on the heavy-duty C/K2500 and 3500 models has also been improved to reduce noise and improve shifting feel.

Base engine is a 200 hp Vortec V-6 and the largest available gasoline engine is a Vortec 7400 (7.4 liters) V-8, producing a maximum of 290 horsepower (hp) and 410 pound-feet of torque. A 6.5 liter, L65 turbo-diesel producing 190 hp and 385 pound-feet of torque is also available on heavier duty models of at least 8,600 pounds Gross Vehicle Weight (GVW) capacity.

An optional passenger side "third door" is available for improved access on extended cab versions.

Dodge full-sized Ram trucks are little changed for 1997, save for appearance up-

dates. Power ranges from a 175 hp, 3.9 liter V-6 to a massive, 300 hp, 8.0 liter, V-10. A 215 hp, turbocharged, inline six cylinder Cummins turbodiesel is also available.

In the Ford F-Series full-sized pickup line, the all-new body style introduced in January 1996 on the (1997 model) F-150s, is now shared by the F-250 in GVW ratings under 8,500 pounds. The new models offer better ride, handling, comfort and fuel economy.

F-150 and F-250 SuperCabs also feature a standard third door to the cargo/rear passenger area, handy for tool boxes.

Major changes are also taking place under the hood of Ford trucks. Time was when the only vehicles carrying engines with overhead cams and eight or more cylinders had names like Ferrari, Maserati and Lamborghini.

Now, you can find a single overhead cam (SOHC) "Triton" V-8 snarling under the hood of a Ford pickup truck. Overhead engines are known for their smooth power delivery and high performance, but typically produce power at higher engine speeds than conventional pushrod engines.

CUSHMAN TURF TRUCKSTER



However, the Ford engines are said to offer "low end grunt," as well as smooth performance.

A 210 hp, pushrod V-6 is standard in the F-150. Standard engine in the new F-250 is a 220 hp, 4.6 liter Triton V-8. The F-150 and F-250 also offer an optional, 235 hp Triton 5.4-liter SOHC V-8 engine.

An upgraded 7.3-liter direct injection turbo-diesel is offered in Ford's larger pickups.

Compact pickups

Compact pickups are often used by landscapers to tow equipment and many offer towing capacities of up to 3,500 pounds.

Dodge Dakota and Toyota T100 intermediate sized pickups are suited for landscapers who need a larger pickup bed (eight foot length) for equipment and can also be used for towing or light snow plowing.

Interestingly, all compact pickups, except the Toyota T100, are assembled in the United States.

Chevrolet S-Series compact pickups feature tougher frame components and a more efficient automatic transmission. Driver's side airbags and four-wheel antilock brakes are standard.

Dodge: Dodge took the bold styling that made its full-size trucks a big player and applied it to the all-new 1997 Dakota mid-sized pickup. The new Dakota lineup offers significantly more standard features than the trucks they replace.

Regular Cab models now

include as standard, driver- and passenger-side air bags, four-speaker AM/FM cassette stereo, larger tires, rear solar glass and cargo tie-down hooks. The Club Cab models now include all those features plus a 40/20/40 seat with center armrest storage system, driver's seat lumbar adjustment and premium cloth upholstery.

Mazda: the Mazda B-Series and Ford Ranger are built in the same Edison, NJ, plant. They share many features.

Three models are the B2300, with a 112 hp, 2.3 liter four cylinder engine, the B3000, with a 145 hp, 3.0 liter V-6 and the B4000 with a 160 hp, 4.0 liter V-6. The B-4000 can tow a trailer weighing up to 5,900 pounds. However, the four-wheel-drive version of the B2300 is no longer available.

Nissan: Nissan's 1997 pickup truck lineup features driver's side airbag, standard antilock rear brakes and high levels of standard equipment including a double wall cargo



1997 DODGE DAKOTA 4X2



1997 CHEVROLET S-SERIES

bed, front stabilizer bar, tinted glass and side window defoggers. All models are powered with a 2.4 liter, 134 hp, SOHC four-cylinder engine.

Toyota: the Tacoma pickup, introduced in March 1995, gets a facelift with new headlights, grille and nose in two-wheel-drive versions.

The Tacoma features three engines—a four-cylinder 42 hp four-cylinder to a 190 hp V-6. The T100 mid-size pickup features a 150 hp four and the 190 hp V-6. All engines have double overhead cams and four-valves per cylinder.

Isuzu: offers the Hombre, featuring a 2.2 liter, 118 hp,



1997 DODGE RAM 1500 4X4

four-cylinder engine and five speed transmission.

Utility vehicles

There are many brands and types of utility vehicles available, but just as important as picking a certain vehicle is finding a dealer who will stand behind the product and provide fast, competent repairs. Even the best built utility vehicles are likely to need occasional repairs when used in rugged landscaping duty.

Guardado of American Design says his company uses John Deere vehicles, with attachments. He says there is a local dealer who responds readily when repairs are needed, and because the firm is most familiar with the line.

Landscapers who work on golf courses or mostly in residential areas might want to consider an electric utility vehicle, because of its quiet operation. Renting a utility vehicle may be a good way for landscapers to familiarize themselves with equipment and local dealers. Raymond of A.J.'s notes that his firm rents utility vehicles when needed, but might soon buy.

Some available models

E-Z-GO offers a 1,200-pound-capacity utility vehicle, powered by a 350 cc, twin-cylinder overhead cam, 11 horsepower engine with automatic continuously variable transmission. An electric version will soon be available.

Club Car, Inc. offers eight models of its Carryall utility vehicle. Notably, the Carryall VI features a standard flatbed that is almost six



JOHN DEERE 'GATOR'

feet long. Nine and 11 hp gas, and 10 hp electric motors are available. The vehicles offer up to 1,500 pounds capacity.

The John Deere 1800 is a workhorse of a utility vehicle, available with a 1,500 pound capacity cargo box or a 200 gallon "Accumaster" spraying system. Cargo box has hydraulic dump feature. It's powered by an 18 hp gas engine.

Columbia Par Car Corp. offers the Par Car with an 8.8 hp electric motor and 1,100 pound capacity.

Cushman offers a full line of turf care vehicles, including the Turf-Truckster and Jr. Turf-Truckster with engines up to 27 hp and payload to 2,600

pounds. Three- and four-wheel versions are available.

Kawasaki offers its Mule vehicle for a variety of green industry work. The Mule 550 has an optional trailer hitch to tow up to 900 pounds. The Mule 2500 has plastic body panels to resist dents and scuffing. The 2510 has 4WD with selectable Hi/Low range for traction.

Yamaha utility vehicles are suited for golf course operation with gas and electric power. **LM**

Arthur Flax is a freelance writer specializing in the automotive industry based in Denver, Colo.

READING'S AEROTECH™



1997 TOYOTA TACOMA



These questions came straight from the customers of lawn care operators, pest control operators and other professional pesticide applicators across the country—and probably reflect the concerns of your customers. The more your customers know about the products you use, how you use them and how much is used, the more confident they will be in you and your service.

Communicate With Your Customers

Your customers expect you and your employees to be credible and knowledgeable sources of information about your products. Take time to talk with them about your safe and responsible use of pesticides.

Studies show that most people don't know that pesticide products are among the most highly tested products sold. The U.S. Environmental Protection Agency (EPA) registers only those uses of pesticide products that pose minimal risks.

- Emphasize that pesticide products must undergo stringent government-monitored testing before they can be sold. It is a long and costly process. For example:
 - It takes a chemical manufacturer eight to 10 years to test and register a product, at an average cost of \$30 million to \$50 million.
 - As many as 120 tests or more are performed, many specific to health, safety and the environment.
 - Only one potential pesticide in 20,000 makes it from the research lab to the market.
- Explain Integrated Pest Management (IPM) to your customers. Most do not fully understand the concept. Point out that a successful IPM program stresses prevention, pest identification and selection of the best method of pest control, which may require the use of pesticides. Tell how you incorporate IPM into your pest management practices.
- Identify the specific pesticides you use and the pests they control.
- Indicate that professionals use an array of products, many the same as those used by homeowners.
- Assure customers of the benefits pesticides provide for turf, trees and ornamentals, and in the home. For example:
 - Termites cause[®] over \$1 billion in structural damage each year.

"Are the pesticides you use safe?"

"Are the pesticides that professionals use stronger and more toxic?"

"When is it safe for my children and pets to return to an area after a pesticide application?"



- One large, pest- and disease-free tree has the same cooling effect as 15 room-size air conditioners.

- A well-maintained lawn and landscape adds as much as 15 percent to a home's value.

- Discuss your safe and responsible use of pesticides as a professional applicator. Note the many steps you take to ensure that the pesticides you use are used properly.
- Advise your customers that you closely follow label instructions. The label contains instructions for only those uses approved by EPA.
- Outline the extensive training that is mandatory for professional applicators in order to apply specialty pesticides. Applicators are required by law to undergo training, certification and licensing, as well as to keep records of each job performed.

- Explain what happens to pesticide containers once a job has been completed. Note that containers are disposed of properly.

What Else Can You Do?

Provide your customers with materials such as newsletters, brochures, fact sheets and bill stuffers that communicate these messages. Be sure that someone at your company, who has a basic knowledge of the products and application methods your company uses, is available to answer questions.

RISE Is A Resource

RISE is the voice for the specialty pesticide industry. Its members include manufacturers, formulators, distributors and other industry leaders.

RISE works in cooperation with your national, state and local user/applicator associations and is an additional source of information regarding issues facing pesticide users. We can help you in your role as a knowledgeable and credible information source to customers and to the public. A brochure on communicating about pesticides with your customers is available. Contact RISE to receive your copy.

We urge you to take an active part in your state and national association(s). We work together to support your business.



Responsible Industry for a Sound Environment[®]

WHERE WERE YOU IN '62?



We were right here, introducing *Weeds and Turf* magazine to the green industry. The name was soon changed to *Weeds, Trees & Turf*, and in 1989, we became LANDSCAPE MANAGEMENT, incorporating our *Lawn Care Industry* magazine to better match our industry-wide appeal.

We answered the green industry's need for useful agronomic information, and we think that over the years we've managed to keep up with the times, and our many readers.

To prepare for our 35th Anniversary Spectacular issue, we want to include reader comments on a variety of topics related to their careers and the green industry in general.

We want to know: When did you enter the green industry? How did you start your business?

For our golf course superintendent readers, where was your first golf course superintendent's position, and what are you doing now?

What do you believe to be the green industry's biggest achievements? What do you

think remains to be done to keep up with the times?

From equipment, to control products, to business

management, to golf course turf, to athletic field management...we want to know what you've liked and what you've not been so crazy about since 1962. Where do you think the green industry is headed as it

nears 2000? What are you most excited about?

(And by the way, we real-

ize some of our readers have "roots" that go deeper than 1962, but we want to hear from you, too, if you've stayed active.)

Include a photo (that you don't really need back) if you reply by mail.

Reply soon to be eligible for a LANDSCAPE MANAGEMENT cap.

All responses appear in our "35th Anniversary Spectacular," in October.

Thank you, in advance, for your reply, and for your dedication to the green industry!

Your turn

Give us your green industry memories! Tear out or photocopy this page, and fax or mail your response to: Talkback, c/o LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, Ohio 44130. Fax: 216/891-2675. E-mail: lscape@en.com Use an extra page if necessary.

When did you enter the green industry, and what business were you in? (For superintendents, what and where was your first golf course job?)

COMMENTS _____

In which area of the green industry are you now active?

COMMENTS _____

What are the most significant changes you've seen in the green industry? (Equipment, business management, agronomic, etc.)

COMMENTS _____

Any messages to LANDSCAPE MANAGEMENT, as we begin the next 35 years? (i.e., what kind of stories are most helpful to you; what would you like to see more of...)

COMMENTS _____

Your name, address and phone number:

Practical turfgrass management information you can depend on.

Your subscription to **TURFGRASS TRENDS** gives you the information you need to manage the toughest turfgrass problems. Written by experts in the field, timely information and latest leading-edge research give you practical, proven answers to the challenges you face.

- disease management
- genetic improvement
- nutrients
- irrigation
- insect management
- weed management

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"**TURFGRASS TRENDS** is an important planning resource. The advanced seasonal information is timely for preparing my stress-avoidance programs."


*Mark H. Bunte
Golf Course Superintendent
Lake Wildwood Country Club
Penn Valley, CA*

"... helpful and informative. I believe this is a very valuable publication, especially as we all work to protect the environment."

*Dr. Terrance P. Riordan
Turfgrass Plant Breeder
University of Nebraska*

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*Barry Carter
Golf Course Superintendent
Oak Hills Country Club
San Antonio, TX*

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Title _____

Business _____

Address _____

City _____ State _____ Zip/Postal Code _____

Country _____

Internet/E-Mail Address _____

Lesco, Inc., Cleveland, Ohio, reported record sales of \$312 million in 1996, but non-recurring charges resulted in a net loss for the year. Its 1996 sales were 29 percent higher than 1995 sales of \$241.7 million. "Fourth quarter charges recognized in 1996 represent the culmination of many of the strategic goals Lesco put in place three years ago that will help improve our financial performance going forward," said Ware H. Grove, Lesco vice president, chief financial officer.

RohMid L.L.C., a joint venture of **Rohm and Haas Company**, Philadelphia, and **American Cyanamid Company**, Parsippany, NJ, named Gary D. Curl to its board of directors. Curl is business man-

ager for Cyanamid's Turf and Ornamental Products Group. Curl has been with American Cyanamid since 1994. Rohm and Haas has also added **IMC Vigoro** to its list of formulators for non-staining Dimension crabgrass preventer.

Golf course designer Graham Marsh has joined with the Golf Course Architect Group of the **HNTB Corporation** to offer design services in North and South America. Graham Marsh Golf Design/HNTB will provide full-service design of upscale golf courses, as well as related developments. The association's first project is Independence, MN, for Burnet Realty. They are master planning a 600-acre development to include 60-85 residential lots, an

18-hole daily fee course, a learning center, equestrian facilities and trails and a 15-acre softball and soccer complex.

Richard Weigand joined **Medalist America** as turf specialist early this year. His territory is Michigan, Ohio, Pennsylvania and West Virginia. Debbie Bean is Medalist's new blending coordinator for pre-formulated seed blends, specials and customs. **JacklinGolf** has announced the following promotions: Hiromi Yanagisawa, vice president/managing director; Jim Connolly, director of agronomy/technical services; Dr. Eric Nelson, senior technical agronomist; Lee Hetric, manager of marketing and golf development.

Rain Bird's Golf Division named **Irrigation Supply Co.**, Inc., Louisville, KY, as the sole distributor of Rain Bird golf course irrigation products in Kentucky, southern Indiana and Tennessee.

Thomas Parobek joined **Valent U.S.A.** as sales representative in its Professional Products Group. He will be responsible for Midwest territory sales of Valent products.

Case Corporation reports fourth-quarter operating earnings of \$163 million, up 26 percent over \$129 million in the comparable period last year.

Earthgro, Inc., acquired **Summit Inc.**, the country's leading producer of fine quality bark and mulch products. The acquisition gives Earthgro production facilities in Louisburg, NC, and Wakefield, VA. Earthgro is headquartered in Glastonbury, CT.

Toro has acquired **OSMAC**, a central irrigation control system for the large turf irrigation market, from **Motorola, Inc.** Motorola continues to manufacture and supply system components to Toro.

Dallas-based **Flowtronex PSI**, which produces golf course pumping stations, is buying the business of **Commercial Pump**. The newly acquired business will operate as a division of Flowtronex PSI and retain the Commercial Pump name and personnel, says Flowtronex. **LM**

Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

A free booklet... *Golf Course Development Planning Guide* from the American Society of Golf Course Architects helps with the first steps to developing a new golf course. The 16-page brochure covers key components in a new course project. Municipal officials, investors, members of review boards, golf professionals, superintendents, course owners and other interested parties will benefit from the brochure and its coverage of the initial steps in the development process. For a free copy of *Golf Course Development Planning Guide*, send a self-addressed, stamped, business-size envelope to the American Society of Golf Course Architects, 221 N. LaSalle St., Chicago, IL 60601.

Water Quality and Your Lawn... An easy-to-read brochure from PLCAA explains how a healthy lawn improves water quality, and is supported by several environmental organizations. PLCAA Government Affairs Director Tom Delaney encourages all LCOs to distribute it to their customers and in their communities. To order *Water Quality and Your Lawn*, contact PLCAA at 1000 Johnson Ferry Road, NE, Suite C-135, Marietta, GA 30068; Phone (800) 458-3466; Fax (770) 578-6071; E-mail: plcaa@atcom.net.

Want to be a winner?... Marty Grunder can help. Grunder began his company at age 13 with a used, \$25 mower, and today does reported annual sales of more than \$1.6 million. His marketing system—*How to Reinvent Your Lawngarden/Landscaping Business with Multi-Million Dollar Marketing Secrets*—is changing the way many companies do business, according to Grunder. For more information, contact Grunder at 9770 Byers Rd., Miamisburg, OH 45342; (937) 847-9944; fax: (937) 847-8067.

WIN \$500!

Announcing: the second annual LANDSCAPE MANAGEMENT "Emerald Awards". LANDSCAPE MANAGEMENT magazine is offering a \$500 first prize to the winner of a random drawing to be held on July 1, 1997. Second prize is \$300 and third prize is \$200 in cash. To be eligible for the drawing, simply fill out the questionnaire at right and return it to LM's editorial offices.



Answers to the questions will determine our "1997 Emerald Awards" winners, to be revealed—along with the contest winner—in our August issue.

CONTEST REQUIREMENTS: Contestants must be owners or employees of landscape maintenance companies or lawn care companies; or maintenance employees of a golf course or country club, including superintendents and assistant superintendents; or an athletic field manager or member of an athletic field maintenance crew; or manager or member of a facility landscape management crew. Employees of Advanstar Communications and their families are not eligible.

All questions on this entry form must be completed, and all blanks filled. One entry per person. No more

than five entries from any one employer will be allowed. Entry forms will appear in the February-June, 1997 issues of LANDSCAPE MANAGEMENT.

Completed questionnaires should be mailed to: Emerald Awards, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. They must be received by noon, July 1, 1997.

A random drawing of all eligible entry forms will be held the afternoon of July 1, 1997. Winners will be notified within 24 hours.

OFFICIAL ENTRY FORM

QUESTION:

What is your favorite brand name of...

CHECK HERE
IF YOU
DO NOT USE

- riding mower?
- walk-behind mower?
- turf fertilizer?
- pre-emergence herbicide?
- post-emergence herbicide?
- turf insecticide?
- turf fungicide?
- plant growth regulator?
- compact tractor?
- turf aerator?
- pick-up truck?
- leaf blower?
- line trimmer?
- chain saw?
- Kentucky bluegrass?
- perennial ryegrass?
- turf-type tall fescue?
- turfgrass mix or blend?
- biological control product?

NAME: _____

EMPLOYER: _____

CITY/STATE: _____

PHONE NUMBER:

(AC) _____



Encore Z48 ready to cut

The new Encore Z48 commercial riding mower with 48-inch-wide cut, zero radius turning, direct hydraulic drive, wide wheel base and oversized rear wheels, 18-hp B&S Vanguard V-twin with Magnetron Ignition, ground speeds up to 7.5 mph, smooth ride, 11-gauge steel deck, anti-scalp rollers. Call Encore at (402) 288-4255 and tell them you read about the Z48 in LM, or

Circle No. 269

Snapper's Pro-Gear mowers



Snapper offers seven models in its Pro Gear line of mid-size, walk-behind mowers. Its SPP90KW-32 gear-drive walk-behind mower offers a 3-speed transmission with reverse and is powered by a 9 hp OHV Kawasaki engine. The SPP1250KW-36 and SPL1250KW-36 models are available with 12.5 hp Kawasaki engines. Both models feature non-floating or full-floating 36-inch decks with two, 18-inch, alloy steel cutting blades.

The SPP140KH-48 and SPL140KH-48 models feature 14-hp, OHV Kohler Command engines while the SPP140KW-48 and SPL140KW-48 models offer 14-hp OHV Kawasaki engines. All four models

offer non-floating or full-floating 48-inch decks, made of all 7-gauge construction.

Both the non-floating and full-floating decks feature revolutionary field-serviceable spindle assemblies with overglow grease vents. These commercial mid-size mowers also offer upper and lower idlers to provide positive reverse and prevent downhill run-away. Contact Snapper at (770) 954-2500 and tell them you read this in LANDSCAPE MANAGEMENT, or

Circle No. 270

The Establisher improves seeding

Summit Seed offers a new seed enhancing mulch, The Establisher. Summit says you can achieve professional results with a drop or rotary spreader using this product. The Establisher absorbs water quick (up to four times its weight), reduces soil & water erosion, and expands to cover the soil surface. The dark green/blue granules consist of clay particles, wood & cellulose mulch, and a specially formulated fertilizer. For more information contact Summit Seed at (800) 467-6748 and say LANDSCAPE MANAGEMENT let you know about The Establisher, or

Circle No. 271

Correction

Dimension, a preemergence herbicide from Rohm and Haas, was incorrectly described as a product of Monsanto, on page 18 of our February cover story. There are also no plans to produce a fertilizer/herbicide product with the Scotts Company. LM apologizes for the error, and regrets any inconvenience it may have caused.

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145	Zeneca	9G

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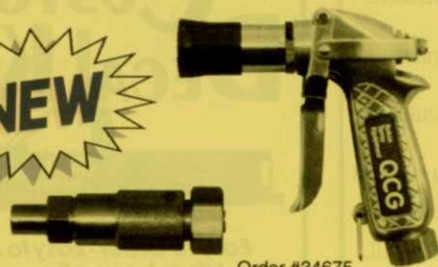
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Circle No. 132

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Circle No. 125

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For all ads under \$250, payment must be received by the classified closing date. VISA, MASTERCARD, & AMERICAN EXPRESS accepted. Send to: Advanstar Marketing Services, 7500 Old Oak Blvd., Cleveland, OH 44130

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SPRINKLER TECHNICIANS Rapidly growing Sprinkler company in Denver Colorado is looking for sprinkler technicians with experience in residential repair. A clean M.V.R. and the ability to efficiently work unsupervised is a must. This is a year round position offering competitive pay, health care benefits and vacation time. 303-778-0534. 4/97

MAINTENANCE SUPERVISORS The Brickman Group, Ltd., one of the nation's largest and fastest growing full service landscape companies, has an immediate need in principal cities east of the Mississippi for maintenance supervisors with 2-5 years experience. Brickman seeks energetic, team oriented college graduates with proven leadership, communication and interpersonal skills. Brickman offers full-time positions, excellent advancement opportunities and exceptional compensation and benefits with an industry leader building on a 56-year tradition of uncompromising customer service. For immediate confidential consideration, please send or fax your resume with an indication of your geographic preferences and willingness to relocate to: **The Brickman Group, Ltd., Corporate Office, 375 S. Flowers Mill Road, Langhorne, PA 19047, 215-757-9630, EOE.** 4/97

HELP WANTED RELOCATE TO PORTLAND, OREGON and join our growing, full service landscape business dedicated to quality since 1964. Experienced arborists, applicators, construction and maintenance crew leaders desiring to join our team should contact our office below. Drug testing, drivers license and good driving record are required. Tree Care Unlimited, Inc., PO Box 1566, 5600 SW Rosewood St., Lake Oswego, OR 97035, 503-635-3165 (office), 503-635-1549 (fax). 4/97

Assistant Park Manager Position The Ohio Department of Natural Resources, Division of Parks & Recreation, Hueston Woods State Park is seeking action-oriented individual to supervise extensive maintenance program. Candidates need hands on experience in carpentry, electrical, plumbing, equipment repair, equipment operation & maintenance crew supervision; must be computer literate, with strong communication skills. The 3,596 acre fully developed park offers attractive work atmosphere with extensive variety, and highly skilled employees. Beautiful 4 bedroom brick house on park available. Hueston Woods is located near city of Oxford. State Park service offers attractive benefit package. Starting salary is \$31,262. Send your application or resume to the Office of Employee Services, 1930 Belcher Dr., Building D-1, Columbus, OH 43224 by May 17, 1997. For more information write to: Hueston Woods State Park, Route #1, College Corner, OH 45003-9625. 4/97

Grounds Management

DuBrow's Nurseries, Inc., a full service Horticultural corporation, has immediate openings for all levels of management. Individuals will be servicing upscale corporate and condo management clientele. Must possess a related college degree, with excellent communication skills, bilingual a plus. Competitive salary and full company benefits.

Please fax resumes to: DuBrow's, attn. Michael Branch, fax: 201-992-6050. E.O.E. M/F

SALES ENVIRONMENTAL CARE, INC. is expanding markets in No. Calif. Bay Area. Must have 3-5 years experience and strong track record in sales. Need to be articulate w/strong interpersonal and organizational skills. Knowledge of local markets and property management a plus. Excellent growth potential, full benefits. Send resume: 825 Mabury Road, San Jose, CA 95133 EOE

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Assistant Professor of Turf Production and Management, Director of Turfgrass Center

The Department of Horticulture, Plant Science Unit, University of Missouri, invites applications for this tenure-track position to develop an extension program (50% effort) to complement a research program (50% effort) on turfgrass production and management, and to serve as Director of the UM Turfgrass Center. A Ph.D. in Horticulture, Agronomy or related discipline, training and experience in turfgrass management, and effective communication and managerial skills are required. Submit by May 31, 1997, a letter describing qualifications and career goals; resume; transcripts; selected reprints; and request three letters of reference to be sent: Dr. Bruce Barrett, Chair of Turf Search Committee, 1-87 Agriculture Building, University of Missouri, Columbia, MO 65211. **E-Mail:** agbarret@muccmail.missouri.edu, **Telephone** (573) 882-7511, **FAX** (573) 882-1469. The University of Missouri is an Affirmative Action/Equal Opportunity Employer. For more information, visit our web site: <http://www.missouri.edu/~extbsc/turf/turfhp.htm>. 4/97

Landscape Chief Estimator/Estimators Aggressive, established commercial landscape contractor searching for experienced people knowledgeable in site development, grading operations, landscape & irrigation installation, and landscape maintenance. Computer experience mandatory; Lotus 123 release 5 or Excel preferred. Successful candidates must be professional, organized, team oriented and skilled in management. Remarkable opportunity for a career. Salary-D.O.E. Submit credentials and employment references via fax at (702)252-7031 and mail to: **Gothic Landscaping, Inc., c/o Chief Estimating Position, 4565 West Nevso Drive, Las Vegas, Nevada 89103.** 5/97

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Well established full service company in the Washington D.C. area seeks highly motivated, well organized person to join our team. The right individual must have a minimum of three years experience in the industry with a strong track record in sales, a horticultural degree a plus. Excellent compensation, benefits, opportunities and reasonable hours. Please mail or fax resume to **Professional Grounds, Inc., P.O. Box 1454, Newington, VA 22079; fax (703)339-6384.** 4/97

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August 1997	7/8
September 1997	8/7
October 1997	9/8
November 1997	10/8
December 1997	TBA

(Please call Sales Rep to confirm dates.)

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FOR SALE: Residential & Commercial Landscaping Company. Located in South Central Kentucky. Well established, \$300,000 per year plus, with room to grow. Over \$100,000 in equity and \$200,000 in Contracts for 1997. Owner will help assist in transition. For more information, write: **Business Opportunities, 931 Winding Ridge Dr., Somerset, KY 42503. 4/97**

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SERVICES

Advertise your business on the INTERNET and find LOCAL and REGIONAL customers interested in your services. You've been hearing about it, but is your company taking advantage of it? Have us develop your own home page on our Internet Directory. Call LandscapeUSA.com today! 800-966-1033. <http://www.landscapeusa.com> 4/97

WHOLESALE DISTRIBUTOR

Needed to market environmentally friendly, liquid, slow-release fertilizer products direct from manufacturer. Ken Franke, P.O. Box 123, Plato, MN 55370; 800-832-9635. 12/97

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Grab Bag

Internet source for tree shoppers

TreeView, started by computer expert/horticulture expert/landscape designer Grant Collier, is a new way to shop for large trees and specimen plants from your personal computer, via the Internet (www.treeview.com). Most of the large specimen plants are accompanied by a photo of the plant. TreeView provides a form for purchase requisition and transmits it to the supplier for delivery arrangements. Each plant is listed with botanical name, size, state, location, USDA growth zone and common name. For information on TreeView, call (520) 527-9266 or E-mail: TreeView@ibm.net.

Publicity tips

The Professional Grounds Management Society offers these tips for publicizing your achievements:

- 1 Know your newspapers, and what kinds of stories they can use.
- 2 Decide what to send: news; new hires; new projects. Include a photo.
- 3 Be patient, persistent and polite with follow-up calls.
- 4 Leverage any publicity you receive with mentions in association newsletters or reprints for customers.
- 5 Get involved in your community.



Couple travels 'back in time' for nuptials

Lawn care business owner Bill Clutter, left, and Ann Miller took the train on their wedding day this past winter. The owner of Turf Gard, Dayton, Ohio, his wife Ann, his daughter Muffy and Mark Hirsheje dressed for the journey on the Whitewater Valley Railroad. Clutter is past president of Ohio Lawn Care Association.

On using natural golf layouts:

"A desert golf course will be framed by the desert. A seaside course must take wind into consideration as the routing is developed. On an ideal site, you must be knowledgeable enough not to do much to the land."

—GOLF COURSE ARCHITECT REES JONES.

Word of caution

Never, never, ever fill a metal gas can in the back of a truck with a plastic bed liner. Why? A big boom can result. The plastic bed liner doesn't allow the metal gas can to become grounded to the truck.

As the gas fills the can, it creates static electricity. If this electricity is discharged and there is a spark—look out!

To avoid this, take the gas can from the truck, put it on the ground and fill it.

—THANKS TO THE WSPCA'S "THE PEST INTELLIGENCER" FOR THE INFO.

Grab Bag features brief observations and prognostications throughout the green industry. If you have an unusual photo or comment you'd like to share with us, please send it in...

If There's a Twister Heading Your Way, You Should:



- A. Crouch next to an interior wall with your hands over your head.
- B. Ask for a demo.



The answer is B. After all, every mower claims to deliver higher productivity and a high quality cut.

But claims don't do much for your bottom line. So give our new zero turning radius Twister a try. Spin it on a dime. Run it through an obstacle course. You'll see it really is fast, productive,

easy to maintain and delivers a high quality cut. In short, the best equipment value your money can buy. Call, toll-free, 888-423-7897 for more information or the name of a Bunton dealer near you.

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Penncross:
Still the best selling
creeping bentgrass
of all time

18th hole, Troon North GC, Scottsdale, Arizona

Penncross' Heat Tolerance Is Legendary. Equally Important, It Endures Winter Storms, Snow And Drying Winds.

The southern U.S., particularly the desert, is known for its hot, dry summers...most certainly a challenge for a cool-season grass. With sound management

storms, hail, ice, snow and desiccating winds that could undo less hardy grasses. Penncross has proven itself time and again when taken to the extremes.

So, it's equally important to make sure your choice of a putting green grass will survive the winter months, too.

Since 1955, Penncross has seen service under every imaginable management practice, and has survived every possible wear, mowing height, and climate consideration.

As one superintendent put it: "Sure, I'd specify Penncross again...even with the new bents available... because I know how to manage it, and how it will

perform year after year".

Penncross establishes fastest, recovers from damage most rapidly and putts consistently.

Plus, all Penncross is certified. It's produced by Oregon's best growers and marketed by Tee-2-Green Corp. through reputable distributors.

It's no wonder Penncross is the most widely used creeping bentgrass in the world!



practices and adequate water, Penncross has become the year-round choice on traditionally bermudagrass courses.

During the winter season, parts of the south endure severe

Tee-2-Green Corp.

PO Box 250

Hubbard, OR 97032 USA

800-547-0255

503-651-2130

FAX 503-651-2351