

Don't spend all day in the sun, Buy the new NINETY-ONE



If your work site demands HIGH PRODUCTION, SUPERB TRIMMING and GREAT DECK FLOTATION, step up to the new 91" deck from HOWARD PRICE TURF EQUIPMENT.

This new 91" deck, powered by your choice of three traction units, can mow up to 4.6 acres at 5 mph (depending on your mowing conditions) and offers a 26% increase over a standard 72" cutting deck.

this 91" deck allows trimming on both sides of the deck. The rear discharge decks, combined with the power steering, eliminates second passes over an area that a side discharge deck requires.

This 91" deck offers you a choice of size and flexibility. Choose your cutting width (91", 74" or 56") with a simple deck control lever. The flexing decks float upward at a responsive 15 degree angle and the wings lower to 5 degrees.

This 91" deck can afford you the production, trimming capabilities and flotation to perform a quality service on your turf location.

18155 EDISON AVE
PHONE 314-532-7000

**HOWARD PRICE
TURF EQUIPMENT**

CHESTERFIELD, MO 63005
FAX 314-532-0201

Circle No. 111 on Reader Inquiry Card

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."



Terra Industries Inc.
P.O. Box 6000
Sioux City, Iowa 51102-6000
1-800-288-7353
www.terraindustries.com

Working with you.

> 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 (Green)	Midnight (Orange)
JANUARY	~5.7	~5.1
FEBRUARY	~5.5	~4.7
MARCH	~5.4	~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.

For early spring greenup and less maintenance:

- Excellent color retention during winter months.
- Stays dark green with less fertilizer compared to other bluegrasses.
- Superior drought tolerance means less irrigation.
- Produces less thatch than other varieties.
- Excellent disease resistance, decreasing the need for costly fungicide applications.

Get it *all* with Nassau.



Come see us
at booth #3577.



Lofts Seed Inc.

Winston-Salem, NC
1-888-Lofts Co
www.turf.com

Circle 114

JACKLIN

SEED
A DIVISION OF J.R. SIMPLOT COMPANY

5300 West Riverbend Avenue
Post Falls, Idaho, 83854-9499
800/688-7333, 208/773-7581, FAX 208/773-4846

--- [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**

Rugged and dependable,
this hydraulic digger
hooks up to your front
loader mount.

MODEL 8300
HYDRAULIC DIGGER

DIG IT!

WITH DANUSER DIGGERS



Retrofit safety
guards are
available for all
older Danuser
diggers.



MODEL 8900
HYDRAULIC DIGGER

Danuser's newest
addition, for skid-steer,
front loader or Category I
or II 3-point hitch mount.



MODEL 8800
HYDRAULIC DIGGER

This hydraulic digger easily
hooks up to a Category I
3-point hitch mount.

The G20/40, for 20 to
40 HP Category I tractors,
is recognized as the
strongest in its class.
Its heavy-duty counterpart,
the F8 (not shown), is
designed for use with
Category I or II tractors.

PTO DIGGERS

MODELS G20/40 & F8



Not only are Danuser diggers built to work harder than the competition, they're also built to outlast them. That's because Danuser diggers are constructed of high-grade material and machined to precise tolerances. Whether you require hydraulic or PTO operation, there's an affordably priced Danuser to match your needs. For over 50 years, landscapers, farmers and contractors have looked to Danuser, the industry leader in digging equipment.

**Danuser Now Offers
an Exclusive Line
of Chipper/Mulch Systems!**

SAFETY FIRST:

Read and understand your owner's manual. Make sure all guards and shields are in place. Retrofit safety guards are available for all older Danuser diggers. Never hold or pull down the gear housing. For additional down force, buy the Danuser 500 pound down pressure kit. Only the operator should be within 25 ft. of digging operation.

Made in the U.S.A.

Since 1910

DANUSER
Quality & Innovation

500 E. Third Street, Fulton, MO 65251-0368
TEL: 573-642-2246 FAX: 573-642-2240

Circle No. 107 on Reader Inquiry Card

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.