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LANDSCAPE *management*

JANUARY 1998 • \$4

ISSUES '98: *people, products & practices*

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BARRICADE 65WG ^a	0.75	100	100
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Ohio State University 1996

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CRA BGRASS CONTROL

PRODUCT	Rate (lb ai/A)	% Control	
		84 DAT	154 DAT
PENDIMETHALIN 60WDG	3.0	100	93
PENDIMETHALIN 60WDG	1.5+1.5	100	99
BARRICADE 65WG ^a	0.75	100	95
DIMENSION 1EC ^b	0.5	100	86
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Mean Turfgrass Quality Ratings of Kentucky Bluegrass Cultivars for Each Month Grown Under **High Maintenance** at Seventeen Locations in the U.S. & Canada 1991 Data

Turfgrass Quality Ratings 1-9; 9=Ideal Turf: Months 1/

NAME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
Midnight	5.3	5.7	5.2	5.2	6.4	6.4	6.3	6.3	6.3	6.6	5.9	5.0	6.2
Unique	6.3	6.7	6.3	5.6	6.2	6.3	6.4	6.3	6.4	6.5	5.5	5.2	6.2
Glade	3.0	3.8	5.1	5.5	6.1	5.9	6.0	5.8	6.4	6.6	5.7	4.7	6.2
RAM-I	4.7	4.7	5.3	5.5	5.8	5.8	5.9	5.7	6.3	6.5	5.9	5.5	6.1

Under high maintenance, Ram I ranked fourth out of 125 entries.

Mean Turfgrass Quality Ratings of Kentucky Bluegrass Cultivars for Each Month Grown Under **Low Maintenance** at Sixteen Locations in the U.S. 1991 Data

Turfgrass Quality Ratings 1-9; 9=Ideal Turf: Months 1/

NAME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
Midnight	5.3	4.7	6.0	4.8	6.7	5.7	5.3	5.6	6.5	5.7	5.6	6.0	5.7
Barmax	6.3	5.0	6.0	6.1	6.8	5.8	5.0	4.9	5.5	5.0	4.9	5.0	5.7
RAM-I	5.3	5.3	4.0	5.1	6.4	5.7	5.1	4.9	5.3	5.6	5.3	4.3	5.5

Under low maintenance, Ram I ranked third out of 62 entries.

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THE VOICE OF THE GREEN INDUSTRY

LANDSCAPE management



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ON THE COVER: WINTER SCENES INSPIRE THOUGHTS OF SLEDS AND SNOW REMOVAL. WE AT *LANDSCAPE MANAGEMENT* WISH YOU A HAPPY, HEALTHY AND PROSPEROUS NEW YEAR!
PHOTO BY PETER CHRISTOPHER/MASTERFILE.

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Happy New Year from all of us at LANDSCAPE MANAGEMENT, "The Voice of the Green Industry."

Our cover story, "Issues '98", is a look at the key legislative initiatives currently at work on the state, local and federal level. Check it out if you want to stay current.

Key issues include product testing mandates from the EPA as it relates to the Food Quality Protection Act; product labeling; posting and notification; and OSHA regulations.

Nothing is more confusing than information from the Environmental Protection Agency. Basically, testing of control products must now include a wide array of tests to determine if these already well-tested products will harm children over the course of time.

In Ohio, some cities have passed laws (the public doesn't get a vote) mandating helmets for kids on bikes. This EPA/FQPA stuff follows that line of thinking: try to eliminate every element of risk in daily life.

The makers of various pesticides must therefore jump through a variety of testing hoops in virtually no time. Useful products may be dropped by companies that can't spend the millions in reregistration.

On the posting/notification front, there's rumblings in New York about a local regulation that would set a precedent that the Professional Lawn Care Association says would put some companies out of business due to the amount of time that would be required to notify all the neighbors.

Golf courses have a variety of environmental issues on front and back burners.

Endangered species, noise reduction and water quality lead the way, and the Golf Course Superintendents Association says it will continue to monitor the proceedings.

As a Green Industry professional who would like to stay in business, you might want to consider helping with the lobbying efforts of whichever association to which you belong, and learn how these pending laws might affect the way you run your company.

Then, get ready for some changes, whenever they happen.

UNIVERSITY CLIPS

UC offers horticulture degree

Students can now earn a four-year degree in horticulture at the University of Cincinnati. The program contains a business and horticulture track, and is the only such baccalaureate program in the area, reports **Tom Smith**, academic coordinator for the program, which is offered through UC's college of Evening and Continuing Education.

Courses include environmental law; ecology; plant pathology and disease management; landscape design and entrepreneurial accounting.

Tom Fryman, adjunct professor and landscape designer with Earthscapes, Inc., teaches a Landscape Design Course. In it, students can work with realistic demands and settings.

New horticulture professionals are needed, says Smith.

"The Green Industry's for-profit enterprises like golf courses, nurseries and landscapers generate more than \$800 million in the region," explains Smith.

"The need for qualified people who can serve as leaders in both management and field positions is one of the major blocks limiting our ability to grow," says **Tom Gear**, president of T.R. Gear Landscaping.

Wait and see how big issues affect you in 1998



Terry McIver

TERRY McIVER
Editor-in-Chief

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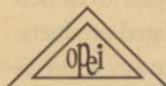
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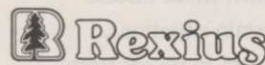
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Circle 115

Fall fertilization concerns

We have been providing late-fall fertilization for lawns for a number of years. We have noticed an increase of snow mold disease or winter injury problems. Employees feel that the late-fall feeding could be partially responsible.

—MICHIGAN

Your employees may be correct based on some research that late-season fertilization can reduce cold hardiness and increase the risk of winter injury and/or snow mold disease under certain situations.

However, in recent years many professional companies have been providing late-fall fertilization programs without an increase of problems.

Interest in late-season fertilization has also spread to the public because of agronomic benefits such as promoting increased root and shoot development during late winter and early spring, as well as early-spring green-up.

Winter injury and/or low temperature disease can occur if high rates (more than 2 lb. of N/1000 sq. ft.) of quick-release sources of nitrogen are used. This type of problem can be expected if the treatments are not applied at a proper time.

Reports also indicate that late-season fertilization should be made when turfgrass is still green. This could be around October and/or November in your area. Prior to this period, for example September, an application of 1 lb. of N/1000 sq.

ft. is recommended so that turf will be green during the late-fall application period. Avoid a high rate of nitrogen during September to prevent lush growth which will be susceptible to winter injury and/or snow mold disease.

If there is a history of snow mold or other low temperature basidiomycetes fungal diseases in the lawns consider using specific snow mold active fungicides.

Soon after winter, rake the matted grass blades. If the late-fall fertilization is properly applied, the spring treatments can be delayed with good agronomic benefits.

Moss, algae, lichen on trees

Some of our client's trees have extensive moss, algae and lichen growth. What can control this?

—LOUISIANA

Selectively prune to improve sunlight and air movement. Applying copper-containing products, such as Tri-basic Copper Sulfate, should help manage the problem. Caution, copper-containing products can stain the surfaces they contact. Moss, algae and lichen present a problem in a moist, humid environment. It's most common in the South. Some types of moss, like Spanish moss (Ball moss), are a herbaceous perennial. Spanish moss is an epiphytic plant, capable of absorbing moisture and nutrients from the atmosphere. It does not enter the living tissue like mistletoe or other parasitic

plants. Lots of moss can reduce sunlight on trees and, indirectly affects their photosynthesis.

Other types of moss, algae and lichen also seek shelter on trees. They do not harm the trees directly. However, in many situations, their growth becomes unsightly.

Iron's effects on turf

Is there any real advantage in using iron on turfgrass?

—NEW YORK

Depending on soil properties, turfgrass species and geography, there may be some advantage in using iron on turfgrass. Reports indicate that iron can improve the color and can possibly reduce the need for using high rates of nitrogen.

Unpublished reports suggest that the results obtained from iron-containing products are quite variable. Non-chelated iron products appear to be better than the chelated products. We have not seen any appreciable color difference over untreated Kentucky blue, rye and fescue mix turfgrass using several iron products on the market even after applying four times a year. Some iron sources can be phytotoxic and a few can stain non-targeted areas.

As far as your question concerning "real advantages", the best thing to do is to try different products on a small scale. Read and follow label specifications for details on rates and timing. **LM**



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Baxendale "unmasks" masked chafers

LINCOLN, NEB.— A hot, dry summer in the Plains states meant lower than normal populations of grubs and caterpillars in the turf there this fall. But for Frederick Baxendale, Ph.D., professor of entomology at the Univer-



Birds destroyed turf looking for grubs on untreated fairway.

sity of Nebraska in Lincoln, research activity was never busier than it was in September.

"We've been in the field conducting research 28 out of 30 days during the month," said Baxendale. "The new generation of turf insecticides, particularly preventives with wide application windows, have created the need to evaluate products over longer periods of time. It's really exciting to work with this growing number of new, highly effective products."

On September 5, for example, Baxendale and others from the university joined with representatives of RohMid, makers of Mach 2

turf insecticide, to evaluate results from three sets of test plots of Mach 2 and Merit insecticide from Bayer. The tests were conducted on fairways at the Pioneers Golf Course and the Holmes Golf Course, Nebraska's busiest golf course.

The target was the southern masked chafer grub. "Masked chafer grubs are slightly larger than Japanese beetle grubs, but the damage they cause is nearly identical," said Baxendale.

He said that white grub adults, including the masked chafer, lay their eggs selectively. "Grubs prefer soil that is moist, so the unusually hot, dry weather made it necessary for the female beetles to work a lot harder to find patches of turf irrigated by sprinklers or that were shaded from the hot sun by trees to lay their eggs.

"In two of the three plots, we found plenty of chafer grubs in the control plots. Mach 2 and Merit both provided excellent control in the plots where the products were applied in June. It appeared to us that while the number of live grubs in the August-applied plots was higher than we would have expected, we may have conducted our evaluation a little too early to see complete results. We saw reduced movement and skin discoloration in most of the grubs

from the August plots. In another week, they likely would have been goners."

Baxendale stressed timing when treating for grubs. "Grubs do the most damage at the third instar stage," he said. "That's also when damage typically first becomes apparent. If curative treatments are to be used, timely and accurate identification of the problem is absolutely necessary, because turf damage occurs with increasing rapidity.

cont. on page 14



Dr. Baxendale: timing critical for grub control.

Rotary mower sales to rise in '98

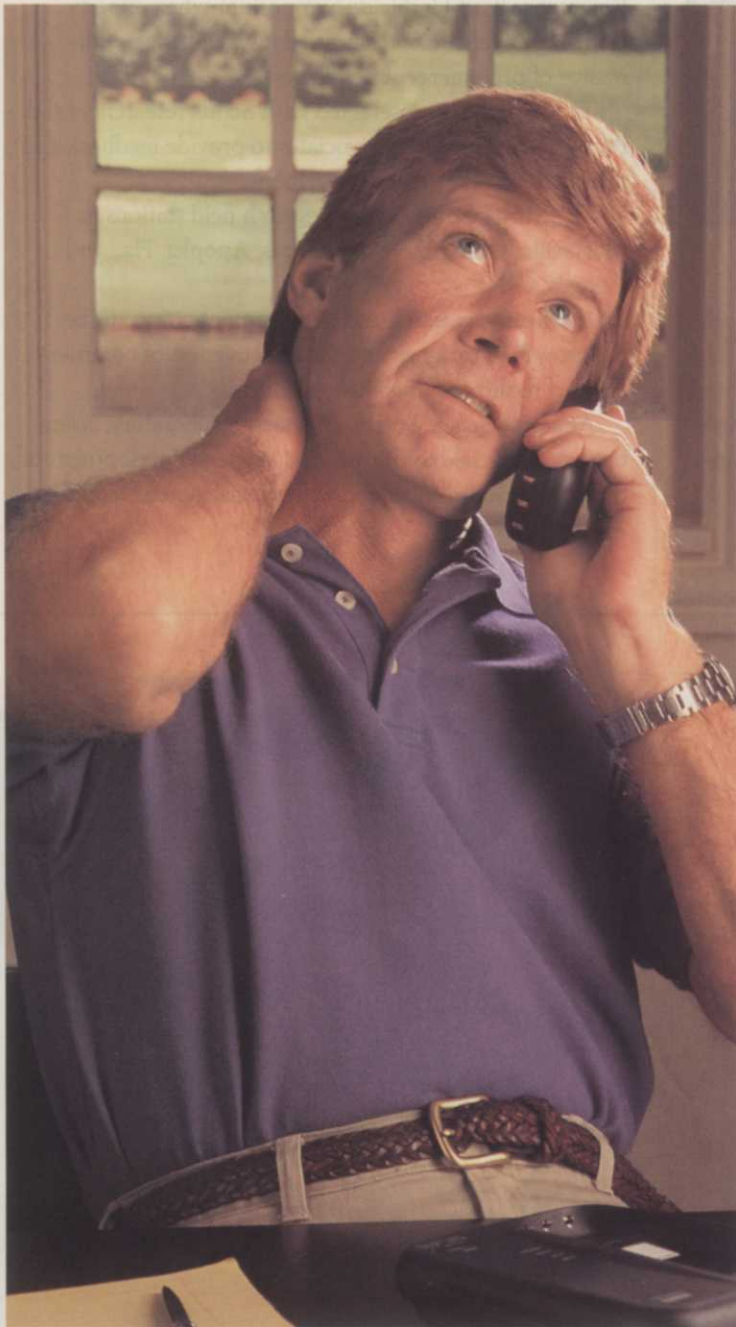
Shipments of all types of commercial riding rotary turf mowers will grow by just over 5 percent in 1998, reaching 53,396 units, says a forecast made in November by the Outdoor Power Equipment Institute (OPEI). The outlook for 1999 is 55,692 units sold in the United States, another 4 percent increase.

The sale of commercial intermediate-size walk-behind rotary mowers should stay about the same in model year 1998 as they were in 1997, predicts the OPEI. Shipments in 1998 should reach 49,341 units and in 1999, a gain of 1.5 percent to 50,081 units.

The OPEI predicts a 2.5 percent increase in sales in 1998 for consumer walk-behind mowers, and equally modest increases for front-engine lawn tractors and riding garden tractors. Sales of walk-behind tillers should remain about the same, while the number of rear-engine riders will continue to fall.

The model year for the above equipment is Sept. 1 through Aug. 31 of the following calendar year. This is OPEI's eighth forecast for commercial turf care equipment.

"Today, I need to be an agronomist, a negotiator, a mechanic and an accountant."



"I flat out don't have time to waste on someone who just wants to sell me a product and then walk away. I expect a lot more than that from the people I do business with. What I expect - and need - is someone who will work with me to figure out what needs to be done and the best way to do it. Someone with the energy, know-how and backing to help me get the most out of the products I buy. That's Terra. They've got the products I need, when I need them. Pesticides. Fertilizers. Seed. Adjuvants. All of the major brands, including their own line of Terra Professional Products. And they back every one of them with the kind of product information, agronomic advice and technical support that I can really use. They even offer soil and tissue testing services. One call and I know I'll have the product I want and the answer I need. In the long run, I know that working with Terra saves me time and makes my life easier. And that's exactly what I expect."



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> HOT TOPICS

cont. from page 12



RohMid team helped Dr. Baxendale with grub dig this past fall.

In addition, when the grubs are at their largest and most destructive, birds, raccoons, skunks and other animals also discover the grubs more easily and tear up the ground pecking or rooting for them.

"In fact, within 200 feet of

our plot at the Holmes Golf Course was a small portion of turf that had not been treated for grubs, and the birds were having a field day. The damage was pretty significant."

Scotts hosts herbicide summit

The Scotts Company Marysville, Ohio, hosted a Pre-Emergence Turf Herbicide Symposium when experts from 10 universities exchanged data about the performance of pre-emergent herbicides.

The participants interacted with Scotts researchers and Professional Turf group associates to provide feedback and direction for new product development.

The Scotts Company has research field stations in Marysville, Ohio; Cleveland, Texas; Apopka, Fla.; and Gervais, Ore.

A full-time research and development group studies the growth of turfgrass and the effectiveness of commercial turf fertilizer and control products.

At a proprietary genetic engineering laboratory, scientists use a special biolistic process to speed development of turfgrass varieties enhanced with special genetic qualities.

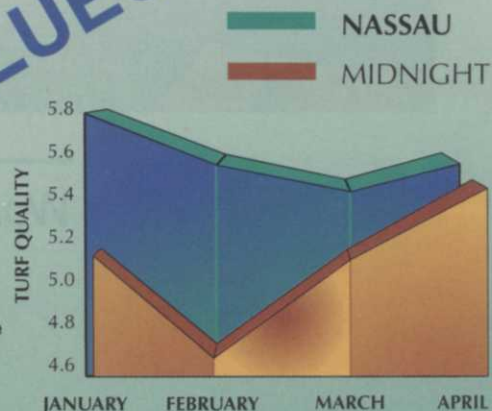
Nassau

KENTUCKY BLUEGRASS

Month	NASSAU	MIDNIGHT
JANUARY	5.7	5.1
FEBRUARY	5.4	4.7
MARCH	5.5	5.1
APRIL	5.6	5.4

Winter color retention and early season color difference between Nassau and another leading bluegrass, Midnight.

USDA Trial 1987 Data



Riverdale, Dow make deal

INDIANAPOLIS—

DowAgroSciences signed a partnership agreement with Riverdale Chemical Company ("Riverdale") granting Riverdale the rights to market triclopyr and clopyralid chemistry in combination with phenoxy herbicides for broadleaf weed control in turf markets. Included are professional and consumer turf markets, sprayable and granular formulations and weed and feed products.

Riverdale's first entries are in the professional sprayable

broadleaf weed control markets. Cool Power™ and Horsepower™ herbicides were introduced in the spring of 1997 and their newest product, Millennium Ultra™ herbicide, is being introduced this fall. Riverdale anticipates at least nine new products scheduled for introduction over the next five years.

El Niño explained

The weather pattern known as "El Niño" is getting buckets of publicity in 1997-'98 as opposed to other years. But what, exactly, is an "El Niño"?

Rhône-Poulenc Ag Company provides this definition: "a recurring appearance of warm surface water in the central and eastern equatorial Pacific Ocean."

Pacific trade winds blow east to west, pushing the warm surface water from the west coast of South America across the Pacific. However, during an "El Niño", the winds stop or reverse. This disruption produces worldwide climate abnormalities, including severe rain and floods in the United States. December through February, cooler, wetter weather will be felt across the entire southern tier, while a drier winter will plague the north. In the southeast, fewer hurricanes will appear, but rain will undoubtedly dominate the forecast, says Rhône-Poulenc.

Sure enough, Florida's December rainfall was 10-inches above normal for that month.

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--- [DEER MANAGEMENT OPTIONS] ---

By JASON WILES

Deer, particularly too many deer in a given area, can destroy valuable landscape plants. Hungry deer eat the plants. Male deer also damage young trees by rubbing their antlers on them.

There are many solutions to the problem of unwanted landscape damage caused by deer. The key is analyzing the situation, planning the proper solution and applying the solution in an effective manner. There is usually no "silver bullet", but many "bullets" that must be used in the proper ways and under the proper conditions.

There are three main categories of deer control—fencing, scaring devices and repellents.

Fencing can be broken down into three groups:

1) Invisible mesh barrier, polypropylene fences that are 8' high which people commonly surround their properties with for a direct physical barrier.

2) Baited electric fencing which attracts deer to the fence instead of what's inside of the fence for a safe correction that trains the deer to stay away.

3) The dog fence, common in orchards, uses dogs to chase deer out of protected areas while containing those dogs in certain areas you choose.

Scaring devices come in various forms as well. Successful scaring devices startle deer and surprise them. Water sprayers, ultrasonic, and sonic devices are the most commonly used. The greatest success from scaring devices is directly related to an abrupt noise or other intrusion into the deer's space that surprises the deer enough to cause them to flee. Noise strength, size detection and coverage are very important when using scaring devices.

Repellents can be classified in two areas—crop use and non-crop use. Repellents that are used for crops wash off easily because, in order to be EPA-approved for crops, they must wash off easily. These repellents are only designed with a 7- to 14-day residual. Non-crop use repellents should have an extender or a rain-resistant formula allowing the repellent to last through rainy periods causing a 2- to 3-month residual. Repellent users must be aware of proper mixing, application, wind, weather conditions, temperature and other factors when spraying.

—The author is general manager of *Deerbusters*, Frederick, Md., specializing in deer and wildlife management products. 1-800/248-337 or www.deerbusters.com.

LM readers speak out on this common, growing nuisance.

The following are some of our readers' experiences with deer control.

Greg Wurst, Tuttle Creek Corps of Engineers, Manhattan, Kans., tried to discourage deer from rubbing their antlers on small trees by hanging bars of soap on tree limbs—with limited success. This season he's driving a metal fence post beside each tree he wants to protect reasoning that deer don't like the feel of metal on their antlers.

Grandin Landscape & Supply Co., Charleston, RI, says that bars of Ivory soap provide some protection, as well as the repellent "Deer Away".

A note from **Designscape**, Nashville, Ind., suggests fencing (exclusion) for small areas; it's cost effective. On larger areas the company uses several repellents. "We've had reasonable success with them," says the note.

Keith Farrington, True Turf Systems, Bayville, NJ, places human hair on the perimeter of properties experiencing deer damage with a 70 percent decline in damage.

Bruce L. Smidt, Leeward Tree Farm, Casper, Wy., deals with two different type of deer. White tail deer eat mugho and Austrian pine, and mule deer love cherries,

especially north star and montmorency. Hot sauces and moth balls didn't seem to work, but a 7'6" fence and a radio on a timer (30 minute on/off cycle) keep the muleys away, he reports.

Leonard E. Phillips, Park and Tree Superintendent, Wellesley Hills, Mass., plants a border of lambs ear (*Stachys byzantina*) around beds he wants to protect. After one season the lambs ear has grown into solid border. "There is something about the plant that repulses the deer," advises Phillips. He says the border also discourages rabbits from feeding on his ornamentals.

Richard Lavine, CGCS, Peacock Gap Golf and Country Club, San Rafael, Calif., puts 4" flower containers filled with blood meal near newly planted flowers. He digs the containers into the earth flush with the ground. A long stake in each one keeps dogs from digging them up.

Several readers say Milorganite fertilizer keeps deer away. "The key to using Milorganite is putting it out before deer start eating plants," says **Whitt Cline**, Lake Murray Landscaping, Columbia, SC. **LM**

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ISSUES '98:

people, products & practices

The Green Industry faces a big year. Product testing is expected to do the impossible; employers face more OSHA regs; and posting/notification precedents may nullify programs that work.

By RUTH E. THALER-CARTER

As a kickoff to 1998, LANDSCAPE MANAGEMENT looked at what the Green Industry can expect in three key areas of business: legislative issues; training; and employee recruitment and retention.

How business owners, manufacturers and turfgrass managers respond to these issues will be critical to the Green Industry's success—and image—in the new year.

Food quality and pesticide use

Having the greatest impact on landscapers' use of chemicals and pesticides will be the Food Quality Protection Act (FQPA), which went into effect in 1996, but will begin to be fully implemented in 1998.

"The FQPA is primarily a federal issue," says **Allen James**, executive director of RISE (Responsible Industry for a Sound Environment), a coalition based in Washington, DC. And it's a big one.

David Crow, of DC Legislative and Regulatory Services, which lobbys for RISE, says the FQPA will have a "huge" impact on the Green Industry.

"We are in the 'era of the child'. All legislation in Congress and every regulation coming out now seems to relate to children," says Crow. "Many of the new requirements under FQPA were written to provide greater 'protection' for children, which is very misleading."

"Pesticide products already go through about 120 tests,

and take 10 to 20 years to reach the market, with as much as \$50 million spent for one product to go through the entire process," Crow explains. "There are 20,000 new substances identified each year, but comparatively few make it through the process. We already are among the most tested industries, if not the most; the degree of difficulty for a product to get through this process is mind-boggling... I don't think the public has any idea of how well tested our products are. The current process does the job."

According to James, the key issue is implementation. As things now stand, suppliers may feel compelled to withdraw registration of new products from the process, or drop uses of existing products.

"The risk is we could lose products the industry needs," James explains, who adds that more time from the EPA would help companies meet the testing requirements.

Technical details a challenge

Manufacturers also are greatly concerned about the implications of FQPA, says **Elin Miller**, a former regulator in California who now is Global Director/Government and Public Affairs for DowAgroSciences (formerly DowElanco) in Indianapolis, IN.

"The changes in FQPA are very technical," Miller says, and the major problem for manufacturers is one of timing.

"We have to step back and look at what the new law is asking. The law is an umbrella; the detail (and effect on the industry) is in implementation," says Miller. "Good science may get thrown out the window when time frames (for testing and



James: more time, EPA!

evaluation) are unrealistic. With most new laws, the agency overseeing the regulations has time to figure out how to implement them, but with FQPA, the agency was given no time. They were to implement immediately.

"The new issues are very complicated scientifically, such as what compounds act alike and how to assess any risks," Miller says. "We must focus on an appropriate amount of time to implement the guidelines."

Dow AgroSciences's Dursban, which Miller says is one of the most widely used pesticide in the world, is a good example of the possible problems of over-regulation. "We already had data and submitted full aggregate risk assessment to meet the needs of FQP on this product," Miller recalls.

"The EPA is just now starting to focus on it over a year later."

Look for information to continue to come from RISE and an industry group, the "Implementation Working Group," whose subcommittee on non-food exposure is chaired by Miller.

New testing requirements can be met by industry if the EPA allows reasonable time for companies to develop the needed data.

decisions yet. We need to focus on what's real, and assess risk based on that."

'Massive' labeling study

The Environmental Protection Agency (EPA) has completed a "massive" study on labeling pesticides. These labels are strictly regulated by the Federal Insecticide, Fungi-

cide and Rodenticide Act (FIFRA), which details "exactly what must be on the label, exactly what words to use and much more," according to **Ben Bolusky**, director of Government Affairs for the American Nursery and Landscape Association (ANLA; formerly American Association of Nurserymen).

"It has gradually come to the attention of the EPA that consumers were not reading and/or understanding the labels," says Bolusky. "They found that consumers judged labels on household cleaning products not regulated by FIFRA to be easier to read and understand than those on FIFRA-regulated products."

Regulations to make FIFRA labels more like the labels that were unregulated are being developed and may affect the products that landscape management companies use or train their employees to use.

'Repetitive stress' and workers

Another key work place issue for landscape firms will be standards for 'repetitive motion' or carpal tunnel problems, Bolusky says

"Efforts have been successful in putting a rider in the Department of Labor appropriations bill to prohibit the Occupational Safety and Health Administration (OSHA) from moving forward on this until at least September 1998," reports the ANLA spokesman.

The delay was a successful objective of the 1997 ANLA Legislative Conference, in which many other industry association members participated. ANLA still believes that OSHA should not issue standards prematurely, says Bolusky, "until there has been significant time for an independent and definitive review of available medical and scientific standards—perhaps by the National Academy of Sciences, which is a respected, independent body."

Landscape and nursery work is very labor-intensive, Bolusky notes, and "the di-

versity of operations, products and environments defy easy, sweeping standards."

"Many firms are voluntarily implementing 'ergonomic awareness' and finding they are reducing the level of injuries."

Are your workers legal?

Companies that hire immigrants as casual or seasonal labor, or workers from any immigrant groups, also should be aware that 1998 brings guidelines for three electronic employment verification pilot programs. These were authorized by Congress in 1996 and are expected to be launched in the new year.

The Basic Pilot program will be open for participation by a maximum of 2,000 employers in the five states believed to have the highest number of illegal aliens: California, Texas, New York,

Florida and Illinois. It will verify employees' Social Security Numbers (SSNs) through a Social Security Administration database, using an automated system

The "Citizen Attestation Pilot" will be open to employers in all 50 states and will allow simplified I-9 forms for anyone who attests to being a U.S. citizen or national; they only need a "List B" identification document.

The Machine-readable Document Pilot will first be tested in Iowa and will use a driver's license or state ID card with a machine-readable SSN for magnetic stripe readers.

Water purity on state/local fronts

"We are very concerned about water issues," says **Tom Delaney**, director of Government Affairs for the Professional Lawn Care Association of America (PLCAA), in Marietta, GA.

"We are helping our members with ordinances about phosphorus and storm water runoff guidelines that will be published in the Federal Register."

The problem, Delaney explains, is that "local entities are finding chemicals in water bodies and sewer systems, and are



Bolusky: company safety programs effective.

trying to tie these problems back to home lawn care operations, such as lawn care providers and homeowners."

There is "good research" about the improper use of such chemicals, and problems can be avoided if operators and homeowners follow "best practices," Delaney says, "but this can be an emotional

Notification regs could put some out of business.

issue; regulators look for scapegoats."

PLCAA will be doing a good deal of grassroots lobbying, using a manual recently put together by

the association to educate members before the issue reaches a crisis level, Delaney says.

"We have to educate our members (about proper use of materials) and government bodies (about what the industry is doing to protect water quality)." (The manual is available from PLCAA by phoning 800/458-3400.)

PLCAA also will undertake a "massive effort" in New York state because of a bill introduced about "notification" (the time frame given lawn care operators to let a neighborhood or community know that it will be applying control products).

"We are concerned that this will be a problem if it goes through," Delaney says.

"Some states already have regulations, but it's never enough for some communities; they want to be over-protective."

PLCAA has grassroots educational and lobbying activity about this issue and is working on new legislation about registries of chemical and pesticide users, through a new coalition. Massachusetts will be another key state for this effort.

Air quality, noise reduction, marketing

PLCAA also expects that "air-quality and noise issues are spreading to other communities and issues," Delaney adds.

"For some of these issues, there is no

Golf front: emissions, etc.

Controversial new **clean air rules** on ozone and particulate matter were finalized by the EPA in 1997. Implementation will take several years, reports the Golf Course Superintendents Association of America (GCSAA) and their impact on golf courses, such as proposals to restrict mowing, will materialize at the state level in the next three to five years. Most action on emissions from equipment will be regulatory, reports the GCSAA, although Congress may continue the debate on the 1997 clean air regulations in response to constituent pressure to take action.

Endangered species: enforcement of the Endangered Species Act has affected landowners, reports GCSAA, and reports on its effectiveness in preserving species have varied. Proposed solutions include incentives for landowners to protect endangered species, and generally allow more flexibility in ESA enforcement strategies.

Superintendents are particularly affected by how habitat is defined and by timely decision-making by enforcement agencies.

GCSAA reports major reforms are unlikely although reauthorization is needed to continue funding. GCSAA continues to act on grassroots opportunities, and uses Environmental Principles for Golf Courses to tell the golf industry's position.

Noise: Experts advise that stricter regulations on workers' exposure to noise can be expected. The National Institute on Occupational Safety and health developed recommendations for OSHA to adopt, but there has been no action so far, reports GCSAA. Local governments have been the most active on equipment noise restrictions. Key issues are using leaf blowers (also a problem in landscape applications; and hours when mowers can be used on golf courses adjacent to housing).

GCSAA says it will monitor and report on developments in this area and work with the Outdoor Power Equipment Institute as appropriate

science to deal with them yet," which is why grassroots efforts again will be the key.

An issue that had materialized at press time is a bill in Ohio that makes companies that are publicly traded exempt from certain guidelines for telemarketing activities. "We don't know how bad that may be," Delaney says.



Delaney: issues need scientific validation.

"Lawn care companies are not exempt; you could be in violation if you're servicing or marketing to your own customers, and it could cost a lot of money if you don't comply. We will use grassroots lobbying to go back to the attorney general."

Noise issue gets louder

Experts advise that stricter regulations on workers' exposure to noise can be expected. The National Institute on Occupational Safety and health developed recommendations for OSHA to adopt, but there

has been no action so far, reports GCSAA. Local governments have been the most active on equipment noise restrictions. Key issues in both landscape and golf course applications are using leaf blowers. In golf, the issue expands to restrict hours when mowers can be used on golf courses adjacent to housing.

All of these issues, at local, state and national levels, reflect a common problem for the Green Industry and many other sectors of the economy, Delaney says.

"The basic fact of legislation, especially new laws, is that proponents often don't think enough of all the implication for all the industries that a new law may affect."

Ruth E. Thaler-Carter is a freelance writer-editor based in Baltimore, Md.

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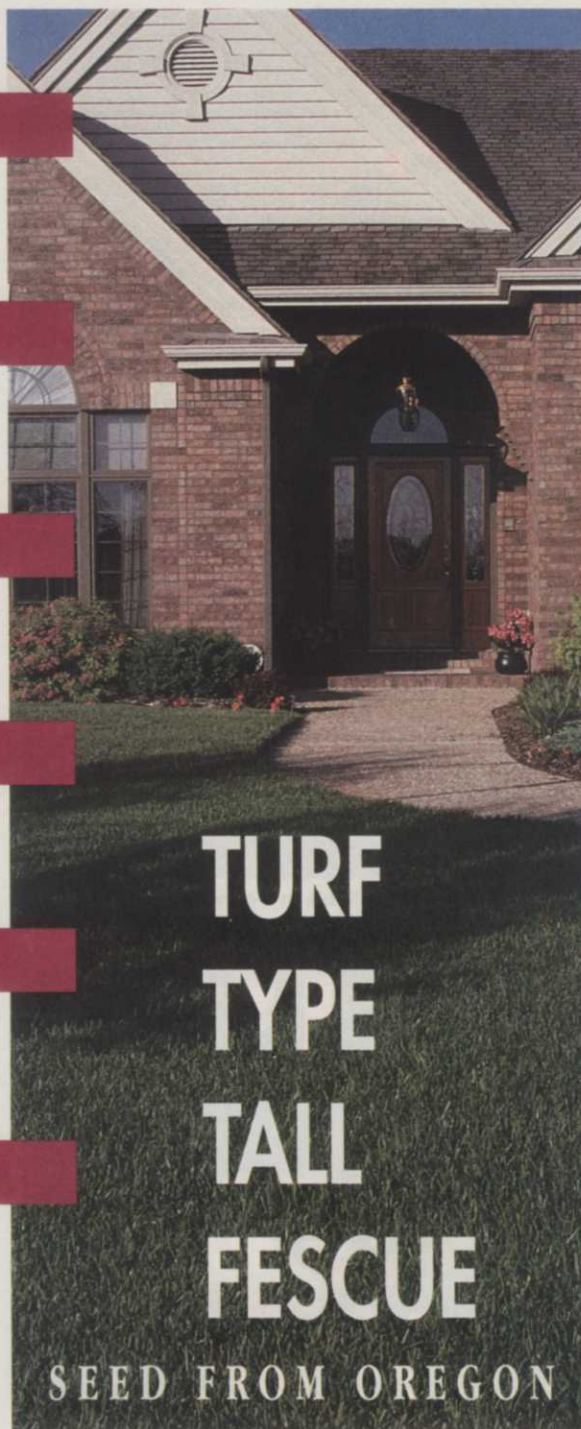
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MOWERS, THE BIG GUYS

By CURT HARLER

Mowing is a demanding job. First, it demands the right equipment. Next, it demands machines which will perform well for years, often be mistreated, and occasionally be run by operators who are not the gentlest of workers.

Today's landscapes demand mowers which will operate in places where mowers have not gone before — close to flower beds, on steep slopes, in tight by roads and cart paths. Despite the number of reduced-maintenance landscapes being installed today, there's still a lot of grass to mow. Also, demands to keep labor costs in line require supervisors to seek mowing efficiency.

To meet all of these demands, several factors must be considered. In addition to buying a tough piece of equipment meant to give a long service life, ease of operation and operator safety must be checked. Look, too, at how environmentally friendly the machine you are buying may be. Check "hidden" labor costs — like the amount of time it takes to mount the mower to a tractor, or how difficult it is to remove, sharpen and replace mower blades. Look at fuel capacity on self-propelled models ... a larger fuel tank

should mean longer operation between stops, and more efficiency out on the "back forty."

Here are some machines to consider as you gear up for the 1998 mowing season.

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Eliminate clumps of windrowed grass with the Grass Gator from Alamo, Seguin, TX. Machine produces a fine-cut mulch with its 74-inch wide reversible, self-cleaning flail knife setup. Unit requires a 30 hp tractor. Twin flail shafts with counter rotation reduce grass to a fine mulch. Rear knives are set one-inch lower than the front knives for a cleaner, smoother cut. Deck is made of 10 gauge steel and can be set in one-half inch increments up to a six-inch cut.

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316-345-8621

Circle No. 254

Zip right through that mowing job with the Model 928D from The Grasshopper Company, Moundridge, KS. With forward speeds up to 9 mph, this zero-radius outfront unit has the new Gemini2 dual hydrostatic drive with dual hydrostatic pumps, auxiliary cooling fans and high-torque large frame direct drive wheel motors. Mower has a complete set of collection systems and attachments, is powered by a 28 hp liquid-cooled diesel with 8-gallon tank.

JACOBSEN

414/637-6711

Circle No. 255

Available in 7-gang or 5-gang

version, the Hydraulic Rangers give a tournament-quality cut every time. Powerful hydraulic reel motors cut heavy, wet grass easily with extra power to run vertical mowing equipment. The 7-gang model from Jacobsen, Racine, WI, has a 15-foot cutting width with 3, 5, 6, or 7 units; the 5-gang cuts 11 feet with either 3 or 5 units. Six or 10-blade reels are available. Cutting height adjustable from three-eighths to three inches. Transport width 7.5 ft.

KUT-KWICK CORP.

800-248-5945

Circle No. 256

Both the Commercial/Landscape series and the RoadMaster models from Kut-Kwick, Brunswick, GA, give a 12-15 year useful life. The Commercial series mowers have hydrostatic propulsion, rear discharge decks, low center of gravity and mowing speeds up to 12 mph. The RoadMaster has a cutting width of 88 inches and can be operated safely on slopes up to 31 degrees. Its road transport speed is 24 mph.

R.L. PARSONS & SON

800-456-6937

Circle No. 257

The MicroMower line from Parsons, West Jefferson, OH, consists of four models designed for 15 hp to 35 hp tractors. The 128XL has a vertical reach of 120 inches, the 138XL a reach of 138 inches and the 135T a reach of 138 inches. All machines mow both left and right and offer break-away cantilever in



The MicroMower line from R.L. Parsons & Sons consists of four models designed for tractors in the 15 hp to 35 hp range.



Power Trac 45-degree slope mower has a low center of gravity and wide wheel base, keeping it grounded on steep terrain.

both forward and reverse. Heads rotate 360 degrees. All machines require a three-point hitch and 540 rpm pto.

POWER TRAC

800-843-9273

Circle No. 258

A 45-degree slope mower is available from Power Trac, Tazewell, VA. The PT-1850 has a low center of gravity and wide wheel base. Special fail-safe braking system

stops machine automatically should hydraulics fail. Tilt-seat feature allows the operators to remain upright regardless of the slope. Unit has 25 front-mounting attachments to do other jobs on slopes.

YEAGER-TWOSE

503-359-0110

Circle No. 261



Yeager Twose offers speciality mowers.

QUALITY AFTERMARKET

800-772-7166

Circle No. 259

Now that you've got that new mower operating in the field, where are you going to find replacement parts? Check the Parts Catalog from Quality Aftermarket, Rockville, IN.

TORO COMPANY

612-888-8801

Circle No. 260

Toro Company, Bloomington, MN, offers the Reelmaster Frames,

Two reach arm or boom flail mowers for turf and grounds work are available from Yeager-Twose, Hillsboro, OR. Larger unit has a horizontal reach of 10 feet, two inches. Mower has independent hydraulics and a safety breakaway. The 34-inch cutting head can mow 1.5 inch material to a mulch. Unit is suited for cutting light overhanging branches, around ponds, trimming hedges and in hard-to-reach places. Mower itself weighs 800 pounds. **LM**

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"Promoting Better and Safer Sports Turf Areas"

Divide perennials for bright color

If some of your customers' perennial beds weren't as showy as usual in 1997, it may be time to dig, divide and replant.

By H. S. STEVENS

Once perennial plants are in the ground, they continue to spread and grow larger each year. As they spread, the plants located in the center of the bed begin to suffer from overcrowding, or from having exhausted the mineral content in the nearby soil. As a result, the flowers, especially those in the center of the plants, become fewer and smaller. The plants no longer have the vigor to produce large, showy blossoms.

Besides rejuvenating tired plants, there are two other good reasons to divide clumps of perennials. In some cases, they may have outgrown their space and are crowding other nearby plants.

Perennials are divided in spring or fall, depending on when they bloom. Fall blooming plants are divided in the spring; spring bloomers are divided in the fall. Daisies, daffodils, iris, daylilies, coreopsis, purple coneflowers and blanket flowers (*Gaillardia*) are among those that should be divided in the fall.

—H.S. Stevens writes for LM from Lancaster, Texas.



Daisies and daffodils are among those that should be divided in the fall.

Field guide: dividing perennials

1) Water the bed (or ask your customer to do so) a few days before you plan to dig so the soil will be moist; not too wet and not too dry.

2) If you will be planting some of the divisions in a separate bed, prepare the bed ahead of time. Add organic matter to the soil and remember that perennials need good drainage. Don't put them in a low area of the landscape and, if necessary to insure good drainage, plant in raised beds.

3) Before digging bulbs or rhizomatous plants, clip the foliage back to a height of six to nine inches with sharp pruning shears or scissors.

4) If the plant is healthy and you just want to have more of it, you can remove the outer sections with a sharp spade or knife. Before cutting, loosen the soil around the sections to be removed. Be sure you get roots and growth buds on each section.

To dig up the entire clump, loosen the soil around and under it with a garden fork and then gently lift it out.

Next, remove or trim

damaged or dead areas, including roots. If the center of the clump has stopped blooming, cut it away and discard it.

5) Rhizomatous plants should be cut in sections with a sharp knife. If clumps of other type plants are small, the sections can usually be pulled apart by hand. Separate large clumps with a sharp spade or garden fork. If you have a large clump with matted roots, use two garden forks. Hold them back to back with the tines touching and push them down into the clump. Now push the two handles together. The extra leverage you obtain will make separation easier. Regardless of the method used, be sure that you get roots as well as tops.

6) Don't over-divide. If you make the clumps too small, they will not provide much color during the next season. Some species of plants are programmed to reach a certain size before they bloom.

7) Replant the divisions as quickly as possible so they do not dry out. If you have more than you can replant in the available space on site, pot the spares to use later in another location.

8) Before any divisions are returned to the hole, improve the soil by adding organic matter and a little balanced granular fertilizer.

9) Immediately after planting, water thoroughly to settle the soil in around the roots. Water again only when the top inch or two of soil has dried.

H.S.S.



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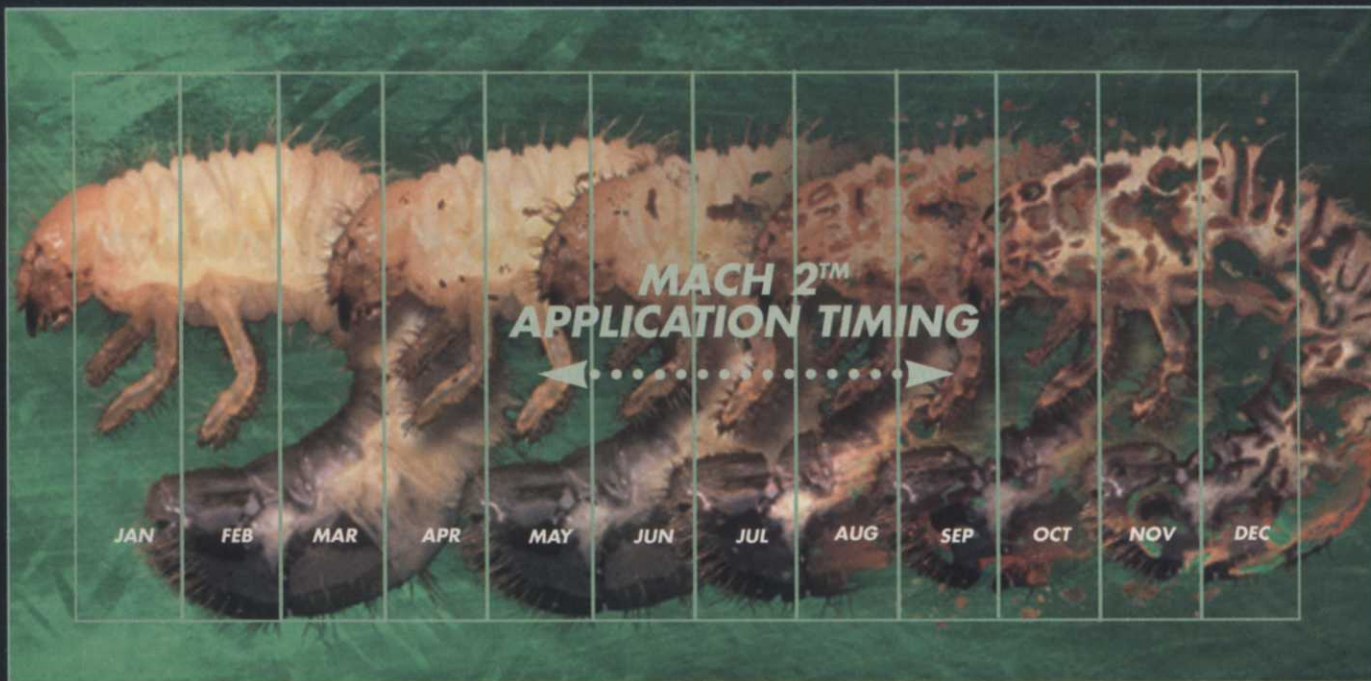


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Soil test reveals need for amendments

By MARTIN PETROVIC, Ph. D., Cornell University

Soil management includes the modification of soil's chemical and physical properties. Turf problems related to soils are often misdiagnosed, ignored or forgotten because they're below ground.

Cultural management

The soil physical management tool box contains methods such as:

- ▶ Cultivation: coring; slicing; spiking; grooving; water and air injection; drilling; solid tine cultivation.
- ▶ Amendments, either physical, chemical or biological.

Cultivation increases infiltration and percolation of water and other materials—such as nutrients and control products—through soil.

Cultivation removes unwanted layers, helps overseeding, helps with thatch management and improves the health and vigor of the site.

All types of cultivation only have a positive influence on a small zone of soil surrounding the cultivation hole.

A dye movement study by Dr. Panayiotis Nektarios while a graduate student at Cornell University revealed that most forms of cultivation studied positively influenced the 0.5 to one inch of soil around the cultivation hole.

Water injection had a larger zone of influence up to two-inches of soil at the bottom of the hole. For best impact, cultivation tine spacing should be no greater than two inches on center, which can be accomplished by narrow tine spacing units or multiple passes.

Soil amendments

There are physical, chemical or biological types of soil amendments. Some, such as organic matter, can influence all three areas. Others, like sand, may influence the physical properties (water movement; moisture holding; compaction resistance; aeration).

A major concern is how sta-

Symptoms of soil problems

If your turfgrass behaves in the following ways, it's a sign that there's trouble down below, and time to investigate for compaction or nutrient deficiencies:

- ▶ shallow but extensive root system
- ▶ little or not roots below four-inches.
- ▶ little or no top growth
- ▶ off-color, very chlorotic tissue
- ▶ easily wilted
- ▶ low density with weeds
- ▶ poor response to fertilization and soil applied pesticides
- ▶ prolonged wet soil that limits recreational uses
- ▶ water easily runs off the turf surface.

Some sites may have all of the above symptoms, while others may have just a few. Some symptoms may take a long time to show (root growth), while others are quickly visible (top growth).

Many other factors can cause the symptoms described above, making a definitive diagnosis nearly impossible. Thus, soil management is often considered an art more than a science.



The soil sample reveals soil layering characteristics, possible compaction, and soil nutritional needs.

ble the amendment is, especially if used to amend sand. If the amendments to sand break down into very fine particles, the site may not drain as well.

Amendments can partially amend soils (topdressing or shallow incorporation into the root zone) or complete incorporation into the root zone. Factors involved: 1) The time one can wait for positive results. Topdressing is long term, while complete root zone modification is a quick fix.

2) The amendment used. Dr. Petrovic is associate professor at Cornell University's Dept. of Ornamental Horticulture. This article originally appeared in Cornell University Turfgrass Times.

SOURCES OF SOIL AMENDMENTS AND THEIR INFLUENCES

Source	Amends	Properties improved			Degradation forces*
		Physical	Chemical	Biological	
sand	soil	yes	no	no	C/T
calcine clay	sand/soil	yes	yes	no	W/T
calcine diatomite	sand/soil	yes	no	no	W/T
natural zeolites	sand/soil	yes	yes	no	W/T/C
organic matter	sand/soil	yes	yes	yes	B
soil	sand	yes	yes	yes	

*Forces involved in degrading amendments include: C-chemical; T-Traffic; W-Weathering; B-Biological.

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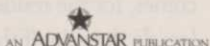
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MOWERS:

the right way to buy

By SHARON CONNERS

In today's lawn mower marketplace, it pays for a contractor to be smart and know what kind of equipment he needs to get the job done. LANDSCAPE MANAGEMENT recently spoke with several manufacturers about how they advise their customers to find the right mowing equipment; the importance of depreciation when pricing work, and the need for proper maintenance. Here's what they had to say.

Deere Z Trak zero-turning unit offers better traction.



Match property to mower

Brian Masterson, marketing manager of The Toro Co., Bloomington, MN says selecting a mower is not based on any one single job site.

"It's based on the portfolio of jobs that contractors have. In the landscape contractor marketplace say that their company's purpose is to handle primarily residential property the question then becomes, for the residential properties, what type of lots do they do. If they're doing more of the smaller, entry-type houses, they have to take into consideration the front and rear yards and how to get around landscape structures, trees, and obstacles, which may lead to landscapers needing smaller scale landscape equipment—mid-size mowers with 32- or 36-inch decks.

"If the business focuses more on a high-end or commercial property, there's a different application in and of itself where they may be cutting acres of land at a time. They may be looking for larger decks with higher horsepower and larger deck sizes and different bagging capacity opportunity vs. recycling. All of those will play into configuration of the unit," adds Masterson.

"What we do" says Masterson, "is provide a full-range of equipment that ranges from the small, entry level landscape contractor from 12 ½ horsepower and 36 front decks all the way up to out front midmount zero radius turn with 60- and 62-inch decks and then on our commercial side there's the big Groundmasters."

He says choosing the correct mower to get the job done depends on the dealer. "The first thing they have to find out is what their customer is looking for—are they residential or are they commercial?

How many crews do they run? A huge factor for a landscape contractor is their trailer. How much room do they have in their trailer?

"The landscape contractors need as much education as possible from their dealers of the feature and benefits of the products. The dealer needs to work with the landscape contractor to ensure that they get the best piece of equipment to match their needs. . . What we do to support that is extensive training with our distributor sales force out in the field with our dealers," states Masterson.

The company offers help for contractors to mow smarter. "We have some slide rule type charts that roughly tell how many acres per hour, but that's the general way. The specific way depends on the location. A lot of it depends on the landscape structure and what's on the lot and that comes from years of experience. We give a lot of general information, but then a lot of it goes on those specific site locations," says Masterson.

Pricing smart

A contractor needs to take into account several things when pricing an account. "In

terms of any piece of equipment, there's several elements that make up their cash flow. First of all there is the out of pocket expense for the equipment. They may get a bank loan, we offer financing programs, they may pay cash. That investment has to be depreciated over what you would consider the life of the equipment.

Depreciation also depends on what area of the country you are in. If you are in the southern areas, you're running your units nine to twelve months a year vs. if you're in the northern climate you may be only running it six to nine months per year. That plays into depreciation. The other thing that plays into depreciation is that you get what you pay for. If you want to buy an inexpensive piece of equipment you need to make sure that you incorporate into your cost structure, your maintenance cost. Also your down time. How much time are you going to lose every time that piece of equipment's down," says Masterson.

Masterson says a good maintenance schedule is important. "A lot of that comes down to the basics such as every morning does your crew chief check the oil and check the gasoline, do they check the blades, do they check the air filters, do they grease the fittings at the proper timing and are the tires at the proper air pressure? All of those play into making sure that your equipment is properly maintained. Also, manufactur-

ers in their operator manuals recommend at certain times during a product's life to have preventive maintenance done on a product."

Know your needs

Peter Whurr, Director of Marketing, **Ransomes America**, Lincoln, NE says, "The user needs to understand what he

wants to do with the (mower). It depends very much on the application. For example, if you've got a wide open area to cut, you're not going to look at buying a 48-inch right on rotary. If you've got that big wide open area, you're going to want to cover it in the

best possible time and get the best performance out of the product and the best return on your investment. You're probably looking at buying a wing rotary or something like that that would get over the area and have productivity as being the major importance."

Whurr says many end users are too busy looking at cost when they purchase a product.

"In reality," says Whurr, "if they spend a little bit more and then take the width of cut of that product and consider the productivity of that, the return on investment may be better with a higher priced product with better productivity than the low cost product that had

less productivity," says Whurr.

"Our distribution is there to meet with the customer and help guide them through the network of decision-making. . . I guess there's a perception out there that the salesman just wants to sell whatever he's got available. When in reality a high-quality distributor or

dealer will recommend the right product for use and application," says Whurr.

"Say we said the life of a product would be seven years. You could then work out the cost over that seven year period. Your depreciation could be over that seven year period. You could actually work

it out cost per acre, take into account that depreciation so you could actually work out how much an acre of grass would cost you to cut and maintain," says Whurr.

As far as pricing a job with depreciation as a factor, Whurr says, "If (contractors) know for example, it's going to cost them \$4 per acre then if you want to be able to make money off that than obviously you've got to be able to charge more than the \$4. Your \$4 would include that depreciation for that acre as much as it would cover the cost of servicing the product."

Whurr says preventive maintenance is probably the most critical aspect of using



Whurr: regular maintenance gives longer equipment life.

MOWERS

the product other than correct operation.

"If you carry out preventive maintenance, although initially it looks as though it will be more expensive, in the long run it will be less expensive due to the fact that you're actually changing oil, you're lubricating parts of that product and doing regular checks on it. So you're stopping the major wear and tear on the product and give you a much longer life."

The company provides a preventive maintenance schedule in every operation instruction book to every product they supply to the customer. It's also on a decal that is underneath the hood. Even if the book was missing, there is no excuse to not follow proper maintenance.

Quality cut or rough around edges?

Jeff Alfaro, marketing manager, of **Excel Industries Inc.**, Hesston, KS, says, "The first thing you have to do is look at application. Is it something that requires a fine quality cut. Is it a highly maintained turf. Are there any slopes or right of ways associated with it, a lot trimming capabilities or a lot of wide open areas? Are you looking at rough cut application perhaps with highways that may require a different type of machine than someone mowing a residential area where there's an upper price limit on the housing? You're not going to want to use the same piece of equipment there. With golf courses you have the dual challenge of

finding something that can cut wide areas of grass yet still be able to trim around the various trees, the clubhouse, etc.

Alfaro says that choosing the correct mower is partially the salesman's responsibility. "The salesman should ask the question up front to make sure that the end user gets what he wants. After all if he buys a mower that doesn't fit his application he's not going to come back to you a second time," says Alfaro.

He stressed the importance of maintenance, "Maintenance saves money on all equipment because obviously a well-maintained piece of equipment will last you longer in the product life. . . Our past two product introductions in '96 and '97 have eliminated any daily maintenance and in most cases have also eliminated some weekly maintenance as well. We have one product that other than sharpening blades and doing oil changes there's no maintenance other than on a seasonal basis."

Buyer need not beware

Steve Yolitz, vice president of strategic product planning for the **Jacobsen Division of Textron, Inc.**, Racine, WI, says experience is the key when selecting the correct mower, "The greatest risk is when a customer is not quite sure of their applications or they're just entering the business or they may not know exactly what they need."

The company offers suggestions to help the contractor mow smarter, "In the opera-

tor's manuals for let's say our golf mowing equipment we indicate what some desired mowing patterns are. We offer an operator's video on all our machine riding machinery as to how best operate the equipment and achieve maximum productivity. We do provide information on productivity so they can determine how many acres per day in an eight-hour day a piece of machinery should be able to de-



Yolitz: total cost includes depreciation and maintenance.

liver," states Yolitz.

"Depreciation is an operating expense that needs to be accounted for," adds Yolitz.

"Depreciation can be affected by the level of service and maintenance that is provided. The operating conditions of the equipment will have an

impact on the life of the equipment. If you're mowing for profit you need to understand what your total cost of operation is, which includes depreciation and maintenance of your



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MOWERS



Ransomes 951 D unit mows large areas efficiently, economically.

equipment.”

Sam Catoe, controller for Jacobsen, says pricing a job depends on a number of factors. “After their (tax) advisor tells them how they should be depreciating it, they would take that annual cost and that along with the other expenses whether that would be other people working for them, supplies, fuel and other tools and just make sure they price their jobs so that it covers their expenses and makes a profit for them. Depreciation would just be an element of their annual expense to do that business.”

“Maintenance can prevent premature failure of or wear out of key components. In summary, it can prevent downtime and major repair expenses,” says Yolitz.

Catoe adds, “We’ve started a program offering a full-service maintenance contract to golf courses where we come in and perform the maintenance on the machines because we know based on what we’ve seen over the years that proper

maintenance does add to the life and quality of the unit. The manual that comes with the product identifies, as the manual that comes with a car would, that shows what normal maintenance would be and that has proven to extend the life of the unit.”

Yolitz says all of their equipment in the operator’s manual and sometimes in decal form offer a maintenance chart.

Qualify the customer

Fred Goode, national sales manager, **Bunton Division of Jacobsen**, Louisville, KY, says, “You have to qualify the customer—for instance is he a commercial or a low-end consumer type? That’s where most of our dealers start. Our best approach is to ascertain through a commercial standpoint what is required for durability and reliability.”

Goode says depreciation depends on “their utilization and the life of that unit. That’s somewhat of a personal question for each

one of the commercial cutters.”

Orville McDonner, engineering manager for the Bunton Division, says “A lot of the bigger commercial cutters pay closer attention to the maintenance than they do necessarily to the depreciation. The depreciation is just a known that’s a fact in any business that’s just not relevant to lawn and garden. It’s the amount of maintenance and service

required for a particular machine. If they take “x” number of dollars for a product and say they’re going to get two seasons out of it, the machine costs me so much. I’m going to mow so many acres this is what it’s going to cost per acre. Then the variable they have to plug in there is what kind of maintenance and repair parts do they have to add to the machine.

The dollar amount they spend on service and main-

taining the product is actually a bigger issue than depreciation.”

Goode says the company has observed more contractors leasing equipment. He believes that they’re looking at it from a business perspective. They’re turning in the equipment before it gets into higher maintenance.

“It’s all preventive maintenance. It ensures the proper

conditions that offer extended life either with lubrication or just in general looking for things that can cause down time prematurely. Today, hydraulic oil is something that is becoming more paramount because of the longer use of the

oil,” says Goode.

McDonner says, “If they’re doing the routine maintenance where



Goode: leasing gains popularity among contractors.



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MOWERS

they're reviewing the belt drives, the pulleys and things that wear, it will save money if they change the part before it totally fails. For instance if there's a belt on the product that's starting to wear and they notice during their routine maintenance that that belt is starting to fray and it's going to fail in "x" number of hours, the cutter would get that belt off of there. If he left that belt on there and it failed, it could end up on an idler pulley system or belt drive system at the engine level and a belt that's worth a few dollars could end up costing hundreds of dollars in parts if they let it go to failure."



Jacobsen Turfcut Outfront Rotary Mower popular on big properties.

"You're seeing a change in technology of components that are used on units. Now, you have hydrostatic walk-behind units. Preventive maintenance of those kinds of things—hydraulic filters and oil changes—can reduce a significant cost. . . Before, if you let a belt deteriorate

for whatever reason, (cost) was not as great. Now, if you neglect some of these service intervals you're exposing yourself to a much higher replacement part cost sooner than you should expect that," says Goode.

Big mistake to 'buy cheap'

Ned Swanson, assistant manager of product planning for American Honda Motor Co., Power Equipment Div., Duluth, GA explained, "We like to match the best quality of cut to the customer. If it's homeowner type mowing then we recommend a smaller size mower deck because the smaller size mower deck the better cut the customer will receive. But, if it's large open mowing then we would of course recommend a wider mower that does a nice job. In other words if you use a 21-inch lawn mower on your front

Many factors

"There's a number of factors that need to be taken into account (when choosing a mower)," says Steve Yolitz, vice president of strategic product planning of Jacobsen Division of Textron Inc., Racine, WI.

- ▶ The type of grass to be cut
- ▶ the desired height of cut;
- ▶ the contour of the grass surface;
- ▶ moisture conditions;
- ▶ whether you need to catch the grass;
- ▶ what productivity you are looking for;
- ▶ how many acres per hour or in a day are you looking to cut.
- ▶ What is the skill level of your operators and service technicians?
- ▶ What are the transport requirements for the machines?
- ▶ Do you have to go on and off trailers frequently or is it going to be dedicated to a job site?"

yard, you'll get a lot better quality cut than if you used a 48-inch wide area commercial-type mower."

Swanson says end-users often make the mistake of buying cheap, "It's dollar driven where they try to buy a machine for less money that really isn't applicable to the type of job that they're trying to do. This would be more for new people getting into the business or companies that are not well financed that can't afford more expensive equipment."

Swanson says, "It's the old adage that an ounce of prevention is worth a pound of cure. If you take care of your ma-



Honda Commercial 48 is popular with mowing professionals.

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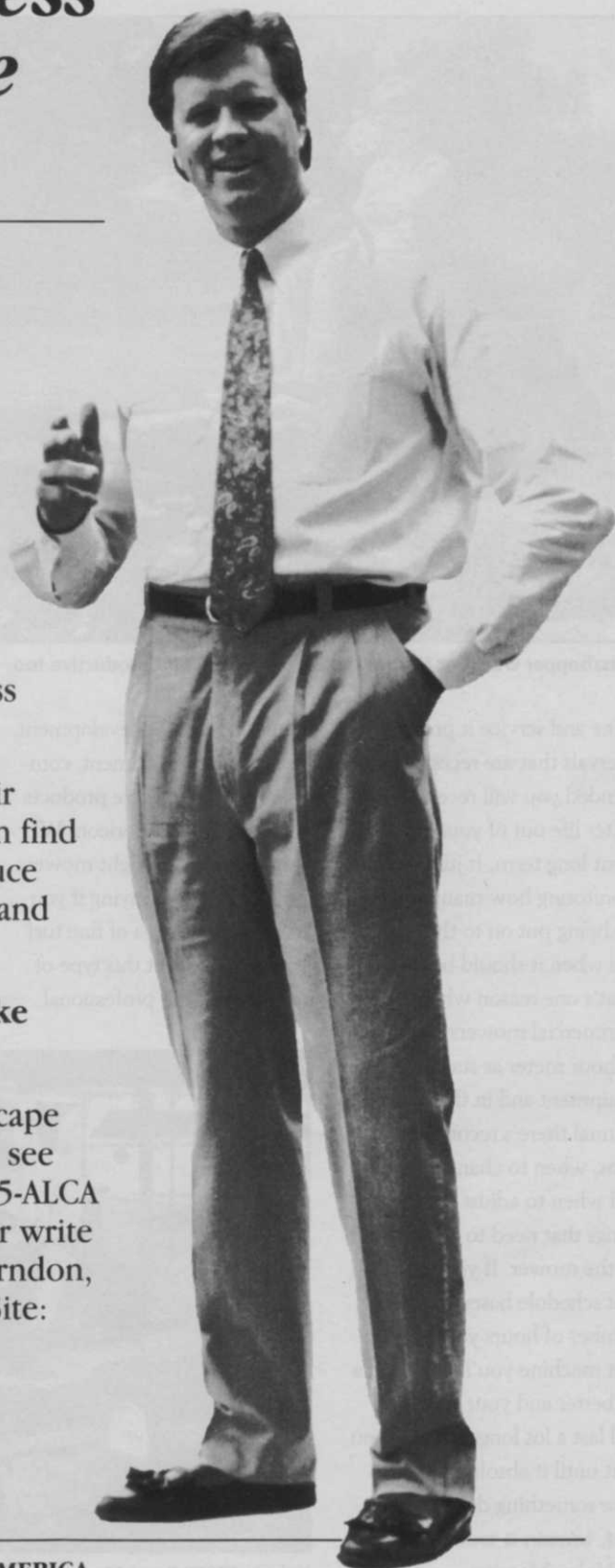
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MOWERS



Grasshopper Outfront Mower is easy to operate and productive too.

chine and service it properly at intervals that are recommended you will receive much better life out of your equipment long term. It just requires monitoring how many hours are being put on to the unit and when it should be serviced. That's one reason why on our commercial mowers we have an hour meter as standard equipment and in the owner's manual there's recommendations, when to change the oil and when to adjust all the things that need to be adjusted on the mower. If you follow that schedule based on the number of hours you have on that machine you'll get along a lot better and your machine will last a lot longer than if you wait until it absolutely has to have something done to it."

Turf, terrain & trees

Nolan Meggers, product

manager, market development, golf and turf equipment, commercial grounds care products for John Deere, Horicon, WI says, "Buying the right mower isn't as simple as saying if you have so much area of fine turf you should select this type of mower. In both professional

in the shortest time. Proper mower selection comes into play here as does well-considered allocation of mowing units and crew members," stated Meggers.

"Any turf care professional must always consider depreciation. The value of a machine

landscape and golf course applications among the multiple other factors to consider are the varieties of turf to be mowed, the type of terrain, and the number of trees and kinds of landscape areas on the properties or courses. The more obstacles on the property the greater the need for maneuverability.

"Two major factors must be balanced: providing a quality cut that meets or exceeds the expectations of the property owners/users and covering the area

depreciates with every hour of use. It's a cost of operation that needs to be considered when preparing the budget for the golf course and which must be covered in the pricing to landscape maintenance accounts," according to Meggers.

"The dollar amount of the depreciation depends on the value of the unit. The turf professional also should work closely with the service technician to be aware of the repair and upkeep costs for each machine and be able to determine when the cost of repair and maintenance becomes greater than the value of the equipment being repaired. If an older machine needs a major overhaul at a cost of "x" dollars and book blue of that piece is less than that amount, it's probably time for replacement. The turfgrass professional must weigh all the options, taking budgetary factors into consideration. When repair is not feasible and a new unit is needed, outright purchase and lease options should be considered," says Meggers.

Preventive maintenance info is in the operators' manual for each machine, with a chart outlining the procedures recommended at specific use hours.

Once a contractor finds a mower many other issues must be taken into consideration to maintain longevity of the equipment. "Number 1" on that list is maintenance. It's the case of, a little preventive maintenance is just what the manufacturer ordered.



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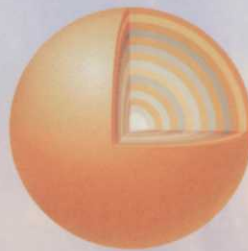
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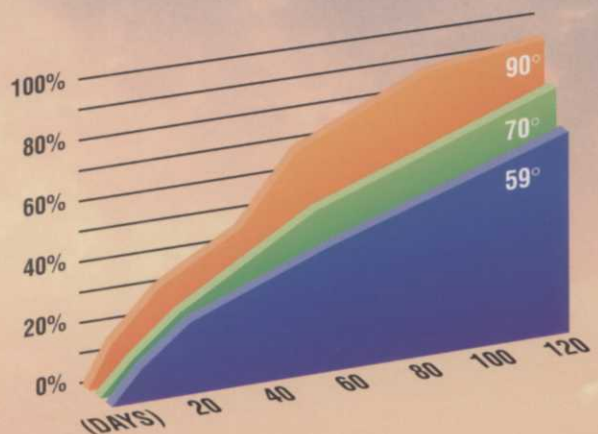
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In fact, as this chart shows, nutrient release from Terra fertilizers with GoldCote can be accurately predicted based on temperature. That means you’ll get the performance you expect – when you expect it. You can count on it.

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Working with you.

Elk Ridge, a new golf course in Gaylord, Mich., is run by Superintendent Jon Maddern, who also got to build the course from the ground up.

The course was carved out of pine forests, and the trees provided a substantial stockpile of recycled material for future use.

After the course was established, and the original maintenance building was filled with equipment, Jon began to mill the trees that had been collected a few years previous. After milling the lumber and drying it for a year, Maddern used it

to build another maintenance/storage site.

At Franklin Hills, many of the trees have been hit by lightning over the past few years, and being involved with the USGA and the Audubon, we decided to leave the trees standing until we could figure out what to do with them. The trees were large maples, ash and oaks.

The Club decided to do a clubhouse renovation. The wood that had been milled for the shelters is now going to be used for

oak doors, panels and furniture.

The company we hired cut the trees into 100-inch lengths. We had 8-foot planks as a finished product. The trees were cut at four quarters and eight quarters, for a finished board of one inch and two inches.

After cutting all the trees into planks, we "sticked" them, by putting a one-inch square piece of wood between the planks. The sticks are placed every four feet, so the wood dries without warping. It takes nine to 14 months to dry, and should be left in the open air so that it can dry evenly. If the wood is covered and air movement is restricted, the pile will mold and mildew.

Wood that is too small for planks is split into firewood for members.

In Detroit, oak costs \$8-\$10 per board-foot.

Mill fallen trees for new projects on the course



TOM GRAY, CGCS
Guest Columnist

[GOLF]

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Plan for equipment replacement

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Hartefeld's Kelch improves course

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Superior designed for maintenance

PAGE 21 G ▶

ASGCA a global association

PAGE 24 G ▶

'High' course keeps mowers in 'low' gear

By milling the wood, the cost is reduced to 30 cents per board-foot plus drying time.

By offering a place for other tree trimmers to dispose of their logs, and by milling dead or dying trees around the course, we plan to some day build a rain shelter or a second maintenance building.

Tom Gray is Superintendent at Franklin Hills CC, Franklin, Mich.

[SUPERS ON COURSE]

Scott Mendenhall has taken the lead at North Ranch Country Club, Westlake Village, Calif. Scott was in Ventura County building Spanish Hills CC, and has finished construction of Rancho San Marcos in Santa Barbara County.

Kevin Neal is new superintendent at Seacliff Country Club in Southern California.

Tom List is superintendent when the Newport Bay Golf Course reopens in Berlin, Md. this Spring. Previously called the Bayside Course, Newport Bay has been redesigned and reconstructed by Lester George of Colonial Golf Design, Inc., Richmond, Va. Construction was by Quality Grassing, Lithia, Fla.

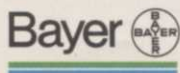
Ocean City Golf & Yacht Club is a 36-hole private club open to the public for resort daily fee play. Eleven holes are bordered by salt marshes and waters of Newport Bay.



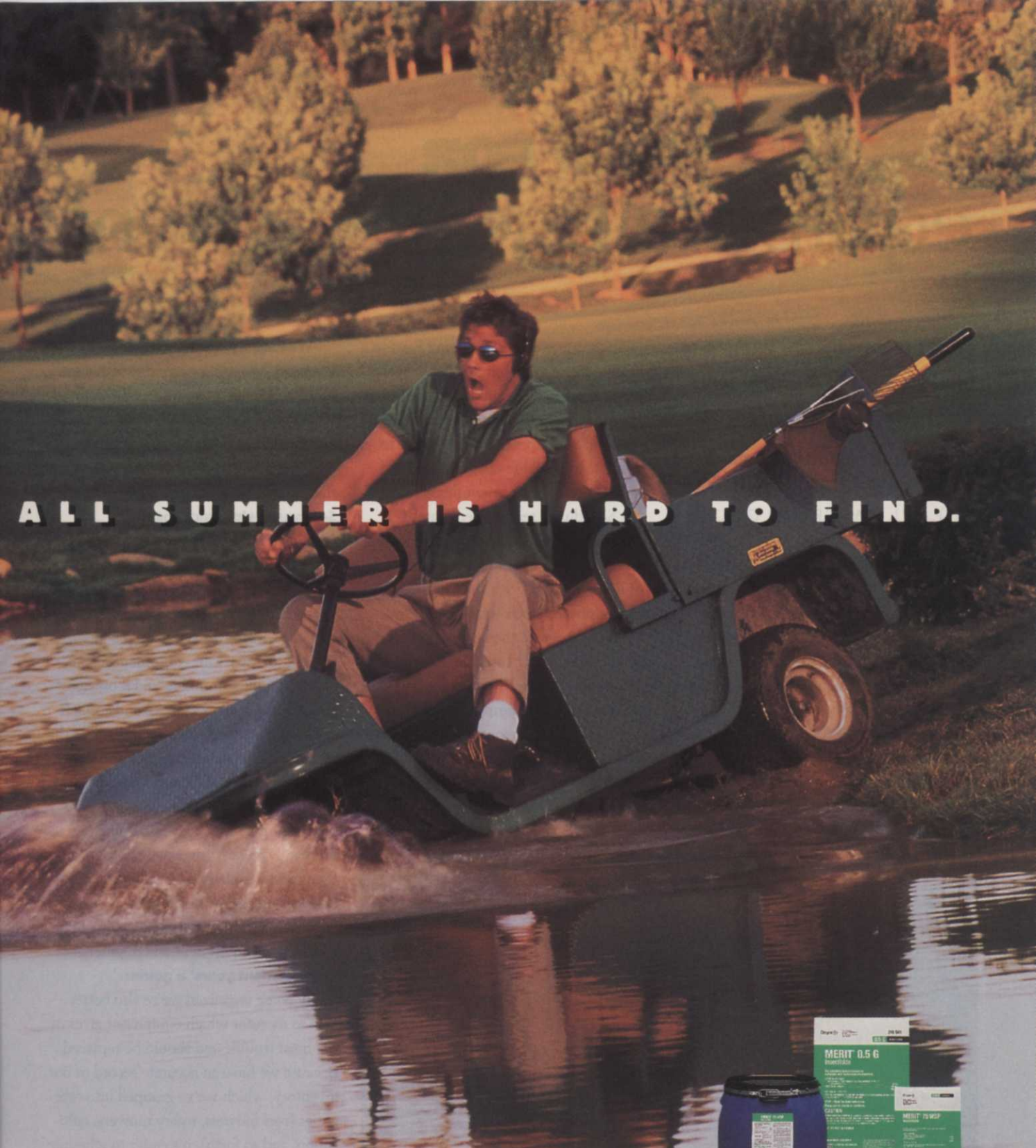
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PLAN AHEAD FOR equipment replacement

Don't wait until the budgeting process starts to inform your facility's decision makers about your equipment needs.

By PAUL BASTRON, CGCS

Your equipment replacement program starts and ends with your budget. How can you make sure there's enough there to acquire the type of equipment you need to provide the playing conditions that your customers demand? You can't, but you can increase your chances by keeping your facility's decision makers informed about what you need.

This requires a plan. It doesn't have to be elaborate or formal. It just has to work for your situation. The procedure that we use at Glen Flora Country Club includes:

- ▶ Proper equipment maintenance to prolong the useful life of equipment and increase future replacement flexibility.
- ▶ Scheduling replacement dates.
- ▶ Justifying and selling our program and the need for equipment to our members.

I'll briefly outline what we do.

Old equipment lasts, when cared for

We all recognize the need for reliable new equipment, but I still like to keep a few "antiques" restored and in good working operation. For example, our old Ryan utility cart probably wouldn't last a week if everybody on our crew used it. But it makes a perfect divot cart for Leo who treats it like his own.

We have a Ford tractor that's about 40 years old. We use it every day to cut the range and other areas around the course.

It's good for the members to see some old equipment being taken care of along with the new equipment. And, believe me, this older equipment gets noticed!

Software helps track costs

We've found that tracking our equipment costs is a huge asset at replacement time. We use an inexpensive computer program ("What Vehicle History?" from Organic Computer Wizardry, Paonia, CO; 970/527-6756). Our equipment technician Bob Collier found it, and it only cost about \$100. It tracks service and costs. It tracks each service event and organizes the information by vehicle, service and date.

It keeps track of labor hours, parts used and comments, and there's an inventory system to track stock levels if you chose to do that. Software can usually do a lot more than most people need. You'll probably have to customize the program to fit your needs. Computers give technicians a better way to track equipment and maintenance.

'Replacement years' a guide

By being organized we're also better able to monitor which equipment gives us the most trouble and should be replaced. Because we have an accurate record of our inventory, which we've grouped into categories (reel mowers, rotary mowers, cultivation, and so forth), it's easier to schedule projected replacement dates. I simply prepare a list of the equipment according to the replacement year.

We try to present this information in as clear a fashion as possible. This makes it easier for our committee and other key people, particularly the finance director, to understand our needs.



Paul Bastron's fondness for good machinery is evident in this immaculate Harley Davidson which he often rides to and from Glen Flora Country Club just north of Chicago.

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The 18-hole Glen Flora Country Club course usually gets about 18,000 rounds a season. It's maintained by a combination of vintage and newer equipment and tractors.

These lists work best when they're readily available. We don't want to wait until budget time to inform our decision makers of our equipment needs.

Tell board all you can

We set up a meeting in the spring or summer to show our board members what we have in the way of equipment, and what it's used for. At the same time we point out equipment that should be replaced, or any problems we're having with a particular piece of equipment.

This is a good time to point out details such as quality of cut, down time and hydraulic leaks. They're usually very interested in this. We give them a copy of our equipment lists for the next two or three years. When they see \$150,000 or \$200,000 worth of equipment listed out, they get a better idea of how vital it is to keep it up on an annual basis.

Even if you've done everything you can to document and publicize your equipment replacement needs, it's no guarantee

Dealer speaks up for maintenance

Mark Downey of G&T Equipment Co., Kansas City, Mo., sees first hand the problems that arise when end-users don't follow preventive maintenance schedules. Downey is a John Deere dealer.

"Normal greasing intervals, oil change intervals and air cleaner intervals are not observed," says Downey, "and we're going to see this as more of a problem. With the advent of two-year warranties, we're going to see warranty issues in that second year derive from poor maintenance.

"[Dealers] may be caught in the middle, with the customer thinking it should be covered by warranty, and John Deere saying it's not."

Downey therefore takes an active role in equipment training.

"As a salesman, if that equipment does not perform because it is not maintained properly, I miss a sale next time. So that's why I always conduct training sessions. I've been doing it for three, four years."

Equipment companies will clamp down on equipment abuse if the leasing concept is to ever succeed, says Downey.

"They're going to ask for engines back and inspect them."

The bottom line is...the bottom line.

Equipment is an expensive proposition, all they way around.

"The lack of maintenance is driving the cost (of equipment) up, because a lot of that cost in this market is derived by the extensive warranty," says Downey.

"Dealers aren't the ones who are charging that, it's the manufacturer who is charging for warranty. John Deere has to amortize enough in the price to cover the warranty expense over the two-year period. And that's got to be a large portion of Deere's market price. I have no idea how John Deere amortizes that, but they have to. It's like medical insurance," Downey explains.

"The more people who go to the doctor, the higher insurance costs get. When they start going for things that aren't really necessary, it's no different from when you fail to grease a mower. We, as a dealer, want to keep you happy and warranty it. John Deere has to take a look at that at the end of the year, and say, 'we have to add another 'X' percent to the cost to the dealer because the warranties are really costing us.' It's a cause and effect type of thing. And the dealer is caught in the middle. Thousands of dollars are written off by us through our shop because of unpaid warranties." Terry McIver

your requests will be approved. The final decision is often made at a closed-door budget committee meeting. That's another reason why it's important to keep all the decision makers at your facility—particularly the finance director—informed of your needs. We give Budget Committee members a brief description of the proposed equipment and costs. Because of our previous efforts they should have enough information to make a decision.

We realize that it's not likely we'll get everything in the way of equipment we would like so we've learned to stretch the life of equipment. One way to do this is to use aging equipment in less critical areas.

Equipment 'shifts' rotate machinery

For example, we don't buy new mowers for tees or collars. We buy the new ones for greens, and shift the older units to tees and collars. Our mowers used for green banks are shifted to intermediate roughs after four to six years. Triplex mowers are shifted from greens to approaches, range and nursery after about four years.

Educating your decision makers will increase their awareness of the importance of keeping up with your equipment needs.

—The author is superintendent at Glen Flora Country Club, Winthrop Harbor, IL.

The Club has about 210 golfing members and the 18-hole course gets about 18,000 rounds a season.

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Hartefeld boss adjusts turf height, saves water

Nutrition \$\$ a high priority

Kelch believes there is only one way to grow grass, and that is to fertilize. "For the first year I didn't put down enough. It seems that when you do a grow-in, I honestly don't think you can put down enough fertilizer. You need to grow the grass and grow it quickly so you can cover your ground. If I had to do it all over again, I'd put down a lot more fertilizer than I did at the beginning if I could possibly do it."

In the event of heavy rains, which can cause washouts, a dynamic fertilization plans helps reduce the potential for erosion damage if the grass can quickly grow.

Washouts caused ruts more than two feet deep, and the need for what was very nearly like a second grow in.

Kelch had about \$30,000 for fertilizer in 1997.

"I'm fertilizing probably 40 acres of rough, 4 acres of tees and greens and 27 acres of fairways. The rough takes a lot.

"I treat that the same as the rest of the golf course."

JC

By JOHN B. CALSIN, JR.

In three years a design team, construction company and grounds crew have transformed once rolling farm land into a top daily fee course, Hartefeld National, Avondale, Pa.

The 7000-yard course designed by Tom Fazio, is the new home for the Bell Atlantic Senior PGA Tour event.

Bill Kelch, CGCS, says the site "was just corn fields and dirt" when he arrived. Yet, only about 300,000 cubic yards of dirt were moved for the entire course.

Kelch thinks the experience of seeing a new course evolve and grow in is "pretty unbelievable."



Kelch shows the filter fabric liner at hole 17 that has become exposed due to raking. It's tough to keep the grass wet and growing over the liner, says Kelch. The liners will be removed before the Bell Atlantic tourney.

Water schedules moderate

"We do a lot of hand-syringing here," says Kelch. "It's hands and hoses. It's time consuming. It's hard. But it's the way it should be done. If the grass doesn't need water, it shouldn't have water."

When conditions warrant irrigation, however, Kelch says to put the water down deep. But he stresses it is "infrequent."

They try to go at least 10 to 14 days and longer, if possible, between watering. About 50 minutes worth of water, about an inch, is put down.

Number 10 was a problem hole. Before the construction of houses that have begun to ring the course and particularly this

hole, there were a lot of trees. There was little air circulation because the hole is in a hollow.

During the grow-in and after, there were such problems with the green they had to put in fans there. Kelch tells the story that one day he paid a visit to the green and found course owner Davis Sezna playing the hole.

"Do you smell that?" asked Kelch.

"Yes," said Sezna.

"That's not the compost pile across the street," said Kelch. "This green is rotting."

"Go buy those fans now," said Sezna.

Fans were brought in, and for the first year, the green was babied.



The fans at number 10 green circulate air and reduce chance for disease. Trees were reduced by 20 percent around this green. Fans by Paterson Fan Co., Blythewood, SC.

"We cut it every other day," says Kelch. "We applied fungicides to it a little bit more, fertilized it a little bit more, and it came back. Now that the trees are cleared out, and we have the fans running between midnight and six or seven in the morning, it keeps the air circulating, and it is cooler down there."

Mowing height lowered slowly

"We found the best way to grow in the fairways was to let it grow up high," says Kelch. We actually push-mowed our fairways for a little over a month. Then we got the little 72-inch National out there, and we started at $\frac{3}{8}$ ". We lowered that down, and finally went into the triplex at $\frac{1}{2}$ ".

Greens are grown with Southshore and Crenshaw. Fairways and tees are ryegrass and roughs are bluegrass.

The herbicide/fungicide budget is "probably close to other high-end daily fee courses, but I try to stretch it out," says



The bunkers and gnarly fescue rough on number 5 make for a tough approach.

Grounds crew gets the credit

Bill Kelch never stops thanking his grounds crew for the work they do.

"They're the guys that have really made this course shine," claims Kelch. "I oversee what they do, but they do all the grunt work. The grounds crew is really the unsung hero of making this golf course aesthetically pleasing to golfers."

Kelch has a crew of 17, three of whom are managers. Six are employed year-round.

His assistant is Steve Edkin. John Long is second assistant, and the mechanic is Jim D'Orazio, who has his hands full of expensive, quality machinery.

"Right now I have 15 Cushmans; 2 five-plex mowers; 3 triplexes; three 26-inch T-mowers; 8 greens mowers; six trailers; core aerifiers and a host of other little machinery. That is the main concern for me, to get the golf course cut," says Kelch.

"I still like to get my hands dirty," says Kelch. "I don't like to sit behind a desk. I do have a second assistant, but if you're going to be a manager, you got to be a manager. If you're going to be a superintendent, you have to be a superintendent."

Kelch talks about the importance of getting out and seeing what's going on.

"You have to get out and walk the course, take a look at it. Take early morning walks around, look for disease. And I still syringe the greens."

JC

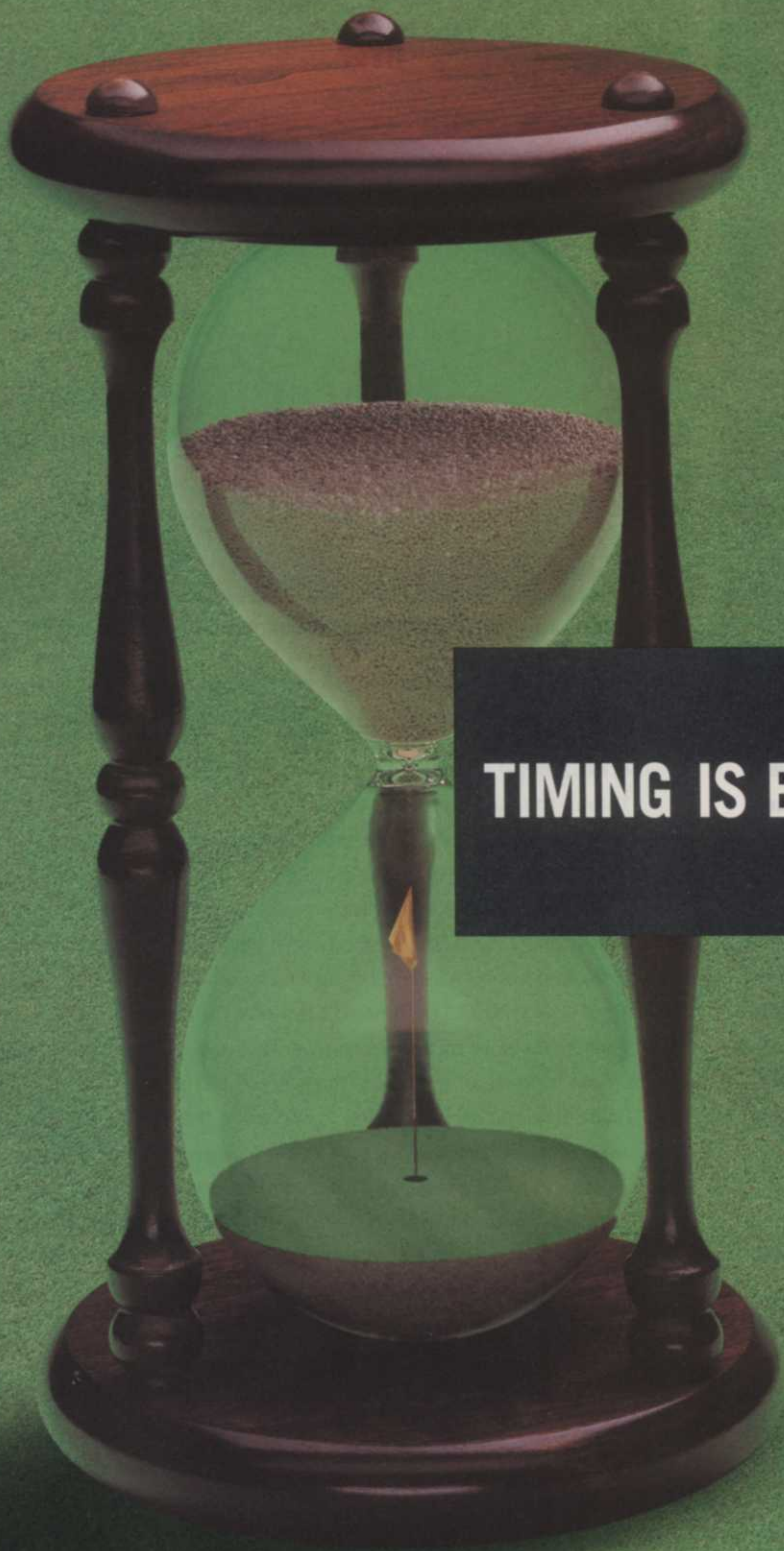
Kelch, who plans in two-week cycles which helps the owners balance the funds.

By "playing the weather," Kelch says he needed one application against *Pythium* in 1997, which probably saved him \$15,000.

Hartefeld has sand-based greens that are an 85/15 sand/peat mix.

"It's 12-inches of sand and four inches of pea gravel, and there is herringbone drainage all through every green, so these greens drain well," says Kelch.

Photos by John B. Calsin, Jr.



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Designed for maintenance



On the 17th hole, golfers tee off of a 135-foot bluff overlooking swift Poplar River.

Mike Davis joined the Superior National management team from the outset. He got the opportunity to contribute suggestions that make the course easier to maintain.

By BRIDGET FALBO

Along the rocky north shore of Lake Superior in Minnesota's north woods, lies a 400-plus acre golf course carved out of a forest of second-growth aspen, birch and spruce. The course is split by the Poplar River, a fine trout stream. Nearby Superior National Forest lends its name to the golf course—Superior National at Lutsen.

Course architect, Don Herfort of Minneapolis, designed this course—located 90 miles north of Duluth, Minn.—to preserve the area's wilderness beauty. Superintendent Mike Davies has maintained it since its opening in 1991 with equal devotion.

This is a special location with views of expansive Lake Superior from 13 of the 18 holes. (Newcomers to the course soon learn that all putts break to the lake.) Aspen and birch frame the fairways, isolating each hole. On the course's signature hole, golfers tee off of a 135 foot bluff overlooking the rushing Poplar River.

Davis joined the course management

team at the beginning. He got the opportunity to contribute suggestions that make the course easier to maintain. He can say, literally, that he knows this course from the ground up. Or, maybe that's "from the rock up," since the course sits atop glacial till with lots of exposed rock.

"I wouldn't say this is the greatest site to build a golf course; you need a little bit of soil to build a course," says Davis grinning.

He worked closely with the U.S. Soil and Water Conservation to save what little topsoil the site contained; building silt screens and earth dams to trap the sediment before it washed away into the river; constructing sediment ponds to catch runoff. The ponds are now part of the lagoons on the course.

Shallow soil, slow drain

Because of the shallow three to four inches of topsoil, the course can only absorb so much water. Hilly terrain exacerbates the problem. The course, in fact, backs up to Moose Mountain which drains down across the course. Davies has installed drainage tile across some fairways,

built earth berms to hold water off others, and dug drainage ditches.

He also leaves the turf at a higher cut near the ponds to filter out chemicals as the water drains, and also leaves a no-spray zone around water features to prevent chemical runoff. On the hole featuring the Poplar River flowing through the fairway, Davies' crew planted a rose hedge along the upper banks of the river just off the tee. The roses are heavy feeders soaking up extra water and fertilizer, and look great.

The course was built on private land that was donated to Cook County. It's owned by the county and managed by a board of local resort owners.

"Surrounded by the Poplar River, Lake Superior and the Boundary Waters [the Boundary Waters Canoe Area Wilderness], I have to be very environmentally conscious," explains Davies who takes a curative rather than preventive approach to disease control. In 1995 and 1996, for example, Davies kept the turf healthy without using any summer fungicides. He

cont. on page 20G

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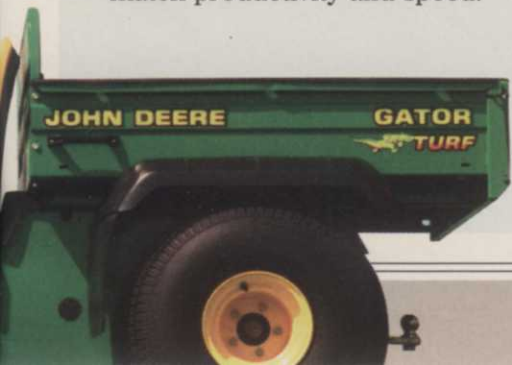
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admits he couldn't have done this if golfers and management didn't agree to allow some disease to be tolerated.

The best defense: hardy turf

For his part, Davies is pretty aggressive with top dressing, verticutting and aerating. "The harder your turf, the less prone it will be to disease," says Davies. He recently overseeded the fairways with new and improved varieties that are hardier than previously grown. He used Abbey Victa and Coventry varieties from Scotts.

Fertilizing with organic fertilizers, such as Milorganite, helps maintain the health of the turf, without creating nutrient buildup in the surrounding ecosystem. Davies applies fertilizer so it will be absorbed before a heavy rain and when the plants will use it most efficiently. He uses biostimulants, like liquefied seaweed extract, to increase the microbial activity which, he believes, also helps prevent disease. He's also experimented with shots of micronutrient products mixed with a wetting agent.

If the wilderness setting isn't challenge enough, Davies knows how wet and cold northern Minnesota can get. Davies' crew spends many spring days snowblowing greens. They hand shovel

The Poplar River crosses the fairways on the 2nd and 4th holes.

Superintendent Mike Davies deals with natural nuisances in all sizes, from large moose and bears to the minute dollar spot, on his course in northern Minnesota.

when they get close to turfgrass, sometimes after the course is open the second weekend in May, when sportsmen fill local resorts for the start of sport fishing.

Generally Lake Superior keeps the weather wetter and cooler than more inland areas. A fog may roll in off the lake and stay for three days. Occasionally the course is plagued by pink snow mold in the fall because of the increased wetness. Increasing the drainage and cutting the grass

Three inches of ice sat on some of the Superior greens throughout winter.

to keep the dew off helps dry the grass faster to keep this disease in check, but Davies occasionally resorts to spot spraying with Daconil 2787.

The worst weather-related damage Davies has yet encountered revealed itself this past spring as a result of a late-fall ice storm that killed the turfgrass on many of his greens.

"Three inches of ice sat on some of the greens through the winter. If it had been

three degrees cooler we would have gotten two feet of snow instead of the freezing rain and the greens would have been fine," Davies says. Nine greens needed restoration; several requiring complete renovations.

"When confronted with a situation like this from Mother Nature you learn to prioritize," Davies says. The damaged greens were aerated early, verticut heavily and overseeded two and three times. Davies purchased some 6-mil poly green covers to boost soil temperatures and encourage faster growth. The last green finally came in on the fourth of July weekend.

Go lightly for turf care

Davies believes in using the lightest equipment possible and walk-mowing the greens to avoid stress on the grass. His Airway unit proved invaluable this year due to the heavy use in renovating the greens. This unit doesn't core the area, but rather penetrates the green with a shatter tine and gets the air and water exchange to the roots without disrupting the surface.

Having a great mechanic is essential to successfully maintaining a course, says Davies. He adds that his maintenance man keeps the equipment in top form and always sharpened, so grass is cut cleanly rather than broken. Employees walk mow all the greens, rather than using the triplex mower—at least until early fall, when he loses five or six of his staff of eleven as they return to college and high school. □





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- Bruce Burchfield
Fox Run Golf Club
St. Louis, Missouri



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- Wayne Mills
Valencia Country Club
Valencia, California



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WEEK 1



WEEK 2



WEEK 3



WEEK 7



WEEK 8



WEEK 9

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golf courses around the country. Now, more and more superintendents are discovering that Daconil Ultrex fungicide, with its exclusive Super

Thanks to their unmatched sticking and staying power, Daconil® fungicides have long demonstrated superior broad spectrum disease control at

Weather Stik™ formulation, sticks and stays so well, you can use it at much lower rates* on a regular 7 to 10 day, preventative schedule for even better results.

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WEEK 4



WEEK 5



WEEK 6



WEEK 10



WEEK 11



WEEK 12

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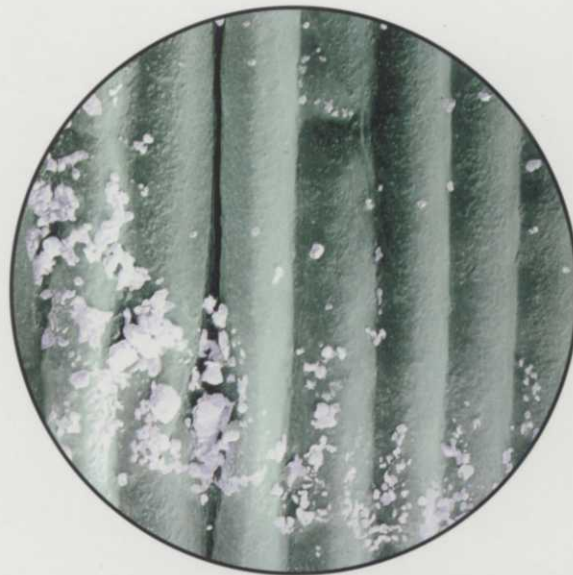
Just ask your distributor for all the details. And if you're still not convinced, ask to take the Daconil Challenge, and get enough free product to try this program on a green, tee, or fairway for an entire season. Daconil Ultrax reduced rate spraying. It could put you on a better course than ever before.





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*For best results, we recommend using 20% lower application rates on a 7-10 day schedule. Section 12(a)(2)(G) of FIFRA provides that it is unlawful for any person "to use any registered pesticide in a manner inconsistent with its labeling"; quoted language is defined in section 2(ee) of FIFRA and expressly excludes the act of "applying a pesticide at any dosage, concentration, or frequency less than that specified on the labeling unless the labeling specifically prohibits deviation from the specified dosage, concentration, or frequency." Thus, in the absence of specific label prohibitions, it is not unlawful under section 12(a)(2)(G) to use a registered pesticide at a dosage, concentration, or frequency less than that specified on the labeling of the pesticide.

User must have label in possession when applying these rates.

†For a copy of our Daconil Ultrex Super Weather Stik Guarantee, write to Daconil Ultrex Guarantee, ISK Biosciences Corporation, Turf & Specialty Products, 1523 Johnson Ferry Rd., Suite 250, Marietta, Georgia 30062

†† Micrographs have been colorized for demonstration purposes.

ASGCA goes global

Golf course architects now practice their art in hundreds of countries.

By PAUL FULLMER, ASGCA

During the '60s, television was bringing golf into the homes of millions and one golf course architect—Robert Trent Jones—was making headlines around the country with his dramatic new courses.

The growth of the American Society of Golf Course Architects in the past 35 years mirrors the interest in and progress of the profession of golf course architecture:

Larry Packard became active in the Society in the late '60s. He recognized the need for a permanent organization, and for a



Foundation that would address subjects that effect the development of golf courses. In 1970 I became the first Executive Secretary of the Society and set up operations in Chicago.

Youngsters energize

Early on most members of the Society were senior practitioners, but gradually members brought in their sons, associates or recognized competitors, and this "young blood" (Bobby and Rees Jones, Ed Seay, Bob Graves and Bill Amick) helped transform the Society. In 1977 President Seay invited the heads of other golf associations to the ASGCA annual meeting, which was the nucleus for the formation of the Allied Associations of Golf.

Landfills to landscapes

The Society took an early interest in golf's environmental side, with Phil Wogan, a graduate biologist and long-time ASGCA member, developing a White Paper on the subject in 1972. This led to additional Professional Development sessions and a variety of articles on how environmentally sensitive sites, such as landfills and abandoned mines, could be reclaimed as productive and visually-appealing golf

ASGCA pioneers meet for the 50th Anniversary in Toronto. Larry Packard (second row, right), established the headquarters office during his presidency in 1970-71. Geoff Cornish, (fifth row, right), also a Fellow and former president, received the Donald Ross Award from the Society in 1982.

courses. Some 100 golf courses have been designed and built on "impossible" sites.

Bill Love, chairman of the Environmental Affairs Committee, authored the industry's first in-depth environmental analysis in 1992, *An Environmental Approach to Golf Course Development*. Along with former ASGCA presidents Don Knott and Mike Hurdzan, Love was a major player within the Allied Associations of Golf in the 1996 development of the *Environmental Principles for Golf Courses in the United States*.


Today, the American Society of Golf Course Architects has 130 members.

—Paul Fullmer has been executive secretary of the American Society of Golf Course Architects since 1970. He graciously wrote this article for LM's Anniversary Issue. We were unable to include it in that issue due to space considerations. -ed.



ASGCA meets at the Biltmore Hotel in Clearwater Fla., 1963. New president Bill Lanford (seated) joined by (first row, from left) Jim Harrison; Red Lawrence; Floyd Farley and C.E. "Robbie" Robinson. Second row, from left, outgoing President Ralph Plummer; Robert Trent Jones; Billy Bell; Bill Neff; Perry Maxwell; Mark Mahannah. Back row, Fred Garbin and Dave Gordon. Jones was a founding member. Farley, Neff, Garbin and Gordon are still ASGCA members.






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Circle No. 103 on Reader Inquiry Card

Elevation, climate are control challenges

A 200-foot drop and cool, moist air from the Hudson River means equipment at Ardsley is kept in low gear, and disease activity is monitored twice a week.

Golfers who play the Ardsley CC in suburban New York are treated to spectacular views of the cliffs of the New Jersey Palisades across the Hudson River.

"Elevation drops 190 feet from our first tee to the third and fourth holes," says Superintendent George W. Pierpoint III. "It requires a lot of hand work. We rake all bunkers by hand, and we use walking greens mowers. Getting equipment up and down the slopes is

a real challenge. We're in such a residential area that our working hours are extremely limited. Because of the noise ordinance, we can't do anything at night or before 7 a.m."

Changes to bunkers, mounds

Ardsley was built in 1895. In 1989 architect Marvin Armstrong designed a bunker and mounding renovation plan, which Pierpoint's crew follows closely. Many greens have been redesigned to modified USGA standards.

Drainage is a problem, par-



George Pierpoint, III, right and son George IV, himself a golf course superintendent.

ticularly on the back nine, which were built on rocky land.

"We are constantly installing drainage somewhere," says Pierpoint. "We use ADS perforated drainage with three-, four- and six-inch pipes and ADS catch basins."

Poor drainage often leads to disease problems in the lower

areas of fairways. Pythium strikes first in pockets of the 16th and 17th tees, which lie at the base of a hill. Pierpoint uses these spots as barometers for monitoring disease pressure. He uses Banal fungicide as a curative and for prevention.

The third green is sensitive to brown patch, which is not as devastating as Pythium, but nonetheless looks bad.

"It has three stages," observes Pierpoint. "You see it coming; then you treat it; and all of a sudden, it's recovered. Based on the weather, we usually spray ProStar in mid-June to early July."

Nutrition for 'microclimate'

"In general, we use a yearly rate of 4-5 lb. N/1000 sq. ft. on greens; 6 lb. N on tees; 3 lb. N on fairways and 2 lb. N on roughs, spread over several applications," says Pierpoint. **LM**



Views from high up at Ardsley can be beautiful, but the elevation is tricky for equipment maneuvers.

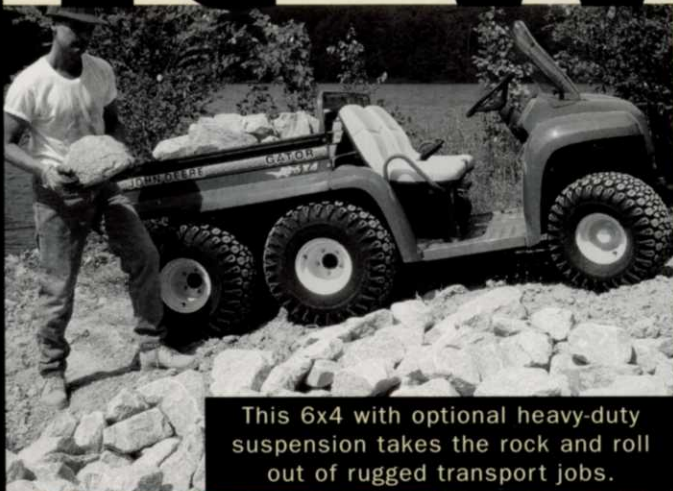
The Concept
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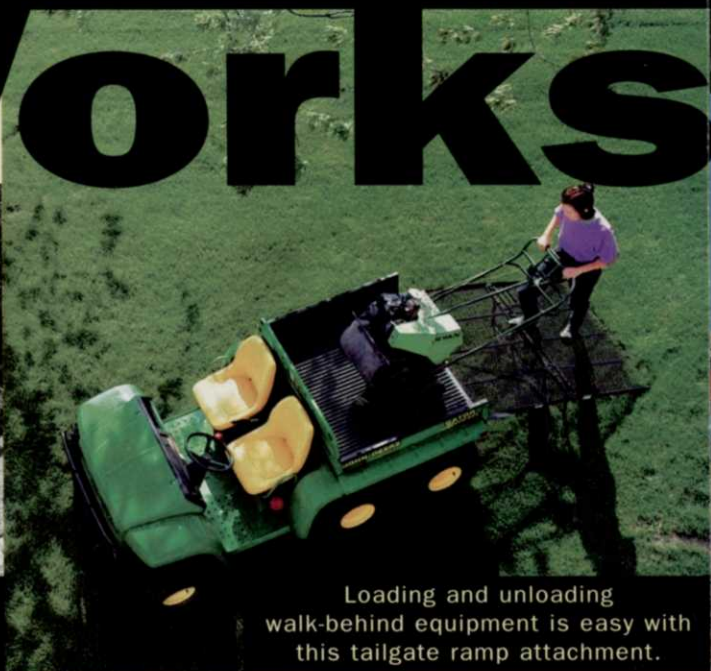
Is
Simple



It Works



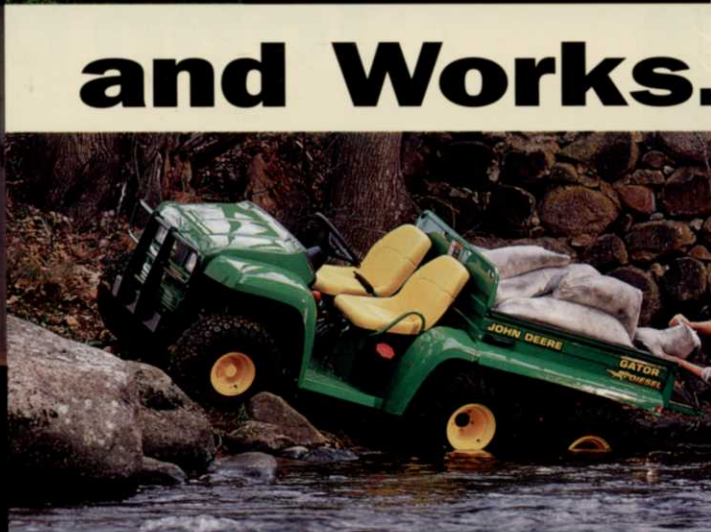
This 6x4 with optional heavy-duty suspension takes the rock and roll out of rugged transport jobs.



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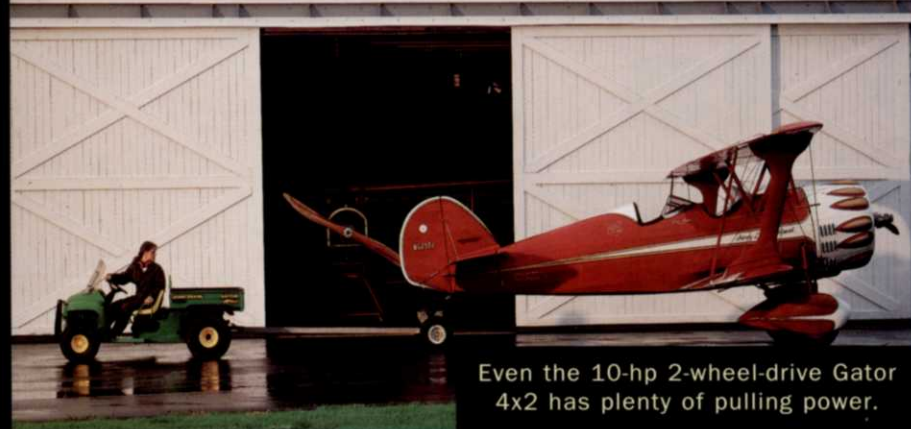
The LP Gas kit on the 4x2 helps take care of in-plant maintenance.



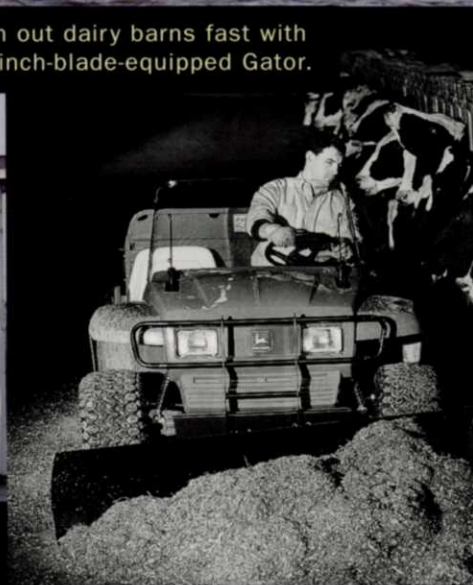
and Works.

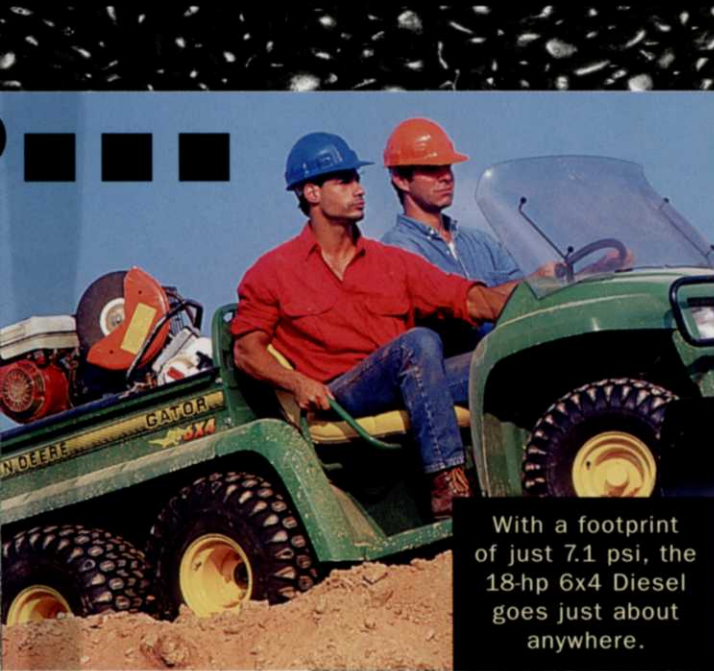


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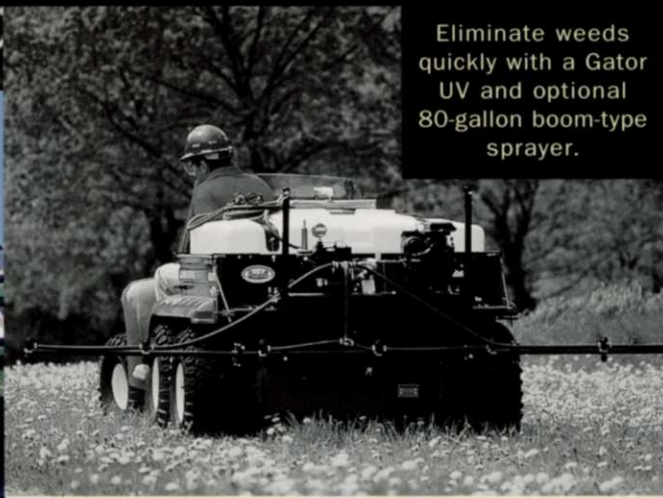


Even the 10-hp 2-wheel-drive Gator 4x2 has plenty of pulling power.



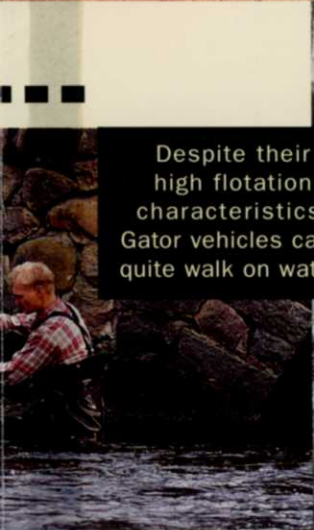


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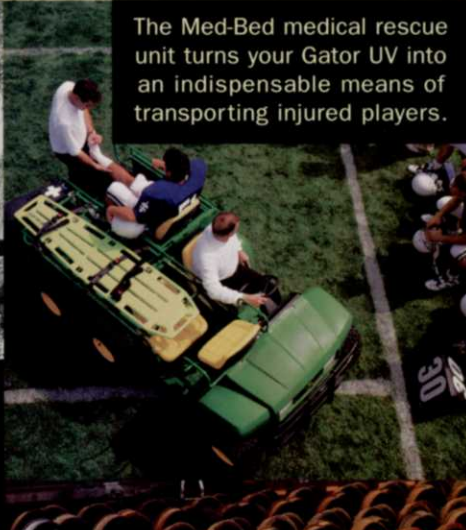
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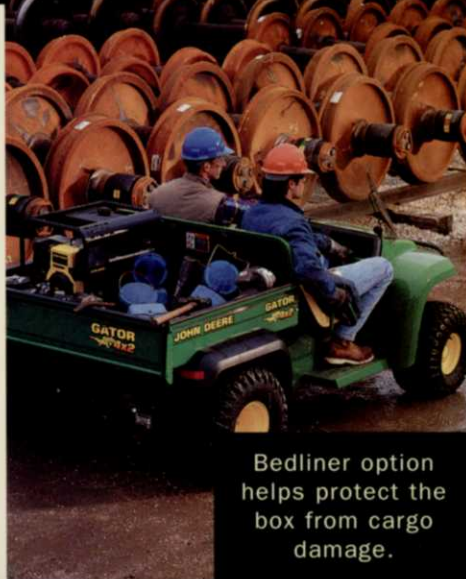
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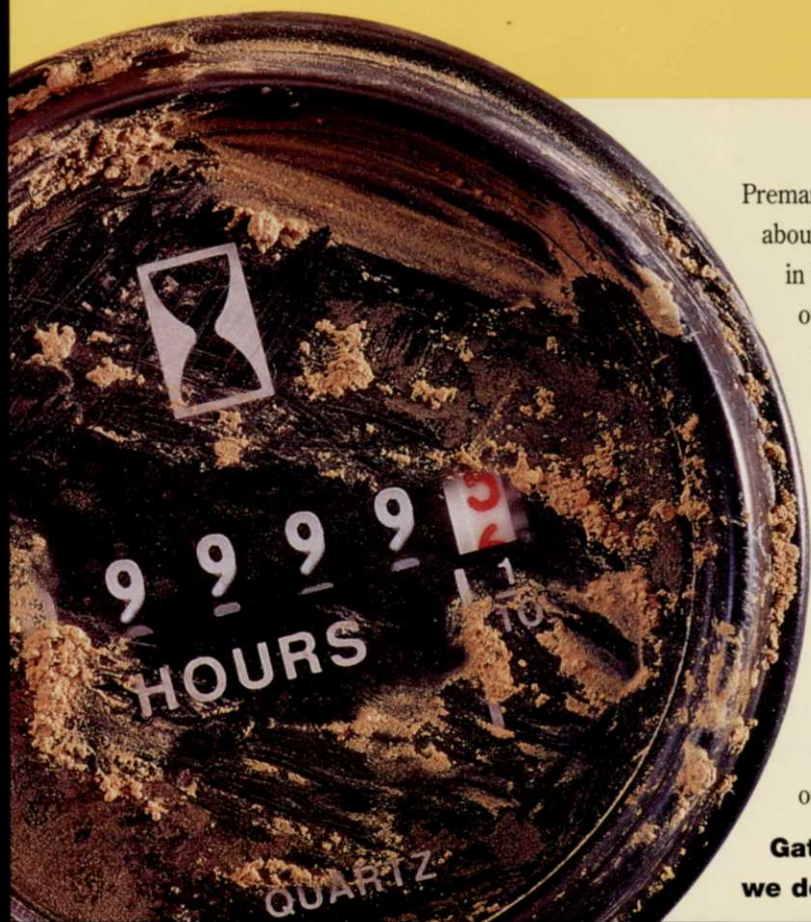
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The insertion of specific genes into turfgrasses and landscape plants is in our immediate future. These genes will provide these plants with specific characteristics.

In fact, researchers at Rutgers University have genetically engineered an herbicide-resistant bentgrass. It could come to the marketplace within four or five years. Apply Roundup and the weeds die while the turfgrass remains green and healthy.

Genetic engineering will accelerate plant breeding in the green industry, and make it more precise too.

Next will come turfgrasses altered with specific genes that make these grasses resistant to diseases. To insect pests. To be either more heat or cold tolerant. To grow slower. To be more drought tolerant. We have the technology to do this now, said Virgil Meier of The Scotts Company at the recent Ohio Turfgrass Conference. But other considerations must be settled before these grasses are developed.

These include business issues.

For instance, AgrEvo holds the patent for the gene responsible for herbicide resistance in bentgrass. But there must be a mechanism to incorporate the gene into the plant. This mechanism is the gene gun and it's about the size of a bread box. It's used to *shoot*, under high pressure, tiny gold or tungsten particles coated with the desirable gene into the cells of the turfgrass plant.

The Scotts Company has exclusive rights to the gene gun for all turfgrasses, said Meier. Several other companies possess technologies also needed to develop turfgrasses in this fashion. All parties must come to a working agreement before genetically engineered turfgrasses are developed.

Then, of course, it takes several years to test the grasses for the desirable characteristics, and

Gene science will change turf breeding



Ron Hall

RON HALL
Managing Editor

[LANDSCAPE/GROUNDS]

PAGE 8 L ▶

Backyard oasis business blooms

PAGE 10 L ▶

One company, many services

PAGE 14 L ▶

Put trees, shrubs where they thrive

PAGE 16 L ▶

Expanding landscape's boundaries

several more to produce enough seed for commercial production.

It may be 10 years before genetically-altered turfgrasses or ornamentals start appearing in the marketplace in any numbers. But it looks like they will come.

[PEOPLE & PROJECTS]

You're happy at Dennis's

The Daily Journal of Commerce has rated **Dennis's Seven Dees Landscaping, Inc.**, as the fifth best company to work for with 50 employees or more in Oregon and southwest Washington. Criteria included salaries, benefits, training, workplace culture, morale boosters and social responsibility. Dennis's placed as one of the LANDSCAPE MANAGEMENT "LM 100" last September.

Advanstar managers win

Tom Sprague and **Kevin Icke**, lead and assistant grounds managers for LANDSCAPE MANAGEMENT owner Advanstar Communications, won the "Golden Spade Award" from the Middleburg Heights, Ohio Chamber of Commerce. The award goes to a business that adds visual enhancement to the community. "The grounds of this business are strikingly pleasing to view, both architecturally and horticulturally," wrote reporter Judy Schumacher.

CALLBACK

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2 YARDS.**

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LOSE A TURN.**

**YOU START
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DRAW A CARD.**

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REFERRAL.
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CALLBACK

**MOWERS RUI
A TREATMENT.
GO BACK 1 YARD.**

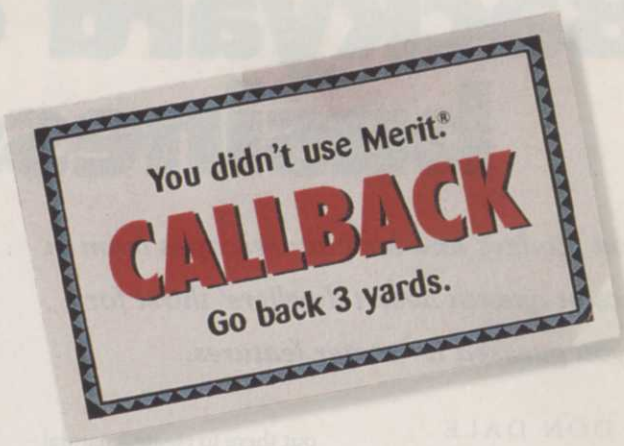
CALLBACK

**GRUBS!
LOSE YOUR
TURN.**

YARD CARD

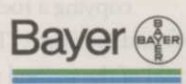
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Circle No. 105 on Reader Inquiry Card

Backyard oasis business blooms

Scott Hodges and his Naturescapes team in Tucson quench desert dwellers' thirst for—you guessed it—water features.

By DON DALE

Scott Hodges is the president and founder of Naturescapes, Inc. of Tucson, AZ. The company produces artificial features for landscapes, and it's doing a booming business.

The nine employees of Naturescapes manufacture and install natural-looking features, and often have a five-week backlog of work. They produce components that can stand alone or can be combined into features such as ponds and waterfalls. They work mainly on residential sites.

"There's a definite desire

out there to create a natural oasis in a natural setting in a back yard," says Hodges, who focuses on Tucson but has produced features for landscapes in several southwestern states.

Naturescapes generally contracts for an entire residential landscaping job, subcontracting the plants and other aspects to other companies. Hodges and an employee do most of the designs.

"We're licensed to do landscaping, but we're too busy doing hardscaping," says Hodges, who was a masonry contractor before he got into manmade rocks. "What brought me into this was my love of creating spectacular features."

So how does he create his artificial features? It's done with special cements that are poured into hand-made molds.

The first step is to design a feature, often by copying a rock or

boulder found in nature. Then a field mold of the natural rock feature is made.

A final mold, more sturdy



Prices on standard artificial features range from \$1,600 to \$14,000.

than the field mold, is made by duplicating the field mold. Then a cast is made of the feature using a special blend of cements. That blend is proprietary and essential to creating a strong, permanent, waterproof feature that can be handled and utilized around pools and patios.

"If it's a sizeable feature we would do that on-site," Hodges says. The walls of the features are an inch thick or less, though the base of a large feature may be thicker to support weight, and special fibers are used as reinforcement. "It's an incredible psi rating."

The components are colored using an acrylic stain and assembled with other components to create larger features. They are bonded together with the same cements they are made with.

Hodges casts Schedule 40 PVC fittings right into the cement so that plumbing can be

utilized in the features. He uses PVC flex line to plumb waterfalls and fountains.

Naturescapes currently has 14 standard features on display at his Tucson office, all attractively shown also in sample books. It has over 140 different component molds that are used to cast "rocks" that will be used in those features.

The company can also go out and copy a favorite rock in nature for a customer, though prices may be high for that kind of individualized project.

Prices on his standard features are reasonable enough to appeal to the ordinary homeowner, ranging from \$1,600 to \$14,000. Most jobs are in the middle range, though the company has done some commercial jobs.

Writer Don Dale is based in Guadalupe, Calif.



Scott Hodges works mostly in Tucson but has produced features for landscapes in several southwestern states.

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The full-service approach worked for the DiSanto Companies when a \$4.1 billion Cleveland-based corporation built beautiful new headquarters

By RON HALL/ Managing Editor

Offering clients "one-stop shopping" builds customer satisfaction, believes the DiSanto Companies, a Cleveland-area landscape company.

The 38-year-old firm got an opportunity to demonstrate just that this past summer as it installed the landscape at the new world headquarters of the Parker Hannifin Corporation.

The landscape company's biggest challenge? A killer deadline, made even tighter by unfavorable weather.

It's biggest opportunity? Shining on the

many services

installation and earning a long-term maintenance contract.

The DiSanto Companies was started in 1959 by brothers George and the late Denis DiSanto. They learned a lot about landscaping from their father who had been an estate gardener. Employing about 35 people in season, The DiSanto Companies continues to maintain quite a bit of residential work, most of it in Cleveland's most affluent neighborhoods. But it's also building its commercial clientele.

Parker Hannifin is a \$4.1 billion manufacturer of motion-control components and systems used in industry and aerospace. For 62 years its home was a four-story building in Cleveland. In March 1996 it broke ground at its new location on a 32-acre site in neighboring Mayfield Heights, Ohio.

The 208,000-foot building and its surrounding landscape had to be ready by summer's end. Parker Hannifin had planned a week of open house celebrations and press

conferences to showcase its new headquarters—and, particularly, its growing stature as an international systems producer.

Local contractors, including the DiSanto Companies, pushed themselves to make sure that the headquarters were, in fact, ready.

Tree care, weather challenges

Site planning, and some other important decisions, were made before the DiSanto Companies earned the landscape

Books on service

A Complaint is a Gift, by Janelle Barlow & Claus Møller; Berrett-Koehler Publishers, 1996.

Positively Outrageous Service, by Scott T. Gross; Warner Books (1991).

Service Breakthroughs: Changing the Rules of the Game, by James L. Heskett; The Free Press (1990).

◀ **The Parker Hannifin headquarters. With a three year contract, The DiSanto Companies can commit to specialized equipment or materials for the property.**

▶ **Tim Korte: client knew benefits of functional and attractive landscaping.**



construction contract. For instance, landscape architect Knight & Stolar, Inc, and Parker Hannifin had already decided to save and relocate 36 mature trees at the site.

The property contained a nice selection of hardwoods, mostly oaks and maples. They had been planted decades ago to define fairways. The site had been a golf course before being developed into the Landerhaven Corporate Center.

"They went to extraordinary lengths to protect these trees from construction," says Tim Korte, vice president of operations of the DiSanto Companies. His company planted another 130 new trees on the site.

"The biggest challenge for us turned out to be the weather, starting with a wet spring," explains Korte. "Construction was behind because of the weather. (Workers moved 75,000 cubic yards of earth.) Then when it turned dry in the summer we had to establish what amounted to 13 acres of turfgrass at once." He chose turf-type tall fescue since some of the turfgrass areas weren't going to be irrigated.

As construction progressed through the summer, Korte felt that Parker Hannifin's appreciation of the value of a functional and attractive landscape grew.

"Even though people are driving by these commercial sites at 35 mph, we're discovering that clients are becoming more particular about every square inch of their properties," says Korte. Curb appeal (image) remains vital, but employers are finding that appropriate landscaping builds employee morale too. More and more workers at these corporate locations are using the grounds to relax during lunch, or to walk or jog.

"They're even starting to develop areas, maybe at the back of their properties, that four or five years ago they would have said, 'don't worry about it. We're not going back there,'" says Korte.

While the DiSanto Companies had earned the installation contract, that was no guarantee that it could land the maintenance contract too. DiSanto had to bid the project just like everybody else. And the company realized that it couldn't—nor did it want to be—the low bidder.

"Mature clients know what it costs to bid, and they know what services cost," says Korte. "They also know that they don't have the personnel to do the maintenance themselves."

Service mix a winning edge

Korte believes that Parker Hannifin chose the DiSanto Companies as their maintenance company, in part at least, because it could provide so many different services.

"They've asked us to be involved with everything outside, including the parking lot," says Korte. "Our company does a lot more work than the number of our employees would suggest. We concentrate most of our efforts on what we can do best, and we have excellent subcontractors who can do the rest."

He says the client benefits greatly because the installer is still on-premises, and can make any additions or improvements to the landscape as the client's budget allows.

The landscape company benefits from a three-year contract because it can commit to specialized equipment or materials for the property.

The business trend is definitely toward landscape companies that can provide many different services to the same client.

"You have to be ready to move on what each customer wants or that customer will look for someone else," says Korte. "There are a lot of companies that are willing to provide a lot of services, and we're one of them."

CUSTOMER SATISFACTION TIPS

Rick Kier, president of ProScapes, Jamesville, NY:

▶ "Offer only those services you are prepared to perform correctly, efficiently and profitably. This may change from day to day, depending on the capacity and availability of your current resources, including management and crew time, material and equipment."

▶ "If your scheduled routes are filled to capacity, and you sell a big job without the ability to expand your resources, you are guaranteeing customer dissatisfaction."

Howard Freilich, CEO, Blondie's Treehouse, Inc., Larchmont, NY:

▶ "The customer is always right, because if it were not for them, we wouldn't be here. I believe longevity of service is the best measure of whether or not we are offering good customer service."

Richard Ackerman, president, Northwest Landscape Industries, Portland, Ore.:

▶ "A company can deliver the absolute best quality landscape, but if you don't maintain exceptional customer service, you'll probably lose the business."



David Harris, president, Liqui-Green Lawn Care, Bloomington, Illinois.:

▶ "It starts in the way we present and perform our service. If delivery is good, it takes away the variable that promotes dissatisfaction. It is essential to find the best employees you can with positive attitudes. Get the job done right the first time."





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Group trees & shrubs by plant needs

The most striking combination of plants will not succeed if their environmental needs are dissimilar.

By LORI MAKRUSKI



Makruski: symmetrical balance for 'mirror images'.

Most plants require fairly specific growing conditions such as shade or sun, wet or dry feet and acidic or alkaline soil.

Oak Leaf hydrangea (*Hydrangea quercifolia*); PJM Rhododendrons, and all varieties of Azaleas are examples of plants that will thrive together if placed in acidic soil, with a semi-shaded, protected exposure.

Contrasting attributes

People are attracted to certain plants because of their characteristics: color, texture, form, habit, size or attractive fruit; foliage or flowers. Interesting combinations are formed by pairing different plant characteristics. For example, an evergreen shrub such as *Juniperus chinensis* 'Hetzl Glauca' with its upright spreading form and light blue-green awl-shaped leaves and a small- to medium-sized tree with interesting bark in the foreground, such as the

Paperbark Maple (*Acer griseum*) is a stunning combination in the landscape.

Achieve balance

Creating harmonious proportions, whether in contrast with each other or with their surroundings, is important when selecting plant partners.

Symmetrical balance creates mirror images in the landscape and often is used in formal settings.

Asymmetrical balance combines plant material of unequal size, shape, color and texture, and is used when an informal or natural look is desired.

A grouping of the old-fashioned Saucer Magnolia (*Magnolia x soulangiana*) in the corner of a sunny, backyard border, with a mixture of spring and summer-flowering shrubs, and a tall, evergreen *Picea abies* 'Pendula' (Weeping Norway Spruce) is an example of a natural, yet balanced border.

Prolong seasonal interest

Most plants stand out in the landscape for a limited time during the year.

By selecting and combining trees and shrubs whose outstanding characteristics occur in different seasons, we extend the landscape's appearance year 'round. In a semi-shaded area, a striking plant combination is achieved by grouping the tall-

growing, finely-textured, evergreen Canadian Hemlock (*Tsuga canadensis*) with the spreading, dense summer-flowering shrub, Bottle Brush Buckeye (*Aesculus parviflora*). Add spring flowering deciduous trees such as the Eastern Redbud (*Cercis canadensis*) and a fall fruit-bearing shrub, for instance Chokeberry (*Aronia arbutifolia* 'Brilliantissima') for brilliant red fall foliage and persistent red fruits.

The author manages the Landscape Management Division of Urban Environments, Inc., Columbus, Ohio.

TREES THAT TOLERATE WET SOILS

Species	Height	Wildlife value
<i>Acer rubrum</i> (red maple)	120'	Good summer cover for birds; mammals eat seeds, flowers, buds.
<i>Alnus</i> spp. (alder)	45-75'	Excellent cover and nest sites; goldfinches; siskins, redpolls love the seeds; persists into winter.
<i>Ilex</i> spp. (holly)	24-70'	Excellent cover; fruits are favored by many birds. flowers attract bees.
<i>Nyssa sylvatica</i> (black tupelo)	90'	Wood duck, wild turkey, robin, pileated woodpecker, mockingbird, brown thrasher, thrushes, flicker eat dark blue fruit in fall.
<i>Salix</i> spp. (willow)	35-50'	Good nest site; butterflies and bees use nectar; buds eaten by pine grosbeak, rabbits, squirrels, grouse.

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EXPANDING landscape's boundaries in Florida

By RON HALL/ Managing Editor

Valley Crest is expanding the traditional view of landscape contracting. The "contracting" part gets bigger and bigger.

"Landscaping now is, maybe, 50 percent of our business," says Charles Parker, operations manager of the Valley Crest location in Orlando. "Concrete and related site work make up the balance."

Valley Crest is the nation's largest landscape and site construction company. Orlando is one of nine company locations in the United States. The central Florida operation is coming off of a \$30 million year. But everything seems to be getting bigger in central Florida in the 1990s.

Orlando, of course, is home to mega-at-



tractions like Disney World, Universal Studios, and Sea World. All are beautifully and massively landscaped. They're presence has dramatically changed the local landscape industry. Both its scope and its quality.

Valley Crest is among a handful of central Florida companies capable of delivering the "big" landscape project. This, at first view, is remarkable since Valley Crest has competed in central Florida only since about 1992. It entered that market by purchasing Oyler Construction. (Tom Oyler remains part of the overall operation with sister company U.S. Lawns.)

Parker began managing the Orlando lo-

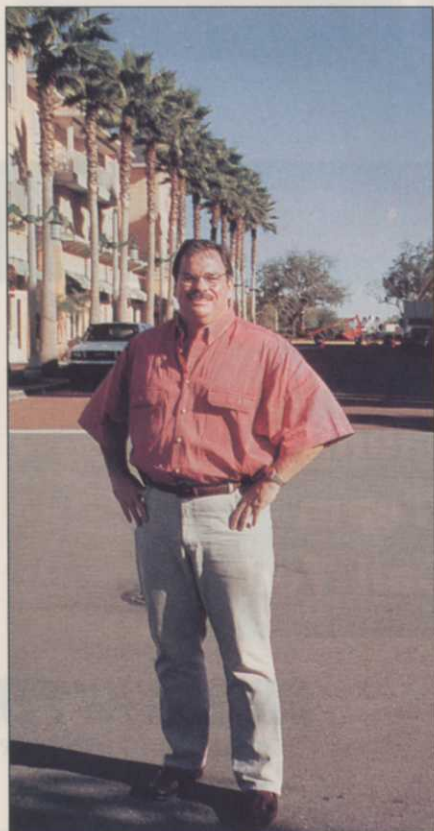
Charles Parker, operations manager for Valley Crest in Orlando, says he sometimes feels 'like a kid in a candy store'.

Valley Crest has the personnel to tackle tough jobs like this themed concrete work at a hotel at Walt Disney World.

cation about four years ago. He credits much of the Orlando site's rapid growth to the vision of Valley Crest President Richard Sperber, and the experience and support of the parent company headquartered in Calabasas, Calif.

"We have a \$300 million company backing us with a vision that is wide open," says Parker. "I sometimes feel like a kid in a candy store. Where else can we do the kind of work we're doing and have this kind of support?"

The projects that Orlando's Valley Crest location have completed in a few short years is, by any measure, impressive:



► providing the site work and landscaping, including irrigation, for the Wilderness Lodge and Coronado Springs hotels at Disney World.

► completing about \$10 million in projects in Disney's new Celebration City in Kissimmee, FL, including installing streets, parks, the Town Center and much of the lakeside entertainment area.

► And now Valley Crest is working hand-in-hand with Disney to transform 800 acres of raw land on the Disney World property into Animal Kingdom, the resort's fourth major theme park. Valley Crest, in addition to installing a bewildering variety and number of plants, is doing the themed concrete and other hardscaping.

Parker says he has more than 100 pieces of equipment and about 160 people at the Disney site. They work out of a fourplex office. When they're done with their part of the "Africa" section of Animal Kingdom, they begin the "Asia" section. Disney's Animal Kingdom will have four separate themed areas when it's completed.

"We have an agreement with them (Disney) to maintain everything that we

Valley Crest installed this landscape at the Coronado Springs Hotel at the Walt Disney Resort near Orlando, Fla.

plant until the end of our project, then they will maintain it. They have great expertise," says Parker.

Parker thinks Valley Crest's diversification gives clients the advantage of working with a single contractor. This makes the contractor more accessible, and more accountable. From the contractor's standpoint, it provides several advantages, including more control of a project.

"What often hurts a landscape contractor the most is scheduling. Maybe the irrigation contractor doesn't do his job just right, and the landscaper ends up hitting a pipe," says Parker. "Or the electrical contractor comes in after the landscaper is done and tears up some of his work. The lonely landscaper can be doing his work again and again, and not be getting paid for it.

"We've diversified to handle more and more of that exterior work so that we can control, as much as we can, our own des-



tiny until the project is complete," he says.

While Parker isn't expecting the Orlando landscape construction market to remain as hot as it is now, he's confident that Valley Crest has established itself and will continue to expand in the Florida marketplace.

Speedway a test of time, material

Valley Crest landscape and site construction company had a race with the clock this year as it worked to complete the landscaping for the California Speedway in less than 150 days.

The Speedway is located in Fontana, Calif., on near-desert land that was previously the site of the Kaiser Steel mill yard. Valley Crest worked hard to bring in turf, trees and ornamental plants to give sparkle to the Speedway oasis.

The Valley Crest people were used to the short timetable. It had to resod the Atlanta Olympic Stadium in 36 hours after the opening ceremonies tore up the turf.

Valley Crest used 150 landscape personnel, divided into round the clock crews. Leading the way were Operations Manager Dick Bruttig and Regional Vice President Chuck de Garmo. Bruttig is now

branch manager of Valley Crest's Los Angeles office.

Sixty-five pieces of heavy equipment and more than 30 vehicles were used on the job.

Material acquisition challenge

The infield was sodded with enough dwarf tall fescue to cover more than 190 football fields. A total of 7.8 million sq. ft. of turf was used for the site.

Entrances and roadways throughout the facility were lined with 345, 30-foot Palm Trees and miles of Waxy Privet Ligustrum hedges. The flower beds were planted with *photinias* and blooming yellow and red day lilies, and more than 29,000 shrubs. Valley Crest installed more than 1000 trees and 430,000 sq. ft. of ground covers.

The project demanded an extraordinary irrigation system, and again, Valley Crest was up to the task, as it pulled 280 miles of irrigation wire. Seventy-five miles of irrigation pipe was installed.

The irrigation is a 600-hp system, which can produce 2000 gallons of water each minute. The system uses an initial 300 hp pump to push water up from a 900-ft. deep well located 1.5 miles away.

The water travels through a 16-inch casing to a 600,000 gallon underground reservoir located at the base of an old Kaiser Steel tower at the center of the raceway. From there, four 75-hp variable-speed pumps energize the system, to distribute the water through 14,000 sprinkler heads.

At the center of it all is the race track, a 2-mile, 14-degree oval. Aggregate for the track surface was brought in from Michigan. More than 300,000 tons of asphalt were poured at the track.

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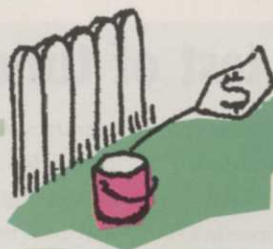
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GIE show serves 5000

More than 5000 lawn care industry and landscape management professionals attended the 1997 Green Industry Expo held in Charlotte, NC, Nov. 15-18.

GIE reports the trade show was sold out and says the outdoor equipment demonstration was the largest yet.

The Green Industry Expo is a joint trade show effort engineered by the Professional Lawn Care Association of America (PLCAA); the Associated Landscape Contractors of America (ALCA); and the Professional Grounds Management Society (PGMS).

Other numbers: 70,700 net sq. ft. of available exhibit space was used, which is the largest exhibit floor ever for the GIE, and exceeds the previous record by 10 percent. A total of 287 companies exhibited, the second highest number of exhibitors.

"We had an excellent turnout at the conferences, trade show and Demo," reports Trade Show Manager Eleanor Ellison. "From start to finish we had a great program for exhibitors and attendees.

Next year's GIE is scheduled to be held in Nashville, TN, Nov. 14-17. Interested exhibitors should contract early for show space, suggests GIE. Contact Ellison at (770) 973-2019. For information on the conference, contact the sponsoring associations at the following numbers: PGMS at (800) 60-7467; ALCA at (800) 395-2522; PLCAA at (800) 458-3466.

PGMS elects officers, directors

In conjunction with its 86th Anniversary Annual Conference, held at the GIE show in Charlotte, NC, Nov. 15-18, the Professional Grounds Management Society elected its new officers, a regional director and at-large directors for three-year terms.

The new PGMS officers are:

President: Tom Riccardi, Goodyear Tire & Rubber Co., Akron, Ohio.

1st Vice president: Randall Willis, CGM, NW Missouri State University, Maryville, Mo.

2nd Vice president: Kevin O'Donnell, Villanova University, Villanova, Pa.

Treasurer: George Van Haasteren, CGM, Columbia University, New York, NY.

Past President: Steve Wharton, CGM, Minot Park District, Minot, ND.

SW Regional Director: Thomas Dew, Texas A&M University, Bryan-College Station, Texas.

Director-at-large: Christopher Fay, University of North Carolina, Greensboro, NC.

Others serving on the PGMS board of directors:

George Gaumer, The Davey Tree Expert Co., Kent, Ohio; George Meeks, CGM, Service Master, Inc., Houston, TX; Edwin Fenwick, Ned's Landscaping, Boulder, Colo.; Matthew Vehr, Spring Grove Cemetery & Arboretum, Cincinnati, OH.

TCNC wins PLCAA award

The Turfgrass Council of North Carolina, Southern Pines, NC, was named the Allied Regional Association of the year by the Professional Lawn Care Association of America.

PLCAA board member and TCNC President-elect, Sam Lang, accepted the award on behalf of TCNC at PLCAA's Annual Conference and Green Industry Expo in Charlotte, NC.

Vander Kooi rattles cages at seminar

Green Industry speaker/consultant Charles Vander Kooi was in top form during his two day seminar at the Green Industry Expo in Charlotte this past November.

Never one to pull a punch when he spots major business errors committed by his peers, Vander Kooi outlined numerous ways employers mistreat their employees and run their companies into the ground.

Is money a motivator? No! insists Vander Kooi.

"Money as a motivator is at the bottom of the barrel, in the list of things that build loyalty and esprit de corps," says Vander Kooi, of Littleton, CO.

"The number one human need among the people who work around you and for you, is to know that they are specially gifted people. And when they use those gifts and talents, someone notices it, and recognizes it for a job well done.

"Too many of us hand out money without the power of the recognition that goes with it," states the consultant, who lectures around the world on this and related business management topics.

Vander Kooi suggests: each week, write a note of appreciation to someone who plays a part in the employee's daily life, such as his or her spouse, child, client or supplier. Tell that person what an asset the employee is to the company, and how great it is to have his or her gifts and talents at work in your company.



Vander Kooi: money ain't the motivator.

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- 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
- Other (please specify) _____

- 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
- Other (please specify) _____

- 22 355 Extension Agents/Consultants for Horticulture
- 23 360 Sod Growers/Turf Seed Growers/Nurseries
- 24 365 Dealers/Distributors/Formulators/Brokers
- 25 370 Manufacturers
- Other (please specify) _____

2. Which of the following best describes your title? (fill in ONE only)

- 26 10 Executive/Administrator- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
- 27 20 Manager/Superintendent- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
- 28 30 Government Official- Government Commissioner, Agent, Other Government Official
- 29 40 Specialist- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
- 30 50 Other Titled and Non-Titled Personnel (please specify) _____

3. Is your golf course:

- 31 A Public 32 B Semi Private 33 C Private 34 D Hotel/Resort 35 E Municipal

4. If you work for a golf course, how many holes are on your grounds?

- 36 1 9 37 2 18 38 3 27 39 4 36+

5. How many acres are maintained at your facility? _____

6. SERVICES PERFORMED (fill in ALL that apply)

- 40 A Mowing 45 F Turf Fertilization 50 K Paving, Deck & Patio Installation
- 41 B Turf Insect Control 46 G Turf Disease Control 51 L Pond/Lake Care
- 42 C Tree Care 47 H Ornamental Care 52 M Landscape Installation
- 43 D Turf Aeration 48 I Landscape/Golf Design 53 N Snow Removal
- 44 E Irrigation Services 49 J Turf Weed Control 54 O Other (please specify) _____

7a. Do you specify, purchase or influence the selection of landscape products?

- Yes No

7b. If yes, check which products you buy or specify: (fill in ALL that apply)

- 55 1 Aerators 62 8 Herbicides 69 15 Sweepers
- 56 2 Blowers 63 9 Insecticides 70 16 Tractors
- 57 3 Chain Saws 64 10 Line Trimmers 71 17 Truck Trailers/Attachments
- 58 4 Chipper-Shredders 65 11 Mowers (reef/rotary) 72 18 Trucks
- 59 5 De-icers 66 12 Snow Removal Equipment 73 19 Turfseed
- 60 6 Fertilizers 67 13 Sprayers 74 20 Utility Vehicles
- 61 7 Fungicides 68 14 Spreaders

8. Do you have a modem? Yes No

101	113	125	137	149	161	173	185	197	209	221	233	245	257	269	281	293	305
102	114	126	138	150	162	174	186	198	210	222	234	246	258	270	282	294	306
103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316



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January 1998

This card is void after March 15, 1998

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: _____

Fill in ovals as shown: ●

1. My primary business at this location is: (fill in ONE only)
- 01 250 GOLF COURSES (Also fill in questions #3 & #4)
 - 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
 - Other (please specify) _____
 - 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
 - Other (please specify) _____
 - 22 355 Extension Agents/Consultants for Horticulture
 - 23 360 Sod Growers/Turf Seed Growers/Nurseries
 - 24 365 Dealers/Distributors/Formulators/Brokers
 - 25 370 Manufacturers
 - Other (please specify) _____

2. Which of the following best describes your title? (fill in ONE only)
- 26 10 Executive/Administrator- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
 - 27 20 Manager/Superintendent- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
 - 28 30 Government Official- Government Commissioner, Agent, Other Government Official
 - 29 40 Specialist- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
 - 30 50 Other Titled and Non-Titled Personnel (please specify) _____

3. Is your golf course: 31 A Public 32 B Semi Private 33 C Private 34 D Hotel/Resort 35 E Municipal

4. If you work for a golf course, how many holes are on your grounds?
 36 1 9 37 2 18 38 3 27 39 4 36+

5. How many acres are maintained at your facility? _____

6. SERVICES PERFORMED (fill in ALL that apply)
- 40 A Mowing 45 F Turf Fertilization 50 K Paving, Deck & Patio Installation
 - 41 B Turf Insect Control 46 G Turf Disease Control 51 L Pond/Lake Care
 - 42 C Tree Care 47 H Ornamental Care 52 M Landscape Installation
 - 43 D Turf Aeration 48 I Landscape/Golf Design 53 N Snow Removal
 - 44 E Irrigation Services 49 J Turf Weed Control 54 O Other (please specify) _____

- 7a. Do you specify, purchase or influence the selection of landscape products?
 Yes No

- 7b. If yes, check which products you buy or specify: (fill in ALL that apply)
- 55 1 Aerators 62 8 Herbicides 69 15 Sweepers
 - 56 2 Blowers 63 9 Insecticides 70 16 Tractors
 - 57 3 Chain Saws 64 10 Line Trimmers 71 17 Truck Trailers/Attachments
 - 58 4 Chipper-Shredders 65 11 Mowers (reel/rotary) 72 18 Trucks
 - 59 5 De-icers 66 12 Snow Removal Equipment 73 19 Turfseed
 - 60 6 Fertilizers 67 13 Sprayers 74 20 Utility Vehicles
 - 61 7 Fungicides 68 14 Spreaders

8. Do you have a modem? Yes No

101	113	125	137	149	161	173	185	197	209	221	233	245	257	269	281	293	305
102	114	126	138	150	162	174	186	198	210	222	234	246	258	270	282	294	306
103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
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111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316

Events

JANUARY

12-13: Arkansas Turfgrass Association Conference and Show, Statehouse Convention Center, Little Rock, Ark.; Angie McSwain, 501/664-8048.

12-13: Maryland Turfgrass Conference & Trade Show, Baltimore Convention Center, Baltimore, Md.; Dave Cammarota, 800/899-7645; 410/335-0164.

12-14: Nebraska Turfgrass Conference, Holiday Inn Central, Omaha, Neb.; 402/463-5418; 402/463-5683.

12-16: University of Maryland Advanced Land-

scape IPM Short Course, College Park, Md; Jennifer Lyons-Carter, 301/405-3913.

13-14: Wisconsin Turfgrass & Greenscape Expo '98, Holiday Inn West, Madison, Wisc.; Audra Anderson, 608/845-6536; 608/845-8162.

13-15: Indiana Arborist Association Annual Meeting, Marriott Inn, Indianapolis, Ind.; Harvey Holt, 765/494-3585.

14: Professional Turf & Landscape Conference, Westchester County Center, White Plains, NY;

Carol Mueller, 914/636-2875 (phone & fax).

14: Sacramento Valley Landscape & Nursery Expo, Sacramento Convention Center, Sacramento, CA; Margo Chevront, 916/442-4470; 916/442-4564.

14: South Carolina Contractors' Turf Conference, Sheraton Columbia NW, Columbia, S.C.; 803/790-2798.

14-16: Utah Green Industry Conference and Show, David McKay Center, Orem, Utah; Larry Rupp, 435/797-2255; 435/797-3376.

14-17: ALCA Interior Plantscape Conference and Tropical Plant Industry Exposition,

Embassy Suites Hotel and Fort Lauderdale Convention Center, Fort Lauderdale, Fla.; Elise Lindsey, 703/736-9666; 703/736-9668.

14-18: Sports Turf Managers Association Conference & Expo, Disney's Coronado Springs Resort and Wide World of Sports Complex, Orlando, FL; Steve Trusty, STMA, 712/366-2669; 712/366-9119.

15-17: The Florida Nurserymen and Growers Association's Tropical Plant Industry Exhibition, Greater Ft. Lauderdale/Broward County Convention Center, Ft. Lauderdale, Fla.; Sabrina Wade, 800/375-3642; 407/295-1619.
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Circle No. 110 on Reader Inquiry Card

Bio Turf Gro, makers of 'high-tech' fertilizers for golf courses, is a winner of \$10,000 in the first US WEST New Ventures \$100,000 Seed Money Competition. The competition was established last July to help promising new and growing small businesses in US WEST's 14-state territory. Bio Turf Gro is a two-year-old Idaho firm that develops and markets more than 30 ecologically sound organic liquid and dry granulated plant nutrients for golf courses, and landscaping and turf-related businesses. The company is operated by Mark and Gary Grigg. Gary is a well-known golf course superintendent.

The Scotts Company has reported record net income of \$39.5 million for fiscal 1997, on sales of \$900.8 million. This is a

good rebound from 1996 results, in which the company had a net loss of \$2.5 million on sales of \$751.9 million. All five company business units reported increases in net sales.

Plant Health Care, Inc., holds Tree and Landscape Care Workshops, March 10 and 12, 1998. The March 10 session is held at the Ramada Plaza Hotel Carowinds, Fort Mill, SC. The March 12 event will be held at North Metro Tech, Acworth, Ga., near Atlanta. Events feature Dr. Don Marx of Plant Health Care, Inc.; Dr. Kim Coder, University of Georgia; Dr. Tom Smiley, Bartlett Tree Research Laboratories; Dr. Don Ham, Clemson University. Contact is Jeanne Campbell, (864) 656-2479.

Woods Equipment Com-

pany has acquired **Wain-Roy, Inc.**, a Hubbardston, Mass.-based manufacturer of quick coupler systems for tractors, loaders, backhoes and hydraulic excavators. Woods makes and markets attachments systems in the agricultural, landscape and construction markets. Steve Starret, former president of Wain-Roy, is Woods' new general manager of construction. Woods now has a new line of construction equipment attachment systems, including Quick Change Rigid Tool Hitch Coupler Systems; Quick Change Grapples; Quick Change Ripper Buckets; and the Quick Change JAW.

IMC Vigoro and **Tri-State Plant Food** have a new distributor agreement. Tri-State, of Dothan, Ala., will represent

IMC Vigoro's turf fertilizer products throughout the gulf states (Ala., Miss., Fla. panhandle and southwest La.) Dennis Rich, vice president of Tri-State leads the sales team.

Toro's purchase of **Exmark Manufacturing Company** is a done deal. Toro says the buy gives it the "broadest and most complete line of integrated products and services for the landscaping industry." Kendrick B. Melrose, Toro chairman and CEO, comments that Exmark's customer focus, innovation and product reliability is a big plus, and that Toro will operate Exmark as an independent brand and distribution system, to capitalize on its good customer relations.

Bill Dunn has joined **Lofts Seed** as vice president of East Coast Operations. Dunn directs the day-to-day branch operations with manager and turf-grass field sales representatives.

Zeneca will buy **ISK's** worldwide chlorothalonil business and international distribution rights to four new products (fluazinam fungicide, with specific utility in horticultural crops; fosthiazate nematicide, with applications in many crops; and flazasulfuron (for sugar cane and vines) and nicosulfuron herbicides (a corn selective chemical). Chlorothalonil is marketed under the trademarks "Bravo" and "Daconil 2787" and is used in a wide range of crops and turfgrasses. Purchase price is reported at \$500 million. **LM**

Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

HOT OFF THE PRESSES... the 1997-98 edition of the Oregon Association of Nurserymen's *Directory & Buyers Guide*. It contains 600 pages of plant and product listings and industry information. New this year, the catalogue is available on the Internet's World Wide Web at: <http://www.nurseryguide.com>.

WALLS, STEPS OF STONE... *Stonework Techniques and Projects*, by Charles McRaven, a blacksmith and stonemason, gives a complete, step-by-step course in basic stone construction. The book includes illustrated instructions for 24 projects such as walls, steps, paths, bridges, hearths and more. Cost for this paperback book is \$18.95 US/\$26.95 Canada. Contact Storey Publishing, P.O. Box 445, Pownal, Vt. 05261; 800/441-5700, Dept. YP; www.storey-books.com

TRAINING FOR LANDSCAPERS... The "Super Crew" video series from The University of Georgia cooperative extension service covers quality landscape management, planting of woody ornamentals, annual bed preparation and installation and pesticide use and safety. At \$39.95 each, there is also a buy-five-get-one-free purchase option. Training help for personnel on many grounds, campuses, golf courses, resort grounds and private estates. The series is endorsed by PGMS; Georgia Green Industry Assoc.; Georgia Turfgrass Assoc. and Metro Atlanta Landscape and Turf Assoc. Contact Judy Sharpton at 404/371-2821.

Excel 2500 turns within its own length

The 2500 Compact mower is built with high-capacity, deep-tunnel mowing decks. Hydraulic deck lift is standard. A 22-hp Kohler Command engine provides the power.



Excel says the 2500 Compact has "the world's fastest edger attachment." The mower turns within its own length on counter-rotating, independent-drive wheels.

A BAC-VAC catcher installs quickly and is easy to remove and empty. The Excel Hustler 3000 features an air-cooled Kohler Command engine.

Circle No. 260

No drift with this boom

Broyhill's DriftBuster is a complete 20-foot self-supporting drift boom for controlled spraying applications. It moves independently while following the ground contour. It features perimeter cover brushes assuring a consistent spray pattern even in windy conditions.

A standard electric lift for raising/lowering outer wings, along with break-a-way hinges, make this unit maneuverable in tight areas. DriftBuster is self-supporting so it adds no weight to the tow vehicle. However, controls are vehicle mounted for finger-tip operation. Adaptable to all Broyhill tow or vehicle-mounted sprayers, it is a popular addition to the Hydramaster (pictured).

For more information, contact Broyhill at 402/987-3412; E-Mail Broyhilsal@aol.com, or

Circle No. 261



Array improves herbicide uptake

Rosen's Inc. offers Array, a dry adjuvant. Array's formulation dissolves instantly, mixes easily, handles well and does not have any special storage requirements.

"Array targets herbicide performance by increasing spray retention on the leaf and by delivering a uniform spray pattern," says Kent Woodall, Rosen's market manager. "Array also provides a high level of ammonium ions. This improves herbicide uptake. Herbicide antagonism, caused by hard water is also reduced when Array is added to the spray mix."

Trials conducted at the Laboratory for Pesticide Control Application Technology, The Ohio State University, have demonstrated that when Array is added to the spray mix, spray droplets stick to the leaf surface better than conventional adjuvants. Packaging is available in 9 and 45 pound bags.

For more information about Array, call Kent Woodall at 816/781-9191 and tell them that Landscape Management informed you, or

Circle No. 262

Keep traps and bunker sand in place

Poly-Pavement is an environmentally friendly liquid soil solidifier that may be diluted and spray-applied to flat, sloped and vertical soil surfaces to bind the surface soil particles to one another. The

strength of the soil particle bond is sufficient to lock soil particles in place and prevent soil movement and migration due to high water flow. Trap and bunker soil erosion and sand contamination is prevented by spray applying diluted Poly-Pavement onto the bunker soil to create a tough polymer-soil lining.

The application method consists of three basic steps:

1) Remove as much of the bunker sand as possible without disturbing the bunker soil

2) Gently spray-apply diluted Poly-Pavement onto the bunker soil surface, liberally.

3) Allow the treated soil surface to dry and replace the bunker sand.

Before the Poly-Pavement dries on highly-sloped and vertical surfaces, bunker sand may be pressed or rolled into the surface and lightly sprayed with diluted Poly-Pavement Soil Solidifier to imbed sand into the soil surface and create a surface that keeps the appearance of sand throughout the rain season.

To learn more about this product, call (213) 954-2240 and say you saw it in LM, or

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Circle 112

Kubota offers lots of choices

Kubota's B-Series compact tractors range from 13 to 18 PTO hp, and are well suited to a variety of landscaping and turf applications. The B-Series models feature 3-



cylinder diesel engines. Hydrostatic transmission is available.

Kubota also offers its Grand L Series of tractors from 25 to 27 hp equipped with hydrostatic steering, shuttle transmission and shift-on-the-go. Loaders, backhoes, box scrapers and tillers are among the implements that enhance the Grand L's versatility.

Circle No. 264



Walker can tackle lots of jobs

Walker mowers have made a name for themselves as rugged, dependable machines with turf professionals. And they can be used for a large number of turf-related tasks.

The hitch assembly replaces the mower deck and clips onto the tractor in a snap and allows the use of implements like the 42-inch snow blower, 46-inch dozer blade, and the 47-inch rotary broom.

Contact Walker, based in Fort Collins, CO, at 313/221-5614, or

Circle No. 265

Rodeo now in one-quart size

Monsanto Company offers Rodeo aquatic herbicide in a new one-quart package in 1998, in addition to the 2.5 and 30-gallon containers already offered.

Ideal for small lakefronts, ponds, canals and creeks, the new one-quart Rodeo delivers one-time, roots-and-all control of over 190 tough aquatic weeds such as cattail, Johnsongrass, phragmites, torpedo grass, water lillies and water hyacinth. Because Rodeo moves throughout both plant foliage and roots, the plant will not regrow to require additional weed control efforts.

For additional information about the new one-quart Rodeo package, a member of the Roundup family of products, contact 800/322-3111, or

Circle No. 266



34th ANNUAL turf & landscape EXPO 1998

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C.A.A. (California Arborist Association)
C.A.P.C.A. (California Agricultural Prod. Consultants Assoc.)
C.L.C.A. (California Landscape Contractors Association)
C.P.R.S. (California Park and Recreation Society)
I.A. (Irrigation Association)
I.E.C.A. (International Erosion Control Association)
N.C.T.L.C. (Northern California Turf & Landscape Council)
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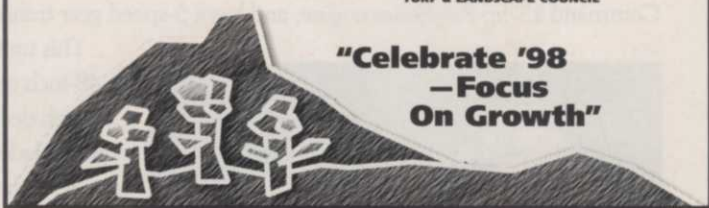
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Terra's fertilizers meet many turf needs

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 - ▶ Drivers' Edge close-cut turf fertilizer,
- and
- ▶ Magic Carpet fertilizer.

Every situation is different and that's why Terra offers such a broad range of

products, including those with secondary and micronutrient packages or pesticides. This offering is enhanced by a variety of controlled-release fertilizer nutrient sources.

To learn more about Terra fertilizer products, call 800/831-1002, visit website www.terraindustries.com, or

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Deere walk-behind loaded with features

The John Deere GS-30 commercial walk-behind mower is powered by a Kohler Command 13-hp Pro-Series engine, and has a 5-speed gear transmission.



This unit can be equipped with a 48-inch or a 36-inch deck. The 36-inch deck features two-spindle, timed blades for a superior cut, a larger discharge opening and a new discharge chute for better grass clipping distribution, 3/8-inch to 4 1/2-inch cutting height range, and a fixed, deep-deck design.

It also features electric PTO and padded operator presence levers. It can take on lots of tasks with John Deere attachments like the 3.5 bushel, side-mounted Grass Catcher; two-wheel fixed sulky; two-wheel steerable sulky; or a 36-inch Tricycler Mulching attachment.

Circle No. 268

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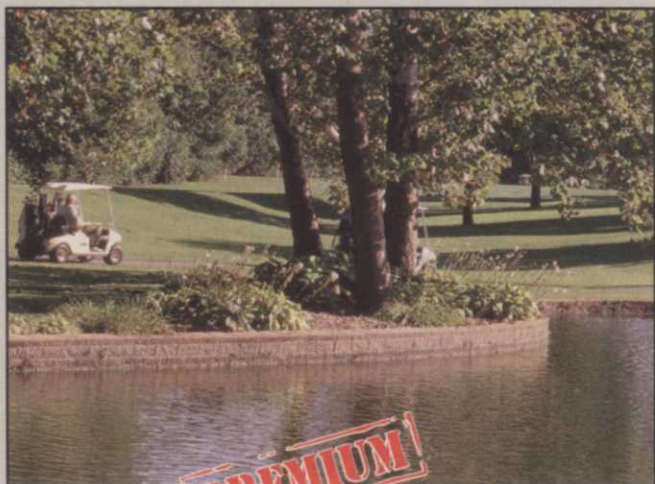
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FOR ADVERTISING INFORMATION AND AD PLACEMENT, CONTACT: DENISE ZAPPOLA, 440-891-3162, 1-800-225-4569, (ext. 162), Fax 440-826-2865, Email dzappola@advanstar.com

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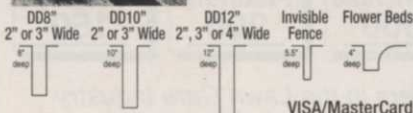
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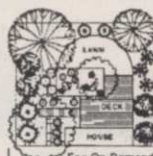
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UNIVERSITY OF CALIFORNIA
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ALAMEDA COUNTY



The University of California Cooperative Extension is seeking a career track academic candidate responsible for implementing educational programs and applied research on the various social, environmental, economic, and ecological dimensions of urban horticulture. The advisor serves as an expert resource to all county residents on the impact of urban horticulture in local communities, production methods for higher food value, bioremediation, revegetation of vacant lots into healthy green areas, and people-plant relationships. The overall goal is to improve the well being of urban communities by conducting research on the environmental dimensions of urban horticulture and alternative food systems. Conduct applied research in home and community horticulture for Alameda, Contra Costa, and Santa Clara counties in collaboration with Home and Community Horticulture Program Representative. Plan and initiate new education programs for Alameda County and provide creativity to continuing programs. Cooperate with specialists and other advisors in Cooperative Extension in meeting clientele needs. Share program methods, and support services with county staff members as appropriate.

Requirements include a minimum of a Master's Degree in horticulture, agricultural science or other related field. Strong background in ecological horticulture methods. Bilingual skills preferred, as well as experience in working with a multi-ethnic community. Training in educational methods. Research is necessary. Beginning salary will be in the Cooperative Extension Assistant level, commensurate with experience and professional qualifications (\$35,500-\$39,600).

A UC Cooperative Extension application form is required. Call or fax to receive your application package: PHONE (message) 530-754-8587; FAX 530-754-8540--Refer to Position #ANC-97-05. Applications must be postmarked by February 20, 1998 for consideration. AA/EOE

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LANDSCAPE
management

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Grounds maintenance – site managers: Davey Commercial Grounds Management, a division of The Davey Tree Expert Company – has a variety of career opportunities for experienced landscape/grounds maintenance professionals. Responsibilities include staffing and coordination of large on-site landscape maintenance projects. Qualifications: 5+ years field experience with solid horticultural skills in turf, ornamental and annual plant maintenance, personnel management, job scheduling and estimating. Top-rated candidates will be good communicators, organized, motivated, bi-lingual, customer-focused and understand an income statement. Excellent salary and benefit package available. **Send your resume to:** "Davey – Grounds Management Opportunities" at 1500 N. Mantua St., Kent, OH 44240 or fax to: 330-673-5406.

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DEPARTMENT MANAGER Full-service design-build firm located in Northern New Jersey seeks dynamic self-starter to oversee irrigation department and sell and manage construction projects. A growth-oriented, team player with three to five years irrigation sales/service/installation experience and a background in landscape construction is a must. Estimating and sales is required along with excellent communication, leadership, and organizational skills. A degree in Horticulture, & NJ Irrigation Certification are strongly desired. Responsibilities include estimating; sales; scheduling and supervising crews; purchasing and inventory; and budget and profit administration. Excellent career opportunity with growing, progressive company with outstanding 20-year service record. Competitive salary and benefits. Send or fax resume to: Jacobsen Landscape Design and Construction, 41 Birch Street, Midland Park, NJ 07432, 201.444-4334. 1/98

Sales Turf & Tree Professionals: Growth Products, a manufacturer of Liquid Fertilizers, and Natural Organics seeks experienced professionals in the golf and tree markets. Openings for Texas, Northcentral and Southeast territories. Salary + commissions, and company vehicle. AS or BS in turf management or related field, willing to travel, sales skills. Send/fax resume to Growth Products, PO Box 1259, White Plains, NY 10602 914-428-2780. 1/98

Professional Commercial Landscape Company in Richmond, VA is looking for an experienced individual to manage and run the grading division. We offer excellent benefits, performance bonuses, and salary commensurate with experience. Please fax your resume with salary requirements to: Human Resources, 804-550-1869. Or mail to JRGM, 11008 Washington Highway, Glen Allen, VA 23059 Attn. Human Resources or call 800-813-0003. 6/98

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LANDSCAPE DESIGNERS, LANDSCAPE CREW LEADERS AND TRAINEES Newtown Home & Garden Center, an established fast growing residential landscape nursery is seeking career minded people with 3-5 years experience, hardscaping exp. helpful. Excellent starting salary plus benefits (vacation, health and retirement). Designers must have estimating ability and proven sale techniques. This is a job for a pro who can design and organize. Crew leaders must have the ability to coordinate materials and equipment and capacity to run crews efficiently. Come work for a company that cares about their employees. For immediate confidential consideration send or fax resume and requirements to Martin at **NEWTOWN HOME & GARDEN CENTER, 398 DURHAM ROAD, NEWTOWN, PENNSYLVANIA 18940 215-860-3281.** 2/98

Landscape Architect/Designer Opportunity for a talented professional who possesses exceptional communication skills and a love of the landscape industry. Requires residential and commercial design/build experience, plant knowledge and the ability to work in a fast paced environment. Wheeler Landscaping, Inc, has provided quality design/build/management services to the north-eastern Ohio area since 1976. We offer excellent benefits and an enjoyable work atmosphere where employees and clients are valued and treated as friends. Please mail resume detailing salary history and requirements with handwritten cover letter: **John D. Wheeler, President, WHEELER LANDSCAPING, INC., P.O. Box 23068, Chagrin Falls, OH 44023.** 1/98

LANDSCAPE MAINTENANCE - CENTRAL VIRGINIA The largest landscape maintenance contractor in central Virginia is constantly in search of qualified, determined individuals who want to be a team player and part of a rapidly growing, profitable organization. Positions included: Production Manager, Project Manager, Spray Technician, Foreman, Crew Members, etc. Excellent benefits including 401-K, bonuses/incentives. Massive growth potential. Send resumes with salary requirements to JRGM, HR Dept., 11008 Washington Highway, Glen Allen, VA 23059 Fax 804-550-1869. 1/98

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SERVICES

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October 1998	9-10-98
November 1998	10-8-98
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Grab Bag

10 ways to use recycled materials in landscapes

- ① Facilitate deep root growth and watering: staking a recycled plastic pipe deep into the ground near the plants. Leave some of the recycled plastic piping exposed; fill with water.
- ② Amend and renew topsoil with compost, which adds nutrients and holds moisture and water better than unamended soil.
- ③ Build raised flower beds from recycled plastic lumber. Recycled plastic lumber will not decay and does not need to be stained or treated.
- ④ Mix polystyrene packing 'peanuts' with potting soil for larger containers in urban or rooftop container gardens. The 'peanuts' create pore spaces for water and air.
- ⑤ Use tiles of recycled glass to accent a garden patio floor.
- ⑥ Substitute recycled plastic plant and tree stakes for wooden stakes.
- ⑦ Use edging material for clean lines in your garden beds and walkways.
- ⑧ Combine broken concrete, old bricks, composite lumber scraps and natural stone to form walls with texture and character around the garden.
- ⑨ Plan outdoor seating within a garden as a reprieve for the gardener and guests,



RECYCLED PLASTICS MAKE BEAUTIFUL GARDEN PRODUCTS

"There are many ways recycled plastics and other materials can make your garden greener," says Joyce F. Gagnon, a specialist in the use of recycled products in landscapes and gardens. As a former marketing specialist for the King County Commission for Marketing Recyclable materials in Seattle, Gagnon worked for five years to help landscape architects and designers used recycled products. Her consulting firm, INCognito, is based in Seattle. The photo shown uses plastics as accents and borders. Gagnon offers 10 tips for making gardens more adaptable for recycled plastics, which we list at left.

and as a better viewing point for the surrounding landscape. Benches and lawn furniture made from recycled plastic lumber are more durable than those made of wood, Gagnon says, and resist mold, mildew or damage from animals or insects.

- ⑩ Experiment with texture, color and height in the garden, whether with plantings, furnishings or decorative objects.

—Joyce F. Gagnon

Ryan Tripp completes trek to D.C. on mower, sets world record

12-year old Ryan Tripp of Beaver, Utah, has completed his 3100-mile ride to Washington D.C. Why is this special news? Because Tripp made the journey on a Walker Model T lawn mower. In so doing, he broke the previous *Guinness Book of World Records*' 3034-mile mower ride. Tripp went on the 42-day ride on behalf of Whitney Pender, an infant girl in need for a liver transplant.

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...

Walker

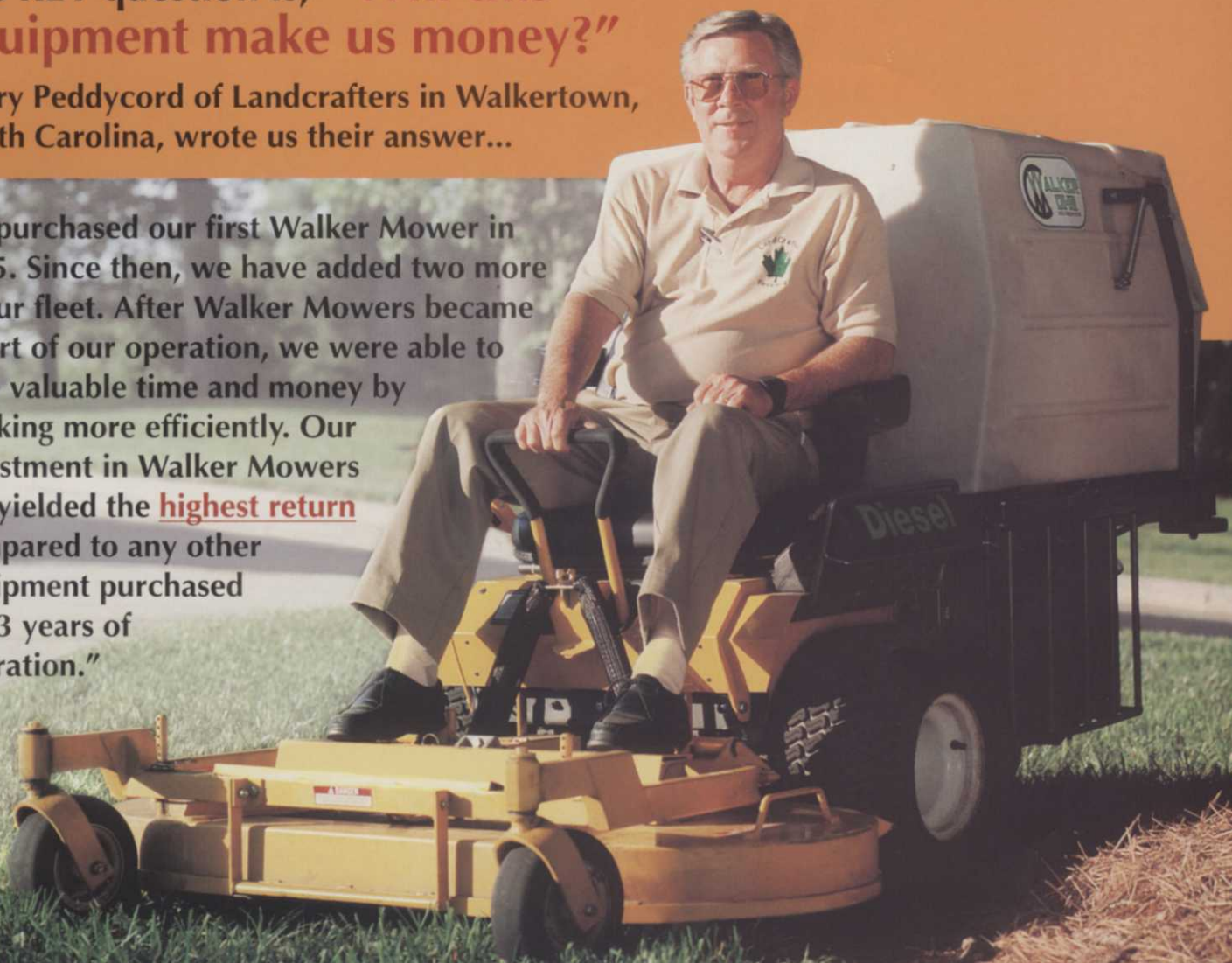
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Walkertown, North Carolina

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Gerry Peddycord of Landcrafters in Walkertown, North Carolina, wrote us their answer...

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