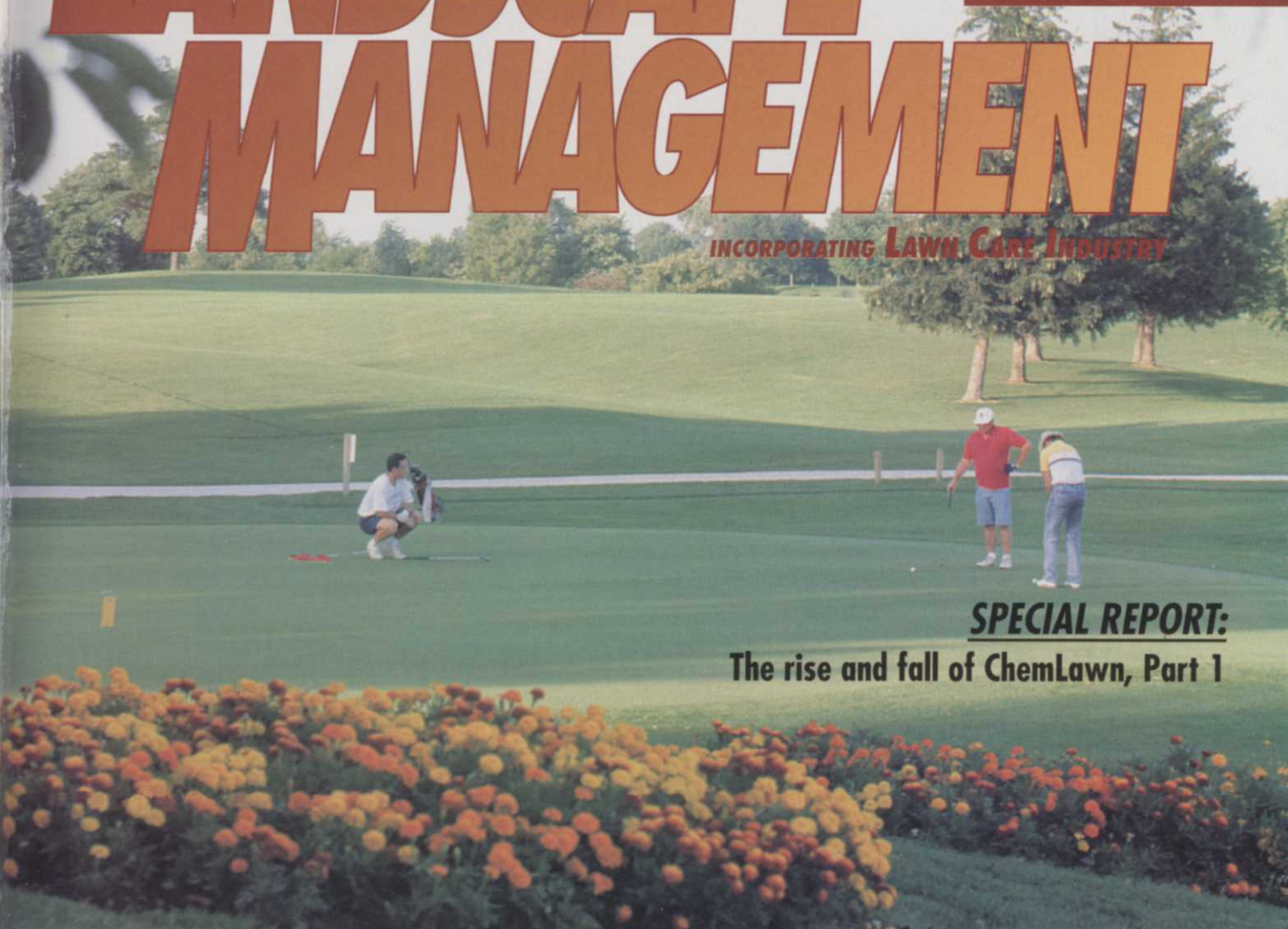


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INCORPORATING **LAWN CARE INDUSTRY**



SPECIAL REPORT:

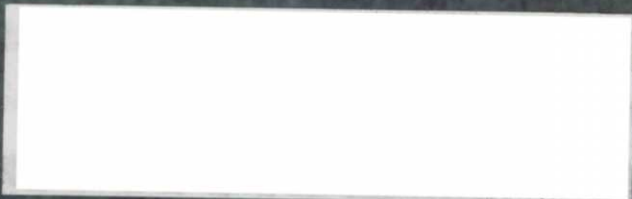
The rise and fall of ChemLawn, Part 1

BEYOND WORD OF MOUTH: MARKETING & P.R.

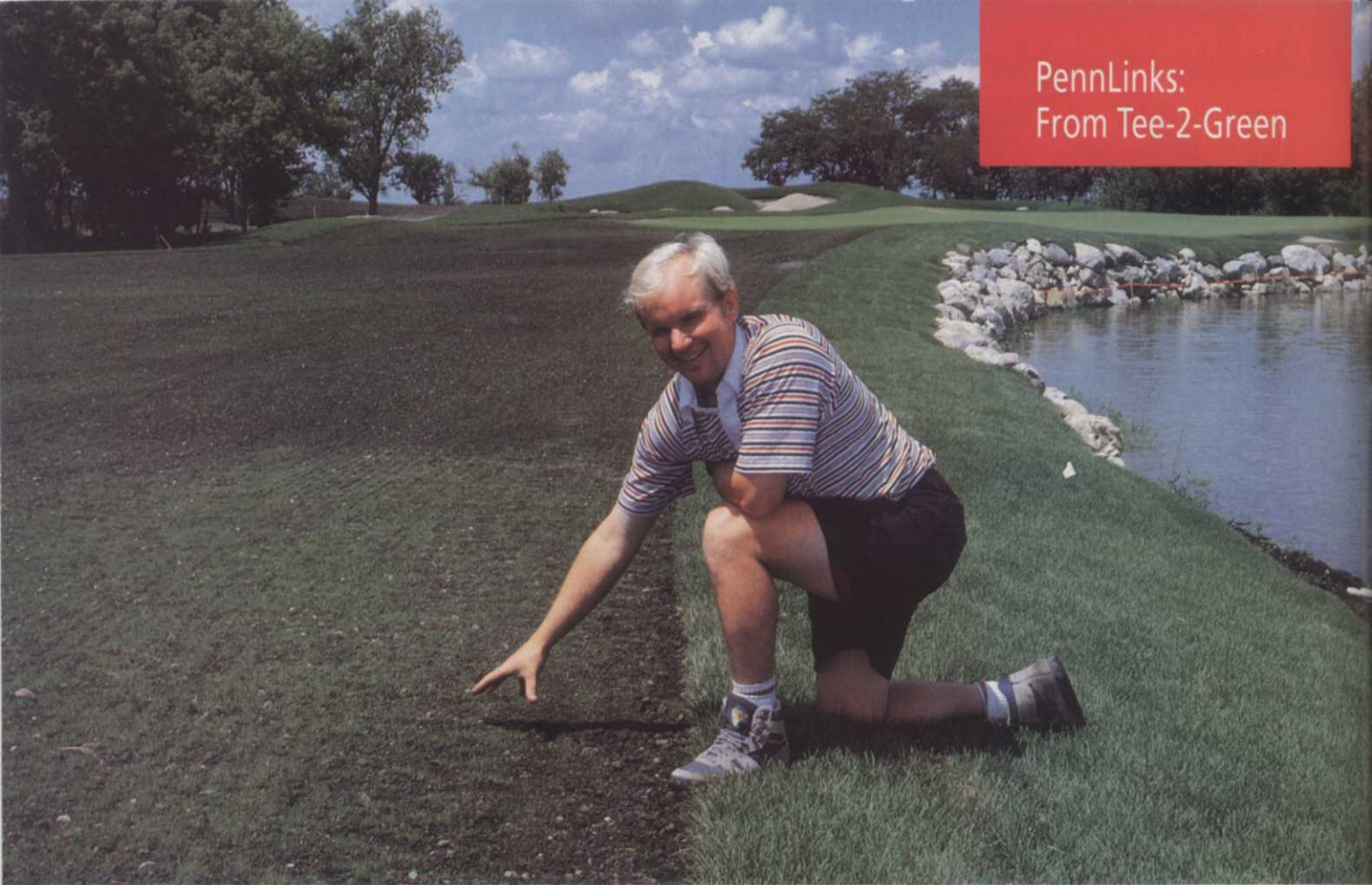
**Environmentally
monitoring golf courses**

Andrew's aftermath

'Bio-Turf' newsletter



PennLinks:
From Tee-2-Green



Tony Kalina, First Assistant Superintendent, appraises the 12th Hole seven days after seeding at McChesney Golf Club, West Chicago, Illinois.

PennLinks Greens, Tees and Fairways Add Excitement to Excellence at McChesney Golf Club in Chicagoland

"This twenty-one hole public course is destined to be a Chicagoland showpiece when it opens in August, 1993. Nothing about this Robert Trent Jones, Jr. designed course is halfway" says Tony Kalina, Assistant Superintendent at McChesney

Golf Club in West Chicago. "The clubhouse focuses around a 2½ story brick structure moved three miles to the center of the 240 acre site."

Selecting the right creeping bentgrass for greens, fairways and tees was not left to chance, either. Superintendent Scott Nissley says, "I specified PennLinks because of its predictable germination and outstanding heat and moisture stress tolerance. I've found PennLinks to be more aggressive in cool soil temperatures than other bent varieties, and the best *Poa annua* competitor."

Tony Kalina, responsible for seeding and establishment, finds PennLinks germinates rapidly and establishes uniformly, with seedling emergence as early as four days. Tony says, "We were mowing our

fairways with lightweight mowers twenty days after seeding. After 50 days we're maintaining putting greens height at 0.2 inch."

Superintendent Scott Nissley sums it up: "The ball rolls truly on our greens and our fairway lies are excellent. I think Chicagoland golfers will enjoy this course as much as any course they play, and one reason will be PennLinks."



Left to Right: Assistant Matt Springer, Scott Nissley, CGCS, and First Assistant Tony Kalina

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Golf Course Superintendents Association of America, 1421 Research Park Dr., Lawrence, KS 66049-3859; (913) 841-2240.

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International Turfgrass Society, Crop & Soil Environmental Sciences, VPI-SU, Blacksburg, VA 24061-0403; (703) 231-9796.

National Arborist Association, The Meeting Place Mall, P.O. Box 1094, Amherst, NH 03031-1094; (603) 673-3311.

National Golf Foundation, 1150 South U.S. Highway One, Jupiter, FL 33477; (407) 744-6006.

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

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AS WE SEE IT

JERRY ROCHE, EDITOR-IN-CHIEF



Bush, or Clinton?

During the 1980 Republican National Convention, a noted broadcast commentator made a startling observation:

"The line between politics and show biz is so thin that it's sometimes hard to find," said David Brinkley, then of NBC-TV.

As November 3rd fast approaches, the campaigns don't seem to have changed much over the past 12 years.

The typical landscaper or golf course superintendent should feel right at home. After all, for the past decade or so, we've watched the likes of Jay Feldman and Meryl Streep, with their unfounded attacks on agricultural pesticides, develop media manipulation into an exact science.

Hopefully, we've learned that, as responsible voters, we cannot afford to make judgments about the candidates based strictly on the information we glean from the all-powerful television box.

There are more accurate measures of the presidential candidates, like national newsmagazines and newspapers. With the exception of Sunday morning's excellent news commentaries, television seems to place more entertainment value than news value on its shows, emphasizing "sound bites" over the heart of the issues.

Thank goodness for the print media, which can dedicate more time and space to the actual issues. They can take a two-minute broadcast story, amplify and clarify it, and write a story that takes a reader 7 to 8 minutes (newspapers) or even 15 to 20 minutes (magazines) to digest.

With all that in mind, we're going to put the green-oriented issues in black and white, right here, for the record. Thanks to DowElanco's publication "The Bottom Line," here is how the two presidential candidates shape up:

George Bush:

"I am an environmentalist; always have been.

"If we can probe the depths of space and engineer the genetic building blocks

of life, we can surely protect the quality of our environment."

- Proposed a redefinition of "wetlands" that would allow protected areas to decrease from 100 million acres to 60 to 80 million acres.

- Supports expansion of biotechnology into agriculture, which could lead to the development of pest-resistant crops.

- Opposes legislation that would close the "circle of poison," whereby chemicals banned in the U.S. are used in other countries and then shipped here after being used on foods such as coffee or bananas.

Bill Clinton:

"As president, I will work to ensure that we have strict regulation of pesticides so that our food supply is as safe as possible for our families.

"The wetlands policy of a Clinton Administration will be based on science, not politics."

- As governor, implemented an environmental reform program in Arkansas that gives the state attorney general authority to enforce environmental law and prosecute violators.

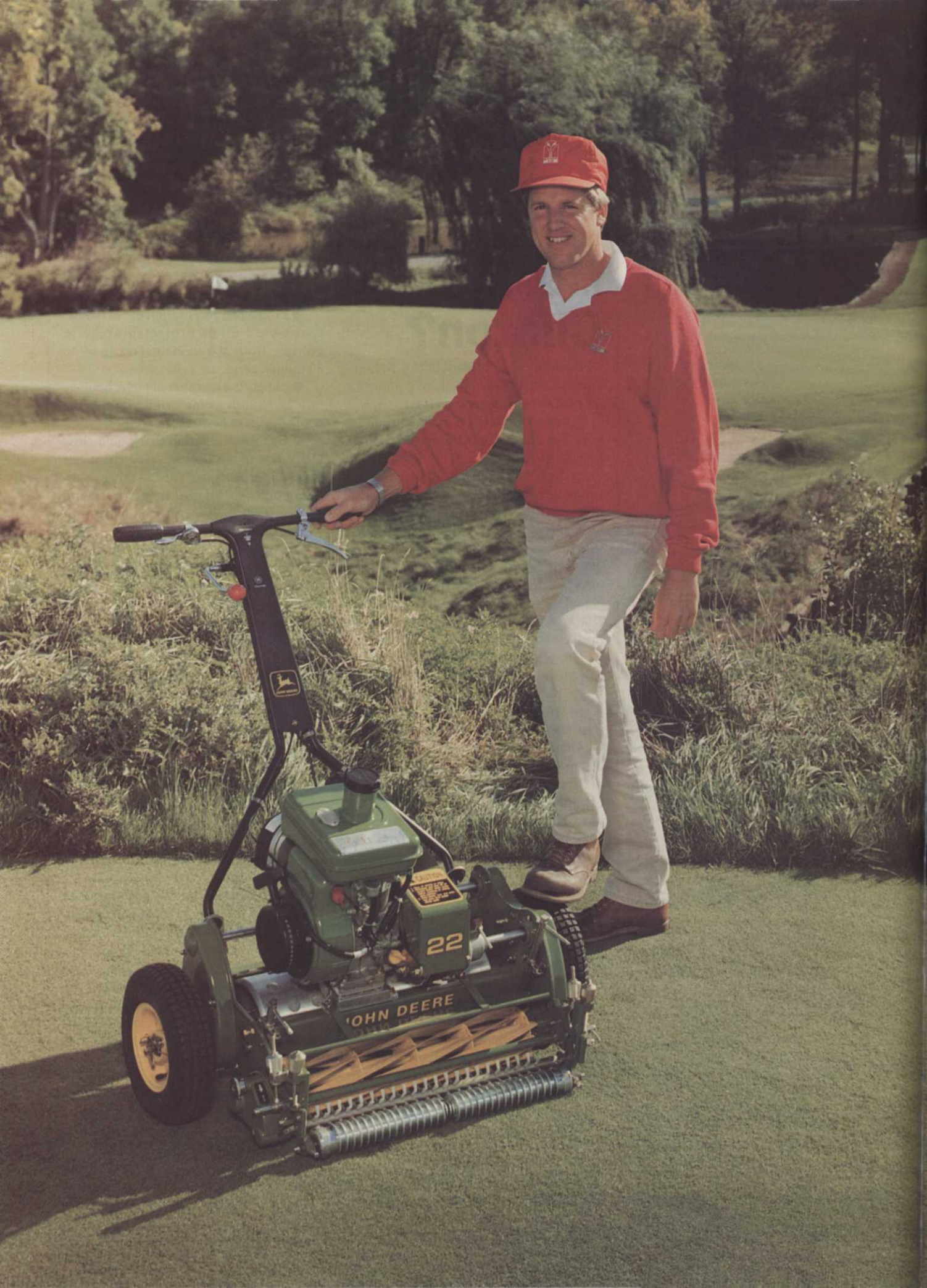
- Supports an international climate-change treaty that would require the U.S. to stabilize carbon dioxide levels.

- Supports a national wetlands restoration and protection program.

The "bottom line," as DowElanco would say, is this:

Before heading to the polling place next month, be sure to form good objective opinions. Read a lot. Talk to friends. And yes—if you must—watch TV, too.

Remember, though: voters (not presidents and senators and congressmen) are ultimately responsible for our country's well-being. It's thus more patriotic to completely avoid voting than to vote as a misinformed or uninformed citizen.



It takes precision to master these Pete Dye designs

Recognized in 1988 as *Golf Digest's* best new public golf course, Blackwolf Run in Kohler, Wisconsin, has made quite a name for itself in a short period of time. Now 36 holes, these two demanding Pete Dye designs play host to nearly 50,000 rounds of golf a year.

"The two courses are very dramatic and we try to maintain them to tournament conditions every day," says Superintendent Marc Davison. "We have very high



standards, and I think that's one big reason why people enjoy playing here. **"We mow all our greens** and some of our tees with the John Deere 22 Greens Mowers. We bought 16 of them in July of 1988 and they've been literally trouble-free since. In fact, they've worked out so well, we just bought seven more. The quality of cut is

excellent and the striping they leave on our large greens looks great.

"Our operators definitely prefer the John Deere 22s over the other mowers we have. In fact, the other mowers normally go to the employees who are last in line because everyone picks the John Deere's first."

For the name of your nearest distributor or free literature on all John Deere Golf and Turf Equipment, call 1-800-544-2122 toll-free or write John Deere, Dept. 956, Moline, IL 61265. Like Marc Davison, we're sure you're going to like what you see.



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LANDSCAPE MANAGEMENT

INCORPORATING LAWN CARE INDUSTRY

OCTOBER 1992 VOL. 31, NO. 10

SPECIAL SECTIONS

11 'Pesticides in Your Environment'

This 16-page, full-color section is provided as a service to readers by LANDSCAPE MANAGEMENT magazine and Responsible Industry for a Sound Environment. It's the perfect piece to give to customers, media and legislators.

43 'Bio-turf' Newsletter

Get all the news from the fascinating world of turf biotechnology in this exclusive, new quarterly newsletter, compliments of LANDSCAPE MANAGEMENT magazine.

COVER FEATURE

30 Cover story: Marketing, public relations: Beyond word of mouth

The best marketing plans are strategically planned to give your company the best possible exposure to the right audience.

Terry McIver



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34 LM Reports: Mid-sized mowers

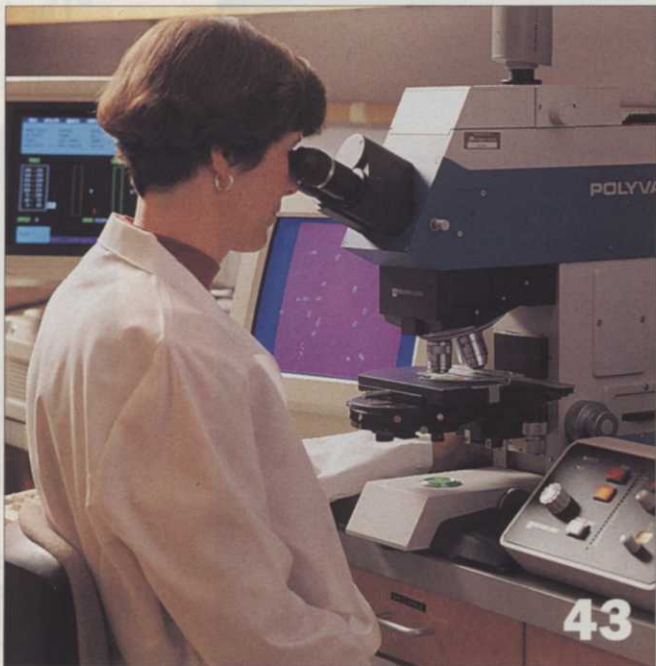
No other piece of equipment used in the green industry has as many standard and optional features for the prospective buyer to consider.

Jerry Roche

38 To plow or not to plow...

...that is the question. Whether 'tis nobler to just forget the whole thing, or to try to generate cash flow during the cold, wet, boring winter months.

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39 Golf course 'enviro-monitors'

Having someone looking over his shoulder has paid off for this Canadian golf course superintendent. The situation, like it or not, could be a sign of things to come.

40 Keeping employees happy

You can improve your employees' job satisfaction and job performance by learning to manage their expectations.

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40 Proper spill clean-up protects the pro applicator

Spills, when handling, transporting or using pesticides, are a concern for every applicator. Here's what to do if a spill occurs, whether it's on your property or on the road.

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The key to effective overseeding is adequate year-round maintenance of all your warm-season athletic turf.

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48 Soil wetting agents

In these times of inadequate water supplies for many turf needs, the key is to make water that is available more efficient.

50 Trees for shade, lower utility bills

Landscapers should use more plants around their clients' buildings to reduce utility/electric bills, says J. Joseph Pearl, a horticultural consultant in Mesa, Ariz.

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Ron Hall

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TruGreen ponders the value of the ChemLawn name while some ChemLawn franchise holders ponder the value of their non-compete clauses.

Ron Hall

60 Living through Andrew's wake

Hulon and Victoria Moorman of Emerald Landscape Maintenance in Cutler Ridge, Fla., saw the ravages of Hurricane Andrew first-hand. Three weeks later, things still weren't back to normal—by a long shot.

Jerry Roche

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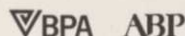
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ASK THE EXPERT

DR. BALAKRISHNA RAO



Declining privet hedges

Problem: We are finding some old privet hedges that are in various stages of decline producing a lot of surface roots, making them weak and easy to pull out. Could this be due to annual shearing of hedges? (Pennsylvania)

Solution: I do not believe that annual pruning is the cause of your problem. In general, hedge plants such as privet are very tolerant of shearing. However, if you remove too much top growth, particularly into the "dead zone" of the hedge, this might put a stress on the plant. Due to the lack of an active growing region and a less photosynthetic surface, plants may gradually decline.

"Dead zone" is commonly used to indicate the interior, non-foliated portion of the plant. It is about 2/3 of the plant height from the ground. It is not a good horticultural practice to prune the "dead zone."

Also consider the possibility of exposure to extremes in moisture and/or temperature during the past several years—particularly the droughts of 1988 and 1992—contributing to the overall decline.

As far as surface rooting and weak root anchoring, the problem most likely is related to poor site conditions. The site may be poorly drained, the soil may be too heavy, or both. Installing a drainage system is the best solution for managing poor drainage. If the soil is heavy clay, consider amending to improve soil structure. If the soil is compacted, aerifying will help promote deeper rooting.

Also consider applying mulch to protect the roots from winter freeze and a thawing problem. This mulch can also help as an insulating layer to protect the root system from heaving.

Providing subsurface fertilization and watering as needed will improve deeper rooting.

PGRs for home lawns

Problem: We are thinking of using Cutless plant growth regulator (sprayable formulation) on home lawns. How will this product work? What should we do when dealing with newly-seeded lawns? (Michigan)

Solution: The sprayable formulation of Cutless is labelled for home lawn turfgrass. This plant growth regulator can be used on warm- and cool-season turfgrass.

To obtain better results, reports suggest mowing the turfgrass first and then applying. As a general guideline, the first application should be made in the spring after two mowings. Water the treated areas within 24 to 36 hours to enhance product efficacy.

According to a DowElanco representative, the treatment response will last for three to three-and-a-half months. The company is researching the feasibility of getting season-long control.

Like other plant growth regulators, one of the problems with

Cutless has variable turfgrass growth inhibition response when you are using it on turfgrass containing mixtures of different species or cultivars. Therefore, expect to find some turfgrass taller than others in treated areas.

Cutless interrupts the function of gibberellic acid, thus reducing internode and leaf elongation without causing injury to plant roots.

If you've never tried the product, it might be a good idea to make applications on a smaller scale to learn more about how it would work in your operation.

Read and follow label specifications for better results.

Wild violets on the loose

Problem: Is there an effective remedy for wild violet infestation? (Illinois)

Solution: Violets are considered to be very difficult-to-manage weeds. Richard Rathjens, Davey Tree's senior staff agronomist, mentions that application of herbicides such as Turflon 2 Amine or Confront containing triclopyr would help selectively manage the violets.

Both Confront and Turflon 2 Amine can be applied at any time during the season, as long as weeds are actively growing.

Consider two applications of the preferred herbicide, applying the second application one month after the first.

Raining on fungicides

Problem: If it rains after an application of fungicides, will the treatment still be effective? (Pennsylvania)

Solution: I am not familiar with any research in this regard. As a general rule, if the treatment material can dry on the foliage prior to rain, the treatment response will not be altered. Many of the fungicides on the market do contain some spreader-sticker type of materials which should help the material adhere to the foliage.

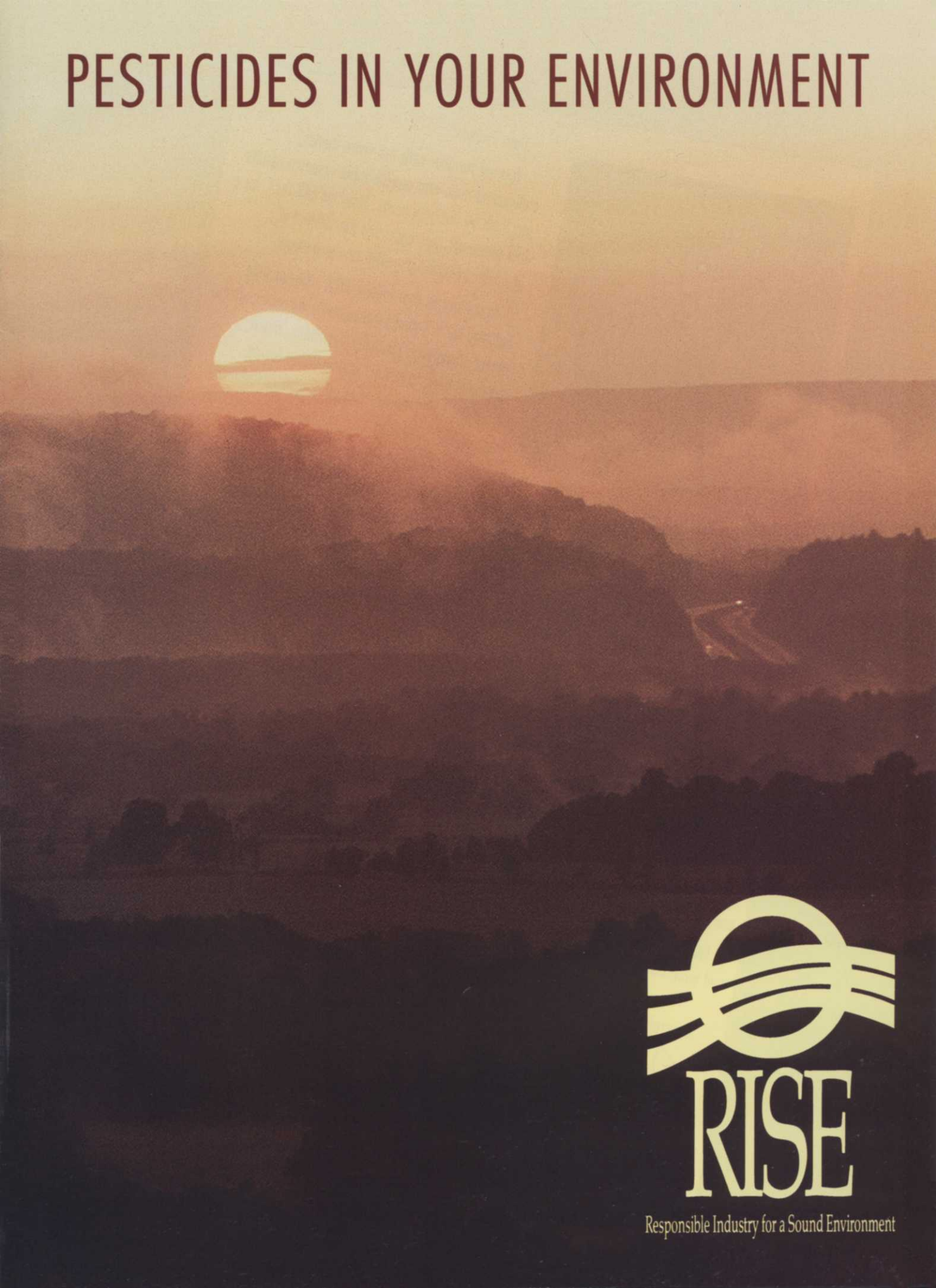
Our experience with fungicide treatments suggests that a couple of hours of drying time before the onset of rain usually helps maintain product efficacy. The efficacy of different fungicides may vary from product to product. Also remember that disease management may require repeat application of treatments at 10- to 14-day intervals to deal with new infections.

If light rain occurs before the treatment has a chance to dry, it may not be necessary to re-treat before the scheduled application. Reapply only if rain washes off the treatment.

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

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

PESTICIDES IN YOUR ENVIRONMENT



Responsible Industry for a Sound Environment



Dear Friends:

You are familiar with the scare tactics, Hollywood hype and questionable research results put forth by our opponents. Now we ask that, for a few moments, you approach the subject of specialty pesticide use with an open mind.

In the pages that follow, RISE (Responsible Industry for a Sound Environment) wants to set the record straight on specialty pesticides, those products used to protect and enhance lawns, gardens, trees, homes and other non-agricultural areas, like roadsides.

This project represents an industry first — editors of usually competitive publications worked in cooperation to present the facts. Their mission is straightforward: Define the benefits of specialty pesticides and put the risks in proper perspective.

Homeowners and professional applicators can use specialty pesticides with confidence. The specialty pesticide industry tests and re-tests all products to ensure they pose no unreasonable effects for humans, animals or the environment when used properly.

As a result of the strict testing standards imposed by manufacturers, the Environmental Protection Agency and various state regulatory agencies, only one in approximately 20,000 products makes it from the chemist's laboratory to the marketplace.

But even these impressive numbers don't let us rest on our laurels. Our industry continually works to discover and develop new products to protect human health, improve the environment and, in general, better our quality of life.

The specialty pesticide industry is dedicated to bringing you the safest and most effective products possible. Our goal is simple: Control undesirable pests and diseases in your neighborhood and our nation.

We want you to take heart in knowing the world is a safer, healthier, prettier place in which to live and work — thanks to specialty pesticides.

Sincerely,

Allen James
Executive Director

THE OTHER SIDE OF THE STORY

SPECIALTY PESTICIDES: SOCIETY'S UNSUNG HEROES

You've read it in the newspapers. You've heard it on TV. The decade of the 1990s is the decade Americans are embracing traditional values. Tired of the race to overachieve, Americans are rediscovering the pleasures their immediate environments provide.

Many Americans don't give a second thought to a kitchen cupboard free from cockroaches, a front lawn minus weeds, a nearby pond teeming with fish. Such benefits — all part of a clean, healthy living environment — are taken for granted. They're as American as mom and apple pie.

Without the use of specialty pesticides, however, the story would be radically different. Disease-infested trees? Shade is scarce. Vegetation-choked waterways? Fish don't flourish. Roach-infested kitchens? Forget the food.

Specialty pesticides rid homes and workplaces of annoying and damaging insects, noxious weeds and plant diseases. They work selectively, like antibiotics work to rid the human body of only the undesirable bacteria and germs.

Properly used, specialty pesticides play a big role in helping this nation maintain one of the highest standards of living in the world. However, the road isn't always smooth. Specialty pesticides are under fire from several sectors, both public and private, but their value to society is proven.

While risks must be considered, the benefits of specialty pesticides can't be denied. Any medicine used properly and according to label instructions can do much good. Used improperly or abused, it becomes a poison. The dose makes the poison. The tests that specialty pesticides undergo

during the registration process are similar to those for pharmaceuticals. But, in most cases, specialty pesticides must undergo even more tests to prove they can interact with the environment, as well as humans, without undue risk.



Specialty pesticides help deliver a pest-free living environment for Americans.

Former U.S. Surgeon General C. Everett Koop encourages the public to recognize the difference between real risk and hypothetical risk: "The risk, for example, of being killed by an automobile (1 in 6,000) is much greater than any hypothetical risk of a pesticide. Yet that doesn't keep us off the road, either as passengers or as pedestrians.

"By focusing on a hypothetical risk, like that from pesticides, not only do people find their anxiety levels elevated, but by focusing on a straw man, they also feel that they are doing something to improve their health. In so doing, they often neglect all the other things that they could be doing more readily, more legitimately, and with greater effect, such as paying attention to smoking, alcohol, exercise, balanced diet and so on."

The lesson is simple: Everything has risks, but risks must be weighed against benefits. Americans use potentially toxic products — from cleansers to gasoline — every day. Used properly, they serve their purpose and improve our quality of life. Specialty pesticides do, too.

Thanks for a job well done to the editors and publishers of *Arbor Age*, *Grounds Maintenance*, *Landscape & Irrigation*, *Landscape Management*, *Lawn & Landscape Maintenance*, *Pest Control*, *Pest Control Technology*, *SportsTURF* and *Tree Care Industry*. Thanks also to the National Roadside Vegetation Management Association and others who contributed information and graphics.

SPARING THE PLANET OF PESTS AND DISEASE

There was a time when pest-borne diseases — malaria, yellow fever and typhus — were feared by every American.

There was a time when nearly one-fourth of Europe's population was wiped out by bubonic plague. There was a time when the constant biting of bed bugs prevented a good night's sleep.

Before widespread mosquito control, as recently as 1935, 4,000 Americans a year died of malaria. Further back, during the summer of 1878, a yellow fever epidemic affected 132 U.S. cities and 75,000 Americans. Of those, 16,000 people died of the mosquito-carried disease.



Close inspection inside a structure leads the pest control operator to actual and potential problems. Early identification of a termite infestation can save the homeowner money and headaches. It's estimated termites and carpenter ants cause \$2.5 billion in structural damage annually worldwide.



And it was in 1845 that the Honorable John Randolph addressed Congress and declared that Florida would never be developed nor would it ever be a fit place to live. He described Florida, one of today's most popular tourist destinations, as "a land of swamps or quagmires of frogs and alligators and mosquitoes."

Today, we live in a country where plagues and epidemics are a vague memory. "Americans no longer worry about getting malaria, yellow fever or dengue fever," says Norman Cooper of the National Pest Control Association. Once common and greatly feared problems in America, these diseases were transmitted to humans by insects and rodents.

D I D Y O U K N O W ?

Few Americans worry about health threats posed by insects. That's because pest populations are held in check by pest-management programs, which include responsible use of specialty pesticides. A pest-free living environment:

- Wards off disease. Pests, such as mosquitoes, no longer pose the disease threats of the past, when whole cities and nations were wracked by outbreaks of malaria, yellow fever and typhus.
- Allows the public to enjoy outdoor recreation. Some of today's popular tourist destinations, such as Florida and other tropical locales, once were seen as unfit places for humans to live or visit. Pest control cleared the way for development and commercialization of recreational facilities.
- Protects the food supply. Without pest control, rodents and insects would dine on much of the food meant for human consumption.
- Enhances property values. Homes and offices, free from wood-infesting and other pests, enjoy a longer life span and maintain more of their original value.

"Fortunately, we no longer must fear pest-borne diseases — not only because of great advances in modern medicine but because of modern pest control, too," Cooper says.

Even President George Bush recognizes the important role the pest control industry plays in protecting public health and property. In a letter recognizing National Pest Control Month, he wrote: "We Americans have come to expect pest-free homes, places of employment and food supplies. Yet we know that we could not enjoy living in a clean, healthy environment if it were not for the efforts of pest control professionals."

PAYOFFS FOR THE PUBLIC

The payoff for this commitment to pest control and public health programs is a dramatic increase in life expectancy. In 1940, the average American lived to age 63. Today, the average American lives to age 75.

Unfortunately, the media has been slow to spread a positive message to the public. "The overwhelming majority of the news we get from radio, television and print media about health and the environment is bad news...despite the fact that national health statistics indicate we have never been healthier," says Dr. Elizabeth Whelan of the American Council on Science and Health, a consumer education and advocacy group.



Pest control operators and technicians take time to review problem spots with homeowners and business operators.

The control and monitoring of public health pests through integrated pest management (IPM), including the use of specialty chemicals, is a key reason for America's improved health. Pest control professionals keep fleas, ticks, cockroaches, rats and other pests from reproducing in large numbers. But it's a constant battle. Consider these statistics:

- Rats bite more than 45,000 people annually, mostly infants and children.

- Seven to eight percent of the U.S. population is allergic to cockroaches. Studies of inner-city children in Atlanta with chronic wheezing, runny eyes and noses revealed that 44 percent were allergic to cockroaches.

- Rodents are responsible for, or implicated in, the spread of numerous diseases, including plague, acute food poisoning, rat-bite fever and typhus.

- Lyme disease, transmitted to humans by the deer tick, infects thousands of Americans annually — and the numbers are rising.

- Cockroaches transmit a variety of digestive tract disorders, including food poisoning, dysentery and diarrhea.

- Mosquitoes are prime carriers of several types of encephalitis, a devastating illness that attacks the central nervous system of humans.



Precise application of specialty pesticides keeps living environments pest-free.

continued on following page

PEST CONTROL

ENVIRONMENTAL DAMAGE

Public health isn't all that suffers when pests reproduce in large numbers. Wood-destroying insects, including termites and carpenter ants, cause nearly \$2.5 billion in structural damage annually. In the United States alone, termites cause an estimated \$800 million worth of damage to more than 600,000 structures.

And termites aren't the only villains. Rodents eat or contaminate millions of dollars of food daily. The National Pest Control Association



Americans largely take a pest-free home for granted. Specialty pesticides have eliminated the threat of many diseases that wracked humans in decades past.

estimates a single rat in the United States may contaminate up to \$1,000 worth of food annually. Worldwide, experts estimate rats and mice destroy enough food each year to feed 200 million people! By damaging electrical wiring, rats are suspected of causing up to 25 percent of all fires of unknown origin.

Fully one-fifth of all U.S. households have had a pest problem in the past year. Yet, despite the risk of disease and structural damage, many Americans still fear the use of specialty pesticides to control pests. Why? Experts say the general public doesn't understand the relationship between benefits and risks.

Part of the reason for the pesticide phobia, says former U.S. Surgeon General Dr. C. Everett Koop, is "the public doesn't have a very good grasp of the relationship between the dose of a toxic substance and its risk in human beings." Information often comes from those who use scare tactics rather than science when warning the public.

But the truth is hard to deny. Professional pest management programs improve the nation's standard of living. Widespread outbreaks of yellow fever, malaria and similar maladies — plagues that once swept the nation and the globe — have thankfully been committed to the history books.

BUG OFF

SPECIALTY PESTICIDES LESSEN THREATS TO HUMAN HEALTH

While the threat to human health from harmful insects has been greatly reduced, it hasn't disappeared. Insects and other pests pose many common and not-so-common health problems. Each of the following problems can be and is being controlled through efficient and effective pest control methods, including use of specialty pesticides.

Ants	Bite and sting Infest stored food
Bats	Associated with rabies, histoplasmosis and other diseases
Bees	Bite and sting Infest stored food
Beetles	Infest stored food Cause dermatitis
Cockroaches	Cause food poisoning Associated with gastroenteritis, dysentery, allergies and skin infections
Fleas	Cause dermatitis Transmit plague, typhus and tapeworm
Flies	Transmit typhoid, cholera, dysentery, infantile diarrhea, tularemia and other diseases Some species bite
Hornets	Bite and sting Infest stored food
Lice	Cause dermatitis Transmit epidemic typhus, trench fever and relapsing fever
Mites	Can cause dermatitis Transmit rickettsialpox and hemorrhagic fever
Mosquitoes	Transmit malaria, encephalitis, yellow fever and dengue fever
Nuisance birds	Associated with histoplasmosis, ornithosis and other diseases
Rodents	Bite Transmit leptospirosis and lymphatic choriomeningitis
Ticks	Transmit Lyme disease, Rocky Mountain spotted fever and tularemia
Wasps	Bite and sting Infest stored food

Source: National Pest Control Association

T R E E S

IMPROVING THE VIEW FROM ABOVE

Trees beautify the environment through colorful flowers, showy fruit and rustic winter bark and twigs. Trees also offer practical benefits, such as screening high winds, buffering sound, hiding unsightly views and providing cooling shade.

In fact, tree plantings significantly reduce temperatures in urban areas, which, on average, are 10 degrees warmer than the surrounding countryside. Tree plantings and light-colored surfaces can cut home energy bills by \$100 to \$200 a year, according to the American Forestry Association.

An admiring but busy public takes trees' value largely for granted. Few probably realize urban areas are losing trees at a record pace. According to the National Arbor Day Foundation, in some U.S. cities, up to four trees die or are removed for every one tree planted.

The full value of trees would not be realized without the benefits of specialty pesticides. Specialty pesticides are to tree health what medicines are to human health. When applied knowledgeably and responsibly, tree-care medicines are invaluable tools that make a positive contribution to our environment and to our health. Healthy trees improve our quality of life.

Unfortunately, trees are subject to insect attack. The gypsy moth, for example, has destroyed hundreds of thousands of acres of trees, mainly from the Carolinas up through Michigan. Favored hosts include oak, birch, apple and cottonwood trees.

However, biological and conventional specialty pesticides can control the gypsy moth caterpillar. Community spray programs and tree care firms are working to control the pest — and save trees.

No one wants those trees to go the way of the American elm, which once formed cool, green archways over streets in U.S. cities. Since the 1940s, thousands of the mighty elms have fallen victim to Dutch elm disease. Today, few are left.

A tiny insect, the elm bark beetle, carries the deadly disease from tree to tree. U.S. Forest Service research, however, has found that specialty pesticides, properly applied to the top of the tree, will reduce beetle feeding and limit introduction of the disease.

An integrated approach to control — pruning, specialty pesticide spraying and fertilizing — can save trees. Removing any segment of the three-part control program weakens the cure. The use of pest-specific specialty pesticide products, as part of an integrated approach, contributes to a better environment for today and tomorrow.



Top: Healthy trees provide cooling shade, protection from the wind and other benefits to society.

Right: The gypsy moth has devastated trees across the nation. The pest's expanding presence has left trees defoliated and property values diminished.



D I D Y O U K N O W ?

Trees bring beauty and practical benefits to modern society. They provide shade, beautify properties, strip pollutants from the air and much more. Kept healthy by specialty pesticides and mechanical controls, trees:

- Save energy. One large tree has the same cooling effect as 15 room-size air conditioners. Mature trees shading homes cut energy costs by 18 percent to 50 percent.
- Increase property value. Trees can add up to 20 percent to the value of a home. However, without proper maintenance, the value of trees declines. Timely use of specialty pesticides controls disease and insect damage.
- Clean the air. One acre of trees removes 5 tons of carbon dioxide from the air annually. According to the American Forestry Association, one average, mature tree absorbs 26 pounds of carbon dioxide per year. The same tree cleans up pollution created by a car driven 11,300 miles, as well as gives off enough oxygen for a family of four to breathe for a year.

TURF

PUTTING SPRING IN YOUR STEP



Turf does more than just look pretty. It's estimated that a well-maintained landscape can add up to 15 percent to a home's value.

The rain has ended, and you're ready to head to work. If you hurry, you can run the bills to your mailbox and still make it to work on time. You grab the stack of envelopes, dash out the front door — and sink in mud up to your ankles.

That's what life would be like if you didn't have a lawn.

It's easy to overlook the obvious, and turf is obvious. It's everywhere — home lawns, parks, roadsides, building grounds and more. People forget the main purposes of turf are to hold soil in place and offer solid footing. The beauty of turf overpowers its function.

FUNCTIONAL BENEFITS

In addition to stabilizing the soil, lawns offer many other benefits as well. Each makes life more enjoyable.

Turf moderates the climate. It cools city streets and reduces energy costs of cooling homes and businesses. Concrete and other hard building materials often cause urban areas to be 10 degrees warmer than nearby rural areas. According to The Lawn Institute, eight average-sized lawns have the cooling effect of 70 tons of air conditioning; the average home-size air conditioner has just a 3- to 4-ton capacity.

DID YOU KNOW?

The role of turf often is overlooked by the public. Healthy turf provides a number of benefits, and specialty pesticides play a key role in keeping turf in top condition. Well-groomed turf:

- Promotes safety and health. Turf reduces fire hazard, reduces injury to children or athletes and provides a safety buffer for roadsides, airport runways and agricultural fields.
- Improves the environment. Turf tempers the climate around homes, as well as stabilizes the soil and prevents runoff.
- Beautifies and improves the value of property. Turf is critical in landscape design. Its green color accents and frames plantings of ornamentals. Well-maintained landscaping typically adds up to 15 percent to a home's value.
- Provides recreational opportunities. Turf provides the safest, least expensive and most resilient outdoor surface for sports. No other surface of vegetation tolerates as much abuse.



Turf also reduces noise levels by as much as 30 percent, and cuts glare along roadsides, which poses a hazard to drivers and an annoyance to those in homes and offices. Turf's rough surface breaks up incoming sunlight.

As with ornamentals, healthy turf provides a zone of protection that slows the spread of wildfires around buildings. Northern California residents learned this lesson in 1991. Because of their healthy lawns, many homes survived the Oakland fires.

In addition to helping save lives, a thick lawn improves quality of life. A healthy lawn averages six turfgrass plants per square inch and 850 plants per square foot. There are 8 million plants in an average 10,000 square foot yard. Each plant converts carbon dioxide from the air into the oxygen we breathe. A turf area 50 feet by 50 feet releases enough oxygen to meet the needs of a family of four. Turfgrass also absorbs smog-produced ozone and sulfur dioxide.

When it intercepts rain, turf prevents hardening of the soil. If turfgrass leaves didn't take the brunt of the downward force, driving rain would wash away soil and leave the top layer hardened. Turf's root system helps the soil breathe and allows water to enter the soil.

Golf greens wouldn't be "green" if not for natural turf. A diligent weed control, aeration and fertilization program keeps turf healthy, dense and attractive.

Similarly, turf reduces runoff of water and nutrients. In fact, agricultural extension agents recommend grass buffer strips around crop land and feedlots to reduce runoff and keep nutrients from entering waterways.

Because of its ability to remove nutrients from water, turf is used as a living filter to clean up sewage waste. Waste water is applied to turf and soil to be purified before entering ground-water systems.

On another safety front, turf is required along airport runways to prevent dust from flying into aircraft engines. Along highway roadsides, turf serves the same purpose. Turf also serves as a safety strip in case a plane strays from the runway or a car runs off the highway.

continued on following page

TURF



Natural turf is preferred for athletic fields. Turf takes abuse and bounces back, providing sports enthusiasts with solid footing and cushioning.

HUMAN HEALTH AND SAFETY

Family health and safety is a prime concern. Surprisingly, many dangers exist around the home. Despite its appearance as a beautiful, lush carpet of green, a lawn plays a vital role in minimizing dangers. Many Americans seem to have forgotten turf's role in maintaining the health and safety of families and pets.

Turf that is free of weeds and mowed regularly provides a safe haven for allergy sufferers. Pollen from noxious weeds, such as ragweed, greatly bothers hay fever sufferers. The National Institute of Allergy and Infectious Disease reports 35 million Americans suffer from allergies, and 9 million of those have asthma. Although allergic reactions rarely are fatal, asthma causes about 5,000 deaths per year. By stopping seedhead formation with specialty pesticides and regular mowing, the source of pollen problems is eliminated.

Healthy turf also reduces allergic reactions caused by dust and other particles in the air. It's estimated turfgrasses trap much of the 12 million tons of dust and dirt released each year into the atmosphere.

Similarly, weeds such as clover and dandelion attract insects that can be fatal to humans who experience reactions. Various insects, including bees, wasps, hornets, yellow jackets, fire ants and Africanized killer bees, are responsible for about 40 deaths a year. Severe reactions to stings occur in 0.4 percent of those stung. Controlling insects and insect-attracting weeds with specialty pesticides helps prevent unnecessary deaths.

In daily life, turf provides a clean cushion on which children can walk and play. Turf cushions toddlers' falls. Children stay cleaner in grass, too.

Turf provides solid footing and cushion on sports fields. A study by the Sports Research Institute, the National Athletic Injury/Illness Reporting Service and The Pennsylvania State University found that one in five injuries and about 44 percent of ankle, foot and knee injuries are field-related. Fields in better playing condition are safer. The study also found that although practice fields were used much more than game fields, they received less care.

This safety message has not been highly publicized. A timely weed control, aeration and fertilization program promotes dense, healthy turf, which, in turn, promotes field safety.

RECREATIONAL BENEFITS

Where would sports be without turf? No other plant takes such abuse and still provides solid footing and cushioning. While artificial turf is used on some athletic fields, players generally say it's too hot and it leads to injuries. Managers of athletic fields dislike its maintenance headaches and hefty costs compared with natural turf.

Natural turf usually is used on sports fields because:

- It provides the safest, strongest and least expensive surface for sports.
- It is resilient. Turf absorbs shock without altering the playing surface. Turfgrass leaves and shoots, thatch and soil allow the surface to bounce back.
- It recuperates quickly from injury when cared for properly.
- It provides a natural surface for walking, running and sports.

A variety of sports are played on turf: baseball, cricket, croquet, field hockey, football, golf, lacrosse, lawn bowling, polo, rugby, soccer, softball, and tennis.

EYE APPEAL

How can one judge the beauty turf adds to a landscape? One good way is to walk down a street and compare the eye appeal of nicely manicured lawns to lawns that are unkempt, thin and full of weeds. Note the connection between turf quality and your general impression of the property.

The public recognizes turf's value in home sales. A Gallup Survey found 62 percent of all U.S. homeowners believe investing in lawns and landscaping is as good or better an investment as other home improvements. Proper and well-maintained landscaping can add up to 15 percent to a home's value, according to the survey.

From a design standpoint, turf is a critical part of the landscape. It breaks up plantings. Its green color accents and offers a frame for plantings. Turf is an alternative to concrete and asphalt in urban areas.

THE NEED FOR SPECIALTY PESTICIDES

Proper care is the key that unlocks the benefits of turf. A healthy lawn provides all the benefits already discussed, but a poorly maintained lawn falls short.

Keeping a lawn in top shape requires a combination of pest control and cultural practices, such as mowing, aeration, irrigation and fertilization. All aspects affect lawn quality. If improperly fertilized, irrigated or aerated, turf will be stressed and soon will give way to weed, disease and insect problems.

Timely identification of the cause of problems and beginning treatment, such as correcting fertility, pH or compaction, are key. Next, control measures should be combined with cultural practices and a preventive pest control program.

The best guarantee for a successful lawn is use of specialty pesticides when needed. Without proper controls, you'll miss out on the health and safety benefits turf has to offer.



Managers of athletic fields say natural turf is easier and less costly to maintain than artificial turf.

HEALTHY PLANTS FOR A HEALTHY LIFESTYLE

Landscaping brings a natural calm to the hurried urban sprawl.

For millions of Americans worn from days spent in sterile business centers, our parks, golf courses and recreational areas lend a breath of fresh air. Businesses increasingly recognize the benefits of providing ornamentals — trees, shrubs, plants and flowers — in and around work areas. Attractive landscapes are linked to above-average labor productivity, lower absenteeism and easier recruitment.

In addition, homeowners view money spent on gardening and landscaping as an investment in their property and personal well-being.

To achieve healthy, thriving ornamental plants, a combination of cultural practices and specialty pesticides is key. Proper application of specialty pesticides increases the benefits gained by timely irrigation, weeding and aeration of the soil.

Plants do more than create an attractive landscape. They absorb heat and provide shade, reducing solar radiation and reflection. Plants can reduce or increase wind speed and enhance dew formation, says Richard Harris of the Department of Environmental Horticulture at the University of California-Davis.

Plants also modify wind patterns by blocking, guiding, deflecting and filtering air flow. Shrubs and ornamentals moderate cold temperatures; they also reduce heat loss and build an insulating buffer of air around buildings.

Well-designed and maintained landscapes provide the benefits of a natural environment with limited worry. Fertilizer applications encourage ground cover growth on slopes, while specialty pesticides keep insect and disease problems in check.

Flowers, shrubs and other ornamental plants add beauty to the landscape, prevent erosion, save energy, help prevent fire damage and increase property values.

EROSION AND POLLUTION CONTROL

Plants intercept rain, softening the impact that might otherwise loosen soil particles and wash them away. Mulch, commonly used in bedding areas, allows water to filter into the soil and slows surface movement; water enters the soil close to where it falls. Plant roots hold soil and further reduce erosion.

Indoor and outdoor plants also reduce air pollutants. Plant tissue, primarily leaves, absorbs gaseous pollutants.

“Plants not only absorb carbon dioxide and release oxygen into the atmo-



Plants, flowers and shrubs planted alongside business centers, such as this shopping mall, lend diversity to the landscape.

D I D Y O U K N O W ?

An attractive landscape, complete with shrubs, trees and flowering plants, delivers a number of benefits to property and people alike. Aided by insect- and weed-control measures, healthy ornamentals and plant beds:

- Positively impact the environment. Plants absorb heat and provide shade, as well as modify wind speed and air flow. They filter air pollutants and reduce soil erosion. A well-maintained landscape aids in fire prevention and control.
- Improve people's moods. Studies have found plants positively affect human health by reducing stress and increasing a sense of well-being.
- Increase property values. When selling a home, homeowners can expect to recoup 100 percent to 200 percent of their investment in landscaping. Home buyers pay close attention to landscaping.



Research has found that plants have a positive impact on human health and mood. They serve as stress-reducers and spirit boosters.

sphere, but the plant leaves, roots and soil combine to act as a highly effective air scrubber and cleaning machine," reports Dr. Bill Wolverton of the Plants for Clean Air Council, an advocacy group based in Reston, Va.

PEOPLE AND PLANTS

Humans experience a sense of well-being when around plants, research indicates. Psychologists have found an attractive landscape reduces stress significantly. A Kansas State University study found people begin to relax within five to eight minutes of being placed in a room with a foliage plant.

The positive influence of plants on hospitalized or confined patients is well-documented. One study found hospitalized patients with a view of plants recovered in 7.9 days, compared with 8.7 days for a control group. They also required less potent painkillers, experienced fewer complications and reported a much more positive hospital stay.

Other studies found significant increases in conversation among patients, time spent in the dining room and food intake when flowering plants were placed in hospital dining rooms.

PROPERTY ADVANTAGES

The desire to live closer to nature has prompted many Americans to move to wooded areas. Such scenic places, however, often are prone to wildfires. A well-maintained landscape helps protect residences bordering wooded areas.

"The greener your landscaping is...the better chance it has of stopping a fire from spreading," says T.G. Tomberg, battalion chief of the Santa Barbara, Calif., fire department. "Healthy, green trees, shrubs and lawns are one (defense) that could prevent a house from catching fire."

Additionally, especially in a soft economy, landscaping can raise property values. According to a recent survey of nearly 200 California apprais-



Landscaping, complete with a variety of ornamentals, increases property values and can speed up selling a home by five to six weeks. Attractive landscapes have curb appeal, real estate agents say.

ers and real estate professionals, a well-landscaped home increases property values significantly and can speed up selling time by five to six weeks.

When prospective buyers approach a home, the landscape is among the first things they notice. Real estate agents estimate 95 percent of house shoppers won't even get out of their cars if the home lacks curb appeal. The same applies to business centers trying to lease office space.

Money magazine estimates homeowners can expect to recover 100 percent to 200 percent of landscaping investment when selling their homes.

In addition to visual and environmental benefits, plants handle a variety of other tasks. They can direct pedestrian and vehicular traffic, as well as enhance the appearance of roadways. Likewise, shrubs screen headlight glare from oncoming traffic.

But for many, the greatest benefit is the personal enjoyment landscaping provides. Strategic use of specialty pesticides and mechanical controls ensures healthy plants for today's healthy lifestyles.



VEGETATION MANAGEMENT

APPEALING TO SIGHT AND SAFETY

Traveling cross-country, we revel in the scenery — the majestic redwoods of the Pacific Northwest, the mighty peaks of the Rocky Mountains, and the beauty of our sculptured roadsides.

While vegetation management, better known as weed and brush control, may not capture the sightseer's fancy, its role in improving efficiency, effectiveness and safety cannot be denied. It is a must for roadsides, plant sites, government installations, railroads and utilities.

At utility sites, for example, vegetation growth controls reduce the number of power outages and shortages, particularly in rainy, windy weather. While mowing and other mechanical methods keep weeds in check, specialty pesticides help achieve the desired results without undue hazard to valuable plants, the public or wildlife — at a cost much lower than mechanical methods alone. In Lowndes County, Miss., for example, a 4-year combination mowing/specialty pesticide roadside program saved the county \$110 per mile annually, compared to mowing alone. In a program that encompassed 650 miles of right-of-way, the annual savings totaled \$71,500.

However, the advantages of specialty pesticide vegetation management go beyond dollars and cents. Reduced frequency of mowing means fewer damaged windshields from flying debris and fewer traveler and worker injuries.

Specialty pesticides, used properly, control noxious weeds that threaten nearby crops and native vegetation. Their appropriate use in controlling undesirable weed growth also allows wildflowers and desired grasses to take root along right-of-ways.

Weed control also enhances travel conditions for the driving public.

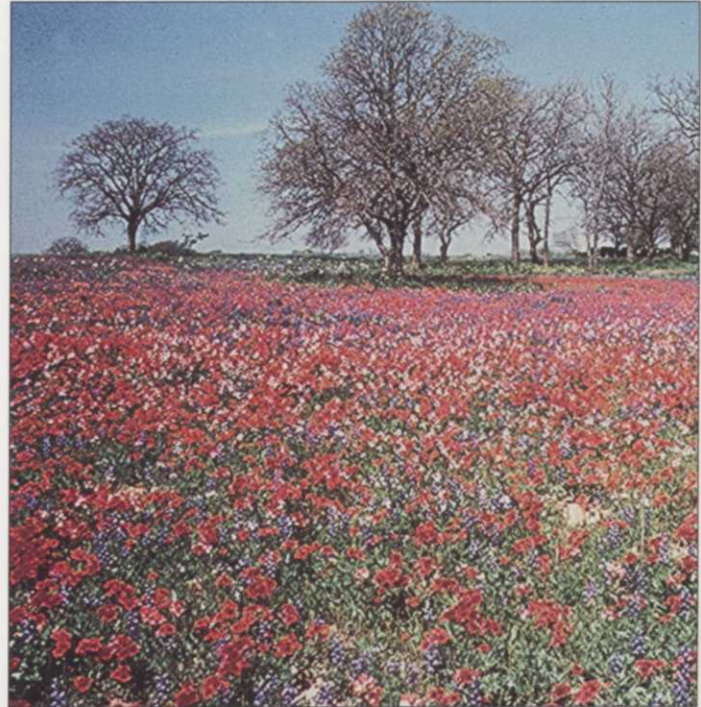
Studies indicate fewer collisions with wildlife occur when roadsides are clear. When vehicles accidentally leave the road, properly maintained roadsides provide needed space for emergency stops. Attractive median plantings also help drivers overcome the tendency to doze during long trips.

Vegetation management makes signs easier to see and lengthens sight distance. Road signs serve as safety warnings and travel guides. Safety hazards occur when such signs are hidden by trees and overgrown vegetation.

Likewise, drivers need good sight distance for safe stops and passing.

Vegetation management improves drainage, helps roads last longer and improves snow drift management. Overgrown weeds along the road shoulder prevent water from draining off rapidly.

While the absence of overgrown weeds may go unnoticed, the public safety and environmental benefits of vegetation management, bolstered by the use of specialty pesticides, are hard to miss.



Specialty pesticides have allowed roadside managers to control noxious weeds and establish eye-catching wildflower programs.

D I D Y O U K N O W ?

Overgrown vegetation, whether alongside roads, railroads or public utilities, is unsightly and often unsafe. Aided by specialty pesticides and mechanical control methods, vegetation management:

- Eliminates noxious weeds. Many weeds, including bindweed, Canadian thistle, johnsongrass and kudzu, pose a serious threat to crops and other valuable plants. Some are poisonous to livestock. Specialty pesticides prevent overgrowth of problem weeds.
- Protects public safety. When well-maintained, vegetation in medians along city streets and highways provides a buffer zone against oncoming traffic. It also improves the scenery and breaks the monotony of a lengthy trip. Road signs are more readily visible when weeds are under control.
- Allows workers easy access to work sites. Controlling weed growth along railroad tracks and plant sites increases worker effectiveness and efficiency.

PUTTING A CHOKE HOLD ON PROBLEM PLANTS

A water system is a uniquely balanced and sensitive environment. The vast majority of plant species growing in waters are considered beneficial and only rarely become problems. Natural forces limit the abundance of most native plants.

Many major aquatic weeds, however, have been introduced from foreign lands. In the absence of natural enemies, exotic weeds, such as hydrilla and water hyacinth, grow uncontrolled and rapidly invade new areas. When overgrown weeds interrupt a water system's balance, problems inevitably surface.

Joe Hinkle, environmental specialist, Florida Department of Natural Resources, estimates aquatic plants and algae in natural systems should cover 10 percent to 40 percent of a water body to provide the best habitat for fish and wildlife.

But when much more than 40 percent is covered, the natural water environment often is turned inside out. Overgrown aquatic weeds:

- Clog intake screens and turbines that produce hydroelectric power;
- Provide a breeding site for mosquitoes, carriers of human and animal disease;
- Hinder, or even close, navigation ways;
- Crowd out native vegetation essential for wildlife habitat;
- Restrict recreational activities like fishing, swimming and water skiing;
- Reduce or restrict water flow by as much as 90 percent in irrigation canals needed for crop production and in drainage ditches for flood control; and
- Reduce the value of properties and businesses nearby.

When aquatic problem weeds are managed, the environment responds positively.

Using specialty pesticides, as part of an integrated pest management system, to control unwanted water weeds gives other vegetation — types preferred by fish and beneficial aquatic insects — a better chance to compete. In fact, before aquatic products are registered, they undergo a myriad of tests to ensure no negative impact on fish and other aquatic species.

A well-balanced water body provides food, open areas and cover for waterfowl and other wildlife. Fish populations increase, and invertebrate foods, such as insects, snails and grass shrimp, thrive. A balanced aquatic environment produces oxygen vital to the survival of animal species.



Fish, birds and other animals thrive when bodies of water are free from overgrown vegetation.

D I D Y O U K N O W ?

Specialty pesticides contribute to a cleaner, healthier aquatic environment. By using specialty pesticides to keep aquatic weed growth in check, an aquatic maintenance program:

- Reduces management costs. Managed weed control allows a consistent flow of water into hydroelectric turbines, irrigation canals and drainage ditches. It keeps navigation ways open.
- Reduces complaints from the public. Weed control helps maintain strong property values for lakefront property owners.
- Increases recreational use and revenues. Weed control reduces fluctuations in water temperature, oxygen and pH levels, thus preventing fish kills.

Sport fish populations thrive in well-maintained bodies of water. Lake residents and their guests welcome the opportunity to swim, ski and enjoy other activities in weed-free water.



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A Story Straight From Crooked Stick.

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

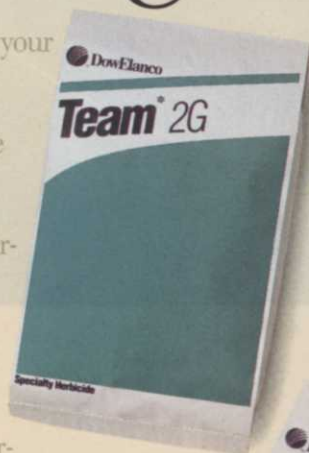
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for people interested in



Marketing, public relations: Beyond word-of-mouth

The best marketing programs are strategically planned to give your company the best possible exposure to the right audience.

■ Marketing and public relations are the most multi-faceted of business activities.

Listen to any trade show speech on marketing: the speaker asks, "What is marketing, what is public relations?" He'll take just about any answer, from free samples to door-to-door canvassing to presentations in city shopping malls.

Public relations is the great enigma of all communications disciplines, primarily because many people feel it's nearly impossible to judge the value and effectiveness of a public relations campaign.

Simply stated, marketing is the act of getting your company and its product in front of the buying public. Public relations involves image building and image maintenance in a community, city, state, or even nation.

Business consultants Michael Phillips and Salli Rasberry, authors of *Marketing Without Advertising* (Nolo Press, Berkeley, Calif., 1986), tell us that a specific marketing action plan includes four basic elements:

- The product you sell or service you perform;
- The people you already know who are in a good position to recommend your business to their friends and acquaintances;
- The list of marketing actions and events that will stimulate the people on your list to actually make recommendations; and
- A calendar of events to make your plan take flight within a specified time frame.

"Be aware," say Phillips and Rasberry, "that your general objective in designing a good marketing plan is to give your customers, associates and prospects a sense of participation in your business. When done well, this allows you to share your sense of excitement about your business at the same time that you enhance trust in your business."

A marketing action plan, according to the authors, falls into three categories: direct, parallel, and peer-based.

A landscaping company can market directly by inviting the

public to tour some of its best projects. Some of the bigger nursery companies hold annual field days for their industry customers, in a small trade show format.

A parallel marketing plan might include having some of your best customers' home landscapes or commercial sites appear in the company brochure or newsletter.

Peer-based marketing includes participation in the local landscapers' association.

If a friend's company can't handle a certain job, he's likely to think of you and refer the customer to your company. There's also no better way to learn what's going on in the business than mingling at association functions.

Market diversity—"In Wisconsin in the last few years, we've seen an interest in the use of perennials, nightlighting, and low-maintenance landscapes," says David J. Frank, president of David J. Frank Landscape Contracting in Germantown, Wisc. "We have to consider that in our ad copy; these new trends have to be supported by ad programs."

John Hooks, president of Post Properties in Atlanta, believes in promoting the value of landscape in out-of-the-way areas, like between buildings, or other unused areas. "It's not just dead space," says Hooks. "Convince people to turn those spaces into gazebos or gardens."

Frank believes the spoken word can lose its effectiveness over time, thanks to companies that promise the moon and don't deliver. "How frequently have you heard terms like 'competitive pricing,'



Frank: Tell them what you do better than anyone in your market.

'high quality,' and 'good service?'" asks Frank. "It's almost insulting at times because even the worst operator is talking about high quality products and services. It's terribly important that we demonstrate what we can do for the customer."

According to Frank, company marketing literature should say what you do better than other

Showing off at home shows: put your best work forward.

(Photo courtesy of David J. Frank)



people in your market, your purpose, tell something about the quality of your employees, past performance, productivity, products and services.

And, while you're at it, you might as well include information on products and services, affiliations, awards and technical information.

"We've taken the big brochure and reduced it for a direct mail program," Frank explains. "We qualify the prospect before we send the brochure; and we've gotten good response from this type of program."

Frank's company has been especially active in meeting with the public in two distinct ways: a home improvement show, and the annual "Parade of Homes."

The home improvement show is held at a local exhibition center, and is open to all design/build companies that want an opportunity to show the public what they can do.

For the "Parade of Homes," the public is allowed to visit the various residential properties designed and built by the company.

Market the value—Hooks believes strongly in marketing the "value" of landscape services. But to make it work, you need:

- commitment to excellence;
- commitment to customers; and
- reliance on employees.

"Failure to deliver is an Achilles' heel for many companies. Once we fail to deliver with a degree of regularity, our word becomes a fal-lacy," says Hooks.

Post is first and foremost an apartment developer, with 40 apartment communities in Atlanta, Florida and Washington, D.C.

More companies have found that involvement in their community is an effective way to practice good public relations and establish visibility.

Post's promotional activities include participation in an adopt-a-school program, in which it donates landscaping services; plantings at the Atlanta Botanical Gardens, and free maintenance of a public park in Marietta, Ga. "It's not inexpensive," admits Hooks, "but it gets our name out to the public."

An important ingredient in the marketing message, says Hooks, is a company's professionalism. "We've got to promote professionalism to the public and our people." Hooks devotes a lot of time to the

Phone Accessibility Checklist

We Offer		Updated Yearly?
<input type="checkbox"/>	White page listing in appropriate areas	<input type="checkbox"/>
<input type="checkbox"/>	Yellow page listing under applicable topics and in appropriate geographical areas	<input type="checkbox"/>
<input type="checkbox"/>	Answering services/system with clear instructions	<input type="checkbox"/>
<input type="checkbox"/>	"800" numbers	<input type="checkbox"/>
<input type="checkbox"/>	Numbers listed on cards, receipts, order forms, mailers, vehicles, repair labels, and publications	<input type="checkbox"/>

Help your customers find you with ease. Use these checklists to rate your accessibility to prospective customers. (Excerpted from "Marketing Without Advertising," by Michael Phillips and Salli Rasberry, Nolo Press, and reprinted with permission from Nolo Press, Berkeley, Calif.)

Mail Accessibility Checklist

We Offer	
<input type="checkbox"/>	Clear, stable address
<input type="checkbox"/>	Return address on everything we distribute Mail forwarding up to date
<input type="checkbox"/>	Personal relationship with mail delivery person to avoid mistakes
<input type="checkbox"/>	Clearly identifiable mailbox, with alternative places to deliver packages and postage due mail
<input type="checkbox"/>	If in out-of-way location, maps are included in mailings

people. "Don't think regularly scheduled meetings alone will foster communication," says Hooks, who believes in promoting an atmosphere that allows communication to occur at any time, both ways. This is done largely through company social events, with family participation.

—Terry McIver

For best ad results, choose the right approach and message

■ "Control your destiny...and don't fall victim to haphazard advertising," advises Barbara Lambesis, author of *101 Big Ideas for Promoting Business on a Small Budget* (Marketing Methods Press, Phoenix, Ariz., 1989). Plan your advertising and promotional activities, and select those that are likely to reach and motivate your potential customers. Other points to remember:

● **Choose your approach.** Decide what you will emphasize in your advertising. Your approach should be one that you believe in and that you are comfortable with. If you don't believe in what you are presenting to the public, nobody else will. Remember the needs and wants of your preferred customer.

● **Examine your entire business,** including the environment, service capability, facilities, dress of employees, and attitude toward the customer. Determine what you think makes your business different from your competition.

● **Select the right media.** No single media approach will reach and motivate all your prospects and customers. Repeat your advertising in the selected media as often as you can afford to do so.

● **Develop an advertising and promotion budget.** There are several ways to determine an appropriate budget. One is to determine a percentage of the operating budget, an amount per unit, or a percentage of gross receipts to apply to advertising and promotion.

● **Give your advertising and promotion plan time to work.** A business owner should develop a plan that covers at least a full year. Stick to the plan, and make adjustments as needed after six to eight months.

● **Be consistent** in message, methods and image. Make a commitment to one approach and stick to it.

Lambesis says landscaping is a strong referral industry, and existing customers are the best source of new ones. "Send thank you notes to customers, and tell them you're looking for new clients, 'just like them,'" Lambesis advises. Another suggestion: tell your existing customers they'll get a free service for each referral.

—Excerpted from "101 Big Ideas," by Barbara Lambesis. Available in bookstores, or by calling (800) 745-5047.

What you're looking at is a way to go an entire season on a single herbicide application—a control zone in the top inch of soil that keeps weeds from

one application gives you up to eight full months of control. If you like what Surflan does, but prefer a granular form, you can use XL* herbicide. It



our 40-page book, The Nursery And Landscape Guide To Responsible Pest Management. It also contains information on better ways to con-



Actually, the most this picture is containi

germinating all season long. It can greatly reduce your use of post-emergence herbicides and hand-weeding in your ornamentals.

contains the same active ingredient as Surflan. Apply it in the spring, and you'll get a full season of broad-spectrum grassy weed

How To Make Your First Roundup Your Last Roundup.

Here's a way to make your first application of Roundup herbicide last all season. Mix 3 oz. of Surflan per 1000 square feet with ¾ oz. of Roundup per gallon of water and apply when weeds are less than 6" tall. Roundup will knock the weeds down, and Surflan will keep them from coming back for the rest of the season.

We have three different pre-emergence herbicides that make this possible. All of them are very gentle on your plants. And they bind tightly to soil particles, which makes them very resistant to leaching.

control. And for woody ornamentals, you can use Snapshot* herbicide. It controls both grassy and broadleaf weeds. A single application lasts up to eight months. And it's available as a sprayable or in a granular form.

We can show you lots of ways to control weeds more safely and effectively. They're explained in



Our preemergence herbicides set up a gentle control zone that keeps weeds from germinating all season.

preemergence herbicide. Surflan is, in fact, so gentle that you can spray it directly over the top of delicate ornamentals. Yet





control insects and diseases.
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 Because you don't need a lot of her-
 bicide to get beautiful results.

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 1-800-729-3693 ext. 2492.

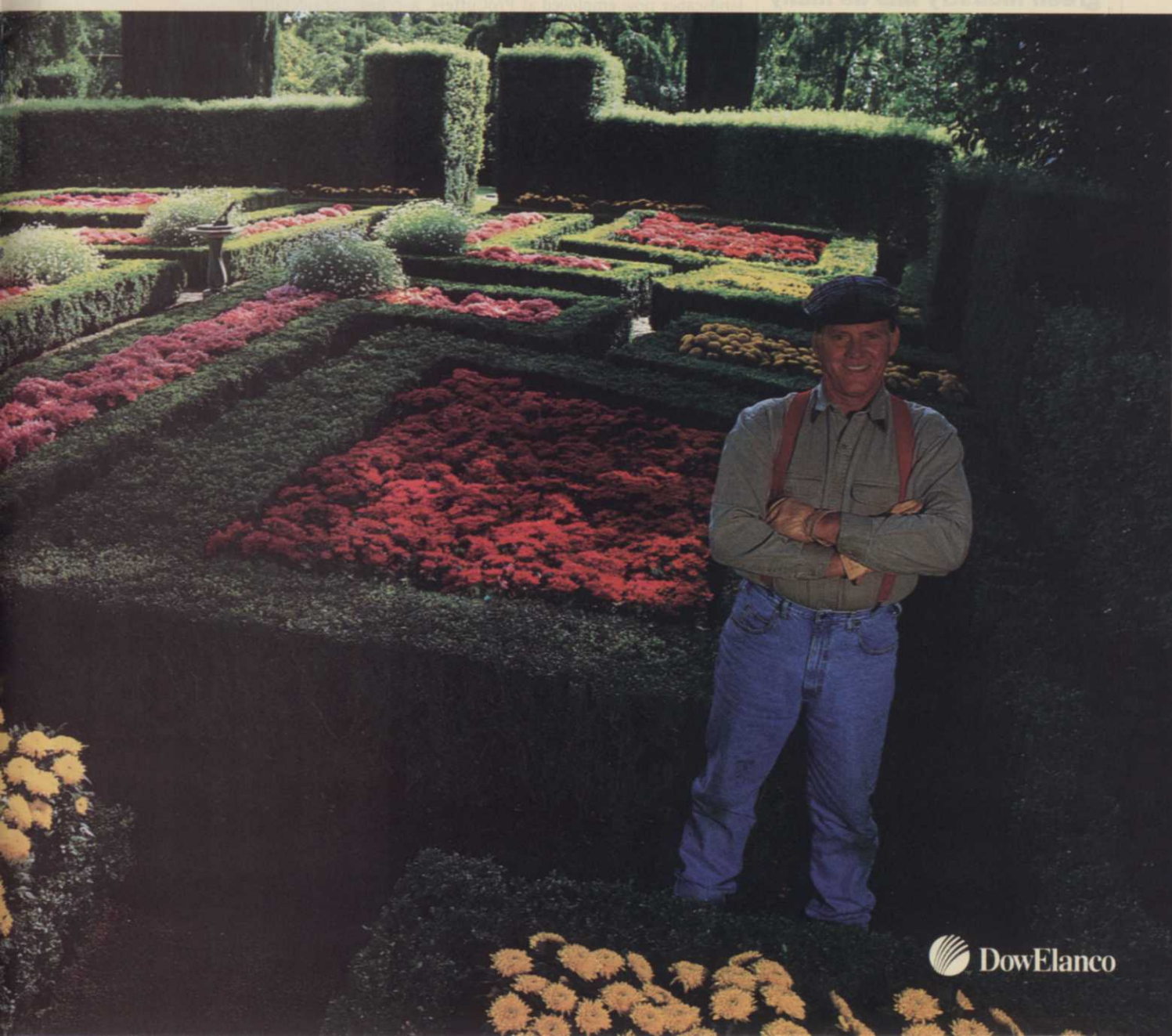


Name _____
 Company _____
 Address _____
 City _____ State _____
 Zip _____ Phone (____) _____

The chemistry is right.™

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Best beautiful thing about lawn care is done in the top 1" of soil.



What's new in mid-sized walk-behinds

No other piece of equipment used in the green industry has as many standard and optional features.

■ Do not let the appearance of the mid-sized walk-behind rotary mowers on the market fool you.

Most look pretty much the same. But outward appearance has nothing to do with the wide variety of standard and optional features the landscaper or superintendent should be inspecting before making a purchase.

For instance, according to Dane Scag of Scag Equipment, you should match the mower deck to the job size. If you're mowing mostly 1/4-acre properties, you should be using a 36-inch deck. If the properties are around 1/2 acre, you should be using a 52-inch deck. And if they're full-acre size, the deck should be at least 60 inches wide.

Here are more considerations:

● **More or less horsepower?** This is one of the main purchase considerations, according to Tony Lewicki Jr., a former landscaper now employed at ProCutters, a distributor in northern Ohio. It is most important to make sure the engine size matches its purpose.

For instance, if you're going to be cutting in wet conditions, you are going to need a more powerful engine. And if the mower deck mulches, it may need as much as 30 percent more power than a deck without mulching capabilities.



Lewicki: match horsepower with purpose

● **Belt or hydrostatic drive?** Belt drives are less expensive—by about \$1000, according to Lewicki. But they do need replacement on occasion. Hydrostatic drives, on the other hand, offer more efficient power in wet conditions, and many are guaranteed for the life of the mower.

"The difference between hydro and belt drive is like the difference between automatic transmissions and standard transmissions in automobiles," says George Hudson of Bearco Distributing, also in northern Ohio.

In addition, many manufacturers are now offering dual hydrostatic drive, with individual controls that allow true zero turning radius—which takes us to the next consideration:

● **Inside-wheel zero turning radius or true zero turning radius?** Inside-wheel zero turning radius machines lock one wheel while the mower turns on the other. The true zero turning radius machines feature independent wheel drives: one goes forward, the other in reverse, allowing the machine to pivot in one spot. But you'll usually pay more for true zero turning radius machines.

● **Electric or recoil start?** For a few dollars more, you can buy an electric start. But for a little more effort, you can opt to yank the cord and save the money.

● **Is it comfortable for the operator?** Controls and handlebars come in every configuration imaginable. Make sure that the people who will be using the mower feel comfortable with it before you buy.

● **Ease of maintenance?** Simple design usually means ease of maintenance. You should check the location of grease fittings and other areas—belts, wheels, spindle assemblies, filters—that will be routinely maintained, to make sure they are readily accessible.



Hudson: hydro like automatic transmission

APPROXIMATE GRASS CUTTING PRODUCTION PER 8-HOUR DAY (in acres)

Deck width in inches	Ground speed in MPH			
	3.5	4.0	4.5	5.0
60	14.5	16.5	18.5	20.5
52	12.5	14.3	16.1	17.9
48	11.6	13.2	14.9	16.5
36	8.7	9.9	11.1	12.3

NOTE:

Productivity will vary with conditions. These are conservative averages, based on 15% of maximum speed being lost to turns and obstacles.

—The Editors

continued on page 36

COMMERCIAL INTERMEDIATE WALK-BEHIND MOWERS

COMPANY NAME	MODEL NAME	CUTTING WIDTHS	ENGINE SIZE (HP)	SELLING POINTS	
Ariens	Commercial	32, 36	12, 12.5	gear transmission; convenient controls; large pneumatic caster wheels dual drive belts; 1" dia. spindle in heavy-duty cast iron	Circle No. 300
		48, 60	14, 16		
Bunton	Commercial	36, 48, 52, 61	14, 16, 18	dual hydrostatic drive; Eliminator grass mulcher and BLC Leaf Mulcher attachments available	Circle No. 301
Encore	Pro	32	12, 12.5	Peerless 5-speed trans.; double V-band belt, unique corners allow close trimming; Hydro-Sense has fewer moving parts	Circle No. 302
		36, 48	12, 12.5, 13, 14		
		60	16		
Exmark	5-speed	32	8.5, 12.5	basic mower	Circle No. 303
	Viking	36, 48	12.5, 14	Micro-Mulching, TriVantage deck and hydrostatic drive available	
	Turf Tracer	52, 60	14, 18, 20	floating cutting decks; anti-scalp rollers; hydrostatic drive available	
F.D. Kees	MBV models	36, 48	14	5-gal. fuel tank; easily adjustable front wheels; Peerless 5-speed transmission	Circle No. 304
	MKW models	36, 48	12.5		
Ferris	Ultra-Belt	36, 48	13	8-speed drive; runaway stopper	Circle No. 305
	Hydro-Walk	36, 48, 52, 61	13, 14, 18	ComfortPlus easy controls; dual hydrostatic drives, easy controls	
Gravely	Pro Series	32, 36	12, 12.5	Individual twin belt drives; heavy duty control linkage; choice of power unit/mower deck combinations; variety of discharges	Circle No. 306
		36, 40	12.5, 14		
		50, 60	16, 17, 18		
Honda	HRC7013ZXA	36,48	13	two-step cutter deck; clippings can be bagged or mulched; Infinitely variable speeds; blade brake system; dual drive double-wide traction belt; deck: 7 gauge sides, 10 gauge top	Circle No. 307
H'd Price	Turf Blazer	36, 48	12.5	floating deck; quick height adjusting fixed deck; individual brakes; large casters	Circle No. 308
Jacobsen	CrewKing	36, 48	14	floating deck; quick height adjusting fixed deck; individual brakes; large casters	Circle No. 309
		32, 36, 48, 60	12.5, 16		
J. Deere	Commercial 38	38	12.5, 14	entry-level price; decks, engines interchangeable with Deere 48s & 54s wet-disk drive system; exclusive oscillating deck	Circle No. 310
	Commercial Walk-Behinds	48, 54	14, 17		
Kubota	CW1336	32	12.5	4-cycle, air-cooled overhead valve engine; five forward speeds	Circle No. 311
Lesco	Commercial	32, 36	12.5	extra-deep, balanced cutting deck; double V-belt traction drive	Circle No. 312
		48	12.5, 17		
Ransomes	Bobcat Classic	36, 48	12.5	most popular model	Circle No. 313
	Bobcat	32, 36, 48	12.5, 14		
		54	14		
		61	18		
Bobcat Hydro	54, 61	18, 20	no drive belts; blade stops within 5 secs. of drive disengagement		
Scag	SW series	32, 35.5	12.5	twin power belts, comfortable, patented operator presence controls	Circle No. 314
		48	14		
		52	14, 18, 20		
		61	18,20		
	SWZ series	35.5, 48	14	cast iron hydro drive system; positive reverse; comfortable controls	
		52	14, 18, 20		
61	18, 20				
Snapper	Pro Series	36, 48,	12.5,	gear drive; loop handlegrip available; choice of engine/deck combinations variable speed drive; eight models	Circle No. 315
		52, 61	14, 18		
	Commercial	32.5, 36.5, 48,5	12, 12.5, 14		
Toro	Proline	32, 36, 44,	12.5, 14	traction units and cutter decks can be mixed & matched; 48" deck features patented Recycler feature	Circle No. 316
		48, 52, 62	16, 18		
Woods	CM36, 48	36, 47.5	13	8-speed shift-on-the-fly; fingertip control dual transmissions	Circle No. 317
	Dual HydroWalk	52	14		

Source: LM mail/phone survey, August 1992

Mower sales steady, at least

■ "The reports of my death have been greatly exaggerated."

That quote, from Mark Twain, could fairly easily be applied to sales of intermediate walk-behind rotary mowers to the golf and landscape markets, according to manufacturers.

Though there has been a country-wide hiatus on buying capital goods, the slow state of the economy hasn't made a dis-

cernible dent in sales of mid-sized walk-behind rotary mowers.

"Based on what I heard at the OPEI show," notes Mike Schaefer of F.D. Kees, "everybody's pretty optimistic about this coming year."

Stan Byers reports Bunton sales being "up slightly," and Exmark's Harold Nielsen says recent sales have been encouraging since they've "taken a surge in the last 60

days, probably because of the rainy weather early in the season."

Also typical of the comments we've been hearing was that of Jack Steinhour of Woods Div. of Hesston. "It's been a mixed bag," he told us. "Our first quarter was pretty good, but June was like somebody closed the door."

"The weather has created some problems, with rain in the Midwest and heat in the East. So this will be a status quo-type year for us."

Steinhour notes that dealer inventories are apparently becoming depleted and that the demand for repair parts has indicated a preference by golf course superintendents and landscapers to run their old equipment longer than usual.

According to the Outdoor Power Equipment Institute, sales this year of all walk-behind power mowers—including those smaller models to the homeowner—have declined 2.3 percent from 1991, which means that commercial walk-behinds are probably more than holding their own in relation to the total power mower market.

—J.R.

WALKER DOES TOP LEVEL WORK ON THE ROOF



When Atlanta based landscape contractor, **Scapes Landscape Management**, wanted to improve efficiency in mowing the award winning Northpark Town Center Rooftop Park, they found Walker fit the job. Steven Coffey, owner of Scapes, told us:

We were surprised to find the Walker gave a better quality cutting job on the Zoysia turf grass than the walk behind reel mower we had been using. In fact, the building management asked us to continue using the "new" mower on their project after the first week we used Walker. Best of all, while improving quality, we cut our job time with the efficiency of the Walker rider. And Walker fits the job because it was compact enough to fit in the service elevator to ride to the third floor park.

We invite you to discover Walker quality and efficiency on your top level work.

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Walk-behinds from page 34

● **Options?** Mulching blades are becoming more popular as laws are passed that limit the amount of yard waste going to sanitary landfills. Grasscatchers are offered by nearly every manufacturer. For an additional \$5 or \$10, you can purchase debris bags. Sulkys (sit-behind attachments) and velkys (stand-behind attachments) are also popular options.

● **Inexpensive pricetag or not?** Most of the 32- to 60-inch machines LM viewed were in the \$2500 to \$5000 price range, depending on size and options. Make sure not to buy too much machine, or it will take longer to pay for itself. Make sure, also, not to buy a machine that is too small, or your crews won't be operating at maximum productivity.

● **Finally, is the dealer customer-conscious?** Are warranties fair? Does the dealer have a dependable service department? Are parts available immediately, or must they be shipped from the manufacturing facility? Is the sales staff helpful? (It might not be a bad idea to talk to other customers of the dealer before making the final purchase.)

—Jerry Roche

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Bentgrass tees, greens, and overseeded turf. And it's the most economical fungicide per day of control on the market.

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To plow or not to plow...

...that is the question.

Whether 'tis nobler to just forget the whole thing, or to try to generate cash flow during the cold, wet, boring winter months.

by Ed Wandtke

■ Snow plowing: either you like it for the money it generates during the off-season, or you hate it for all the troubles it creates.

Having snow plowing accounts means being able to keep your summer employees—at least some of them—on the payroll throughout the year. But you've also got to make an extra effort to keep them happy; who in their right mind likes to be awakened by a telephone call from their boss at 2 a.m. telling them to report to work?



Market opportunity—How is the market opportunity for contracted snow removal services in your city? How many of your customers contract for snow services in the winter?

Today we see many customers *requiring* that the lawn care contractor provide winter snow removal services.

For some lawn care companies, this can pose a real problem. Do you have the equipment needed? Are the service expectations clearly defined? (See sidebar.) How many snow plowing contracts do you already have?

What services—Many lawn companies try to offer more snow services than they can deliver. This often causes the contractor to incur high maintenance costs, have high driver fatigue resulting in property damage or accidents, or over-commit early deadlines to too many customers.

In choosing the services you can offer, you need to determine answers to these questions:

- 1) What snow moving equipment do I have?
- 2) How many qualified operators do I have access to?
- 3) What timeline do my customers demand for snow removal?
- 4) What type of backup equipment does my company have for major storms?
- 5) Considering typical snow conditions, to what geographical area should I provide these services?
- 6) How much money is needed to make snow plowing a profitable business?

The right mix—Performing all the snow removal services is not necessary for most lawn care companies, which often do not have the full range of equipment or manpower needed. A more profitable method is to hire subcontractors with specialized equipment.

Many lawn care companies can make money by performing light plowing, salting, snow blowing and limited hand shoveling themselves. When heavier equipment is needed, subcontractors should be factored into the contract—at rates allowing some profit for you.

Three dilemmas—I often see green industry companies making promises to customers that they cannot keep. These companies have over-extended themselves, and could lose those valuable customers.

It is better to limit your winter services, or to advise clients before possible delays. The uncertainties of the weather, driving conditions, human fatigue, and state-of-emergency rules all may have an impact on your ability to deliver the promised services. Make sure your customer understands this when you sign a contract.

Also, many lawn care companies do not have the necessary equipment to deal with unusually heavy snowfalls. So knowing the true limits of your equipment will make it easier to determine the necessary backup procedures. Heavy snow, ice storms, sudden temperature swings—all can lead to unexpected snow servicing requirements.

Writing a snow plowing contract

■ "There are 10 different ways to set up a contract," says Thomas Mann of The Caretakers in Eagen, Minn. "There's a monthly rate as soon as the snow comes, a yearly rate, a yearly rate with a minimum, an hourly rate, and so on."

One of the major obstacles to providing profitable snow plowing services is the contract. If not done correctly, it could mean a lot of headaches and perhaps some legal tussles.

James Zellen, counsel for the Metro Detroit Landscape Association, recommends including these provisos in your contract:

- 1) Price per season with dates to begin and end season clearly delineated.
- 2) Minimum snowfall required to commence plowing; any additional charges over a maximum depth or drifts.
- 3) Make sure areas are described by sketch and/or monuments, and areas not covered by the contract are also delineated.
- 4) Note any extra costs for extra equipment like front-end loaders and dump trucks.
- 5) Make sure any extra plowings per snowfall are charged extra. And, by initialing, make sure customer agrees.
- 6) Make sure the contract contains language for salting. "It may take some salesmanship on your part," notes Zellen, "but convince the customer that salt and/or chemicals should be applied at your discretion rather than when called by the customer."
- 7) Make sure the customer will hold you harmless for any liability for trespass due to their neglect.
- 8) Make sure a disclaimer clause to this effect is included: "The customer agrees to hold you harmless for any and all liability due to slips and falls on his or her property."

Finally, many experienced lawn care companies sign subcontract arrangements with heavy-duty equipment operators before the season starts in order to assure themselves of priority when the equipment is needed. This is an excellent method of protecting yourself from customer complaints.

Despite the above, snow servicing can be profitable if you know the customers' requirements and expectations, what services you can realistically deliver, and how much work will need to be subcontracted.

'Environmental monitors' for golf courses in the '90s?

■ In an effort to control development of the 18-hole Chateau Whistler Resort Golf Course, the nearby municipality of Whistler, British Columbia, Canada, required the builders to employ an "environmental monitor."

Acting as an environmental watchdog, Mike Nelson consulted on water-related issues throughout the courses' development, construction and maturation.

Nelson is principal of Nelson Environmental Services in Squeamish, B.C.

According to course manager Dave Gordon, the municipality had two major concerns about the new Robert Trent Jones Jr. golf course:

1) It needed to be more environmentally responsive than Whistler's Arnold Palmer course developed in 1982, and

2) It could not harbor the risk of polluting Lost Lake, a beautiful alpine lake bounded by the course on three sides.

In response to these concerns, resort owners hired Nelson to develop water quality guidelines. The task began prior to construction when Nelson conducted studies to determine drainage patterns.

Nelson also monitored water quality in Lost Lake for a year, on a weekly basis. Using an Alpha Sampler, he took numerous water readings.

To better organize his data, Nelson developed a model to predict the effects of golf course construction and fertilizers on Lost Lake. Using an agricultural model because no workable golf course model was available, Nelson forecast a worst-case scenario showing the lake's visibility would decrease by about two meters (25 percent) and then stabilize.

After review, the municipality agreed this level was acceptable. As it turned out, tests showed the construction and later fertilization affected the lake very minimally. However, the runoff from several storms during 1990 temporarily decreased the lake's visibility by the allowable two meters.

Part of Nelson's role as environmental monitor was to document all concerns to the municipality, and to communicate on an almost daily basis with Gordon and the project manager.

Monitor duties—Because water quali-

ty of the creeks downstream from Lost Lake had to be maintained as habitat for rainbow trout, Nelson was involved in almost every aspect of the permit process, rechanneling and construction. Working with Gordon and the contractors, Nelson's job also included:

- Making sure tree removal did not impact on the lake, streams or public traffic to Lost Lake;

- Helping prepare all the major documents dealing with stream works, including forestry and cutting permits and timber stamps;

- Writing memorandums on how best to divert the creek through the irrigation pond so the contractor could work on the creek in dry conditions;

- Helping obtain clearing debris applications for both main creeks;

- Procuring Ministry of Environment, Lands and Parks work approvals;

- Placing \$360,000 worth of tile drainage used to pick up runoff and take it to the lake untouched;

- Consulting with fisheries concerning the timing of a pond diversion in order to cut a 300-meter channel through the course. (The gravel, excavation and diversion cost about \$40,000, completely

restoring Fitzsimons Creek, a spawning habitat for Dolly Varden trout.)

"We all agreed how to do things like build the settling pond," says

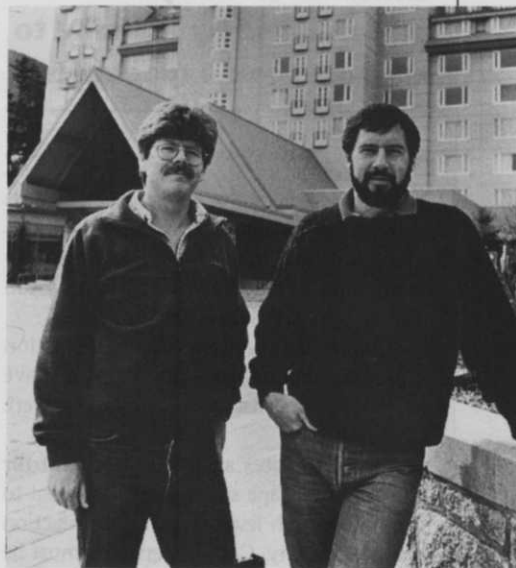
Nelson. "But it was part of my role to put our plans into a written form and submit them to the division biologist for final approval."

Last October, Nelson submitted a report to update Gordon, the municipality and the Minister of the Environment. The report included the effects of the project; conclusions; and whether the environmental monitoring program should continue.

Continuing responsibilities—Until the municipality deems otherwise, Nelson will continue to monitor water quality in Lost Lake and make fertilizer and herbicide recommendations. His job now includes taking quarterly nutrient loading budget levels up- and down-stream from the lake and submitting his findings to Gordon and the municipality.

Nelson and Gordon have worked closely to develop a fertilizer program acceptable to all parties.

"Once the course is well-established, we will reduce the amount of fertilizer used and review our program annually," says Gordon. "We never intended to dump fertilizer on this course. But now we are



Mike Nelson, left, and Dave Gordon worked together to develop water quality guidelines.

more aware than ever what we can do. We apply fertilizer in small amounts so there is very little leaching.

"There have been times when Mike's questions have helped us see the project more clearly and come up with better solutions. He also forces us to explain the rationale behind our fertilizing program. This is good; then we all know what's going on in a documented fashion."

Since the municipality's main concern of maintaining the water quality of Lost Lake has been realized, the environmental monitor's role has decreased somewhat. Still, for at least one year following the course opening this month, Nelson will continue to monitor the water quality twice a year in the spring and fall. In fact, he and Gordon anticipate water testing will eventually fall under the golf superintendent's supervision.

Nelson will continue to plug in new data in the Lost Lake environmental model, and Gordon's staff will continue to fertilize by hand within 10 meters of any water.

Both men agree that less fertilizer and more accountability are the landscape trends of the future.

—Leslee Jaquette

The miracle mower or, how to destroy employee morale

You can improve your employees' job satisfaction and job performance by learning to manage their expectations.

by Joe Carbone

■ Did you ever go to see a movie that was built up so much by advertising and promotion (like last summer's "Batman Returns") that, even though the movie was okay, you still felt that it was a letdown?

In that case, your level of satisfaction was *lower* than it otherwise would have been. Why? Because your expectations were too *high*.

This illustrates an important point for golf and landscape supervisors who want to maintain a high level of worker satisfaction and productivity. Good supervisors must be aware that they are always in a position to

influence worker expectations, and as such, can benefit by practicing "expectations management."

The key to successful expectations management is for the supervisor to become aware of how what he or she says influences what employees come to expect. And how employee expectations influence job satisfaction.

This often means that you may have to temper your own optimism, frustration, apprehension or excitement.

A good example—Suppose you order a new piece of lawn care equipment. Quite understandably, you are excited about its advanced features and the prospect of improved efficiency. Prior to its arrival, you cheerfully announce, "Wait until you see it! It's going to be the end of all your problems! These jobs will be a snap!"

You continue to sing the praises of this "miracle mower" until it arrives. Your people are trained on it, and you sit back and wait for the return on your investment. But instead of increased productivity, your peo-

ple have nothing but complaints:

"I thought you said this would be the end of all our problems."

"This thing's more trouble than it's worth."

"If you had enough money to buy this monster, how come you can't give us a raise?"

Where did you go wrong? Your enthusiasm was understandable, but by unintentionally raising worker expectations, you virtually guarantee lower satisfaction, more complaints and lower productivity.

The answer—Your feelings are your feelings. Your expression becomes their expectations. *Be moderate and realistic.* Don't get people's hopes up too high, but don't be a prophet of doom, either.

Think about how your expression affects worker expectations. Learn to manage them by becoming more aware of what you say and how you say it.

It's not that difficult, and the payoff will make the effort worthwhile.

—The author wrote "Getting It Right: What It Takes to Become a Good Front-Line Supervisor." For more information, write Carbone, P.O. Box 267, Lansing, NY 14882-0267.

Spill control protects pro applicators

■ Spills, when handling, transporting or using pesticides, are a concern for every applicator. Knowing what to do if a spill occurs, whether it's on your property or on the road, minimizes the risk and prevents water contamination.

Here are precautions to take when a spill occurs, according to A.C.R.E. (Alliance for a Clean Rural Environment):

✓ **Control the spill** as quickly as possible by restoring the container to its upright position, closing a leaking valve or hose, or putting a secondary container in place to catch the leaking solution. Use appropriate personal safety equipment like rubber gloves, rubber boots and eye protection.

✓ **Call your dealer** for advice on clean-up of their chemical. They will also give you special safety advice and other information.

✓ **Contain the spread** of the spill when the leak has been stopped by creating soil dams in the path of the spilled liquid. It may be most important to first divert a spill away from a nearby pond or stream and then attempt to stop the leak

or spill. This is a judgment call that only you can make.

✓ **Begin clean-up** as soon as the situation has been stabilized. Quick action on your part to clean up a spill is not only required by many states, but will prevent the chemical from leaching or washing away in a rainstorm.

✓ **Use absorbent materials** on

EPA regional offices:

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Chicago	(312) 353-2000
Dallas.....	(214) 655-6444
Denve	(303) 293-1692
Philadelphia	(215) 597-9370
San Francisco.....	(415) 556-6478
Seattle	(206) 442-5810
Kansas City	(913) 551-7003
New York	(212) 264-2525

pavement or concrete to capture the spilled liquids. They can then be shoveled or swept. An excellent, inexpensive material to keep on hand for such purposes is nonchlorinated pet litter.

✓ **Properly dispose** of the drenched soil or absorbent material. This will depend on what and how much was spilled and the rules for disposal in your state. Contact state or local officials for legally-acceptable options of disposal.

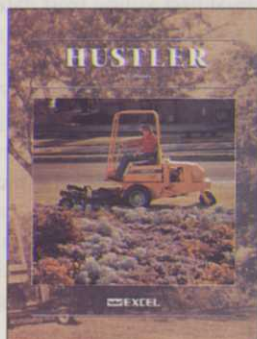
✓ **Report the spill** if required, before it threatens public health or the environment. If the spill is large or enters a waterway, you'll need to call the local EPA office, the local emergency planning office or the state health department. The reporting criteria vary with the chemical spilled, however, so check your Material Safety Data Sheet (MSDS) or call the manufacturer for further details.

—For more information on handling pesticides, contact ACRE at P.O. Box 413708, Kansas City, MO 64179-0386; phone (800) 545-5410.

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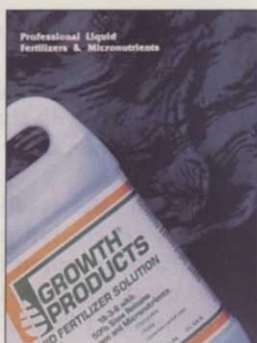
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Circle No. 307 on Reader Inquiry Card

For year-round green fields, overseeding turns the trick

The key to effective overseeding is adequate year-round maintenance of your warm-season athletic turf.

by Gil Landry, Ph.D.
University of Georgia

■ Overseeding warm-season sports fields with cool-season grasses during the fall and winter can:

- ✓ improve appearance,
- ✓ develop higher-quality facilities,
- ✓ smooth out the playing surface,
- ✓ yield superior traction, and
- ✓ increase traffic tolerance.

and pest tolerance, and manageability. The "intermediate" ryegrasses tend to perform as the name implies: between annual and perennial ryegrass.

Cultivars that perform well in the fall and do not persist in the spring are generally ideal for football fields, like first-generation perennial ryegrasses (such as Derby, Manhattan, Pennfine and Yorktown II) and intermediate ryegrasses (like Agree, Oregreen and 3CN). More persistent and traffic-tolerant cultivars (Prelude II, Palmer II, Gator, Fiesta II, Birdie II, Citation II and Assure, to name a few) are more suited to spring sports like baseball and soccer.

The overseeding rate (see table) is one of the more important factors affecting establishment and spring transition. Seeding rates of 300 lbs./acre or more

seed that is free of annual bluegrass (*Poa annua*) is essential. It is also important to use seed treated with fungicides (such as Apron, Koban or Subdue)—particularly for early fall overseeding—to help prevent seedling blight diseases.

If overseeding is properly timed, a gradual transition from warm-season turf to cool-season turf and back again results. Common timing indicators include: temperatures at a four-inch depth approaching 75°F; night temperatures consistently in the 50s, average midday temperature below 70°F; or two to four weeks prior to the average annual first killing frost date.

Preparation—Overseeding preparation generally consists of close mowing or scalping, verticutting and coring. For areas with little thatch, sweeping with power brooms and scalping is often enough preparation. As a rule, the more the turf is opened, the better the establishment rate, the better the wear and stress tolerance, and the more competitive the cool-season turf will be in the spring.

The steps:

- 1) Seed and drag into soil.
- 2) Lightly irrigate (three to five times daily until seedlings are well established, then gradually reduce to normal watering).
- 3) Minimize traffic during establishment.
- 4) Mow when seedlings are 30% higher than desired. Use a mower with sharp blades and mow when the grass is dry to reduce seedling injury.
- 5) Begin fertilization after seedling emergence, which is generally three weeks after seeding. Earlier nitrogen fertilization may encourage warm-season turf competition. (Generally, 1 lb. N/1000 sq. ft./month is adequate.)

Proper transition—Fertilization, irrigation, mowing, thatch and traffic control, cultivation and pest management throughout the year affect transition. A good transition also requires knowing and making use of normal climatic conditions. Most warm-season turfgrasses resume growth when soil and night temperatures approach 60°F. Sometimes, forcing soil



Landry: Seeding rates of 300 lbs./acre or more tend to decrease establishment time of overseeded warm-season athletic fields.

Successful overseeding involves selecting the proper seed, proper timing and preparation, maintenance, and transitioning out in springtime. It also requires maintaining a healthy warm-season turf throughout the year. It is particularly important to maintain proper soil fertility, to relieve soil compaction, and to prevent excessive thatch.

For best results, select the appropriate overseeding grasses. Annual ryegrass has rapidly been replaced by perennial ryegrasses, fine fescues and rough bluegrasses because of improved turf quality, stress

tend to decrease establishment time and increase spring transition time because of greater competition.

Using high quality, "certified" blue tag

Suggested turfgrass overseeding rates

Location	lbs./1000 sq. ft.	lbs./acre
soccer/football	7-10	300-400
baseball outfield/sidelines	5-10	200-400
baseball bench areas/infield	7-10	300-400

Source: Dr. Landry

BIOTURF NEWS

Bio-Turf: The Basics

Biological alternatives to conventional chemical control products are more than 30 years old, but are only recently attracting mass attention.

EDITOR'S NOTE: Following are excerpts from an article published in LANDSCAPE MANAGEMENT in November, 1989.

Authored by Dr. John Briggs of the Ohio Agricultural Research and Development Center, the article introduces the workings of biological control products. We also believe interest in biological products has increased considerably over the past three years, and offer this review for the newly-curious.

■ **What they are:** Bio-rational agents are biological alternatives to conventional chemical pesticides. They are micro-organisms that attack and cause diseases of insects, mites and certain weeds. Of five principal groups of micro-organisms, bacteria, fungi and nematodes are used in products marketed for landscapers.

How they work: Milky spore products are a good example of how biological control of insects take place. Milky spore products contain the resting spores of the bacteria *Bacillus popilliae*. These spores physically damage the mid-gut growth of the bacteria in the body cavity of beetle grubs, thereby destroying them.

Such products have been on the shelves for about 50 years. Newer formulations are available for control of flies, beetles and moths. Bacteria that attack caterpillars and mosquitoes are also available, and important progress has been made on nematodes that attack immature forms of insects in the soil and on plants.

How bio-herbicides work: The concept behind biological herbicides is basically

Biological research, originally meant to benefit the agricultural sector, is being applied to turf and ornamental protection.

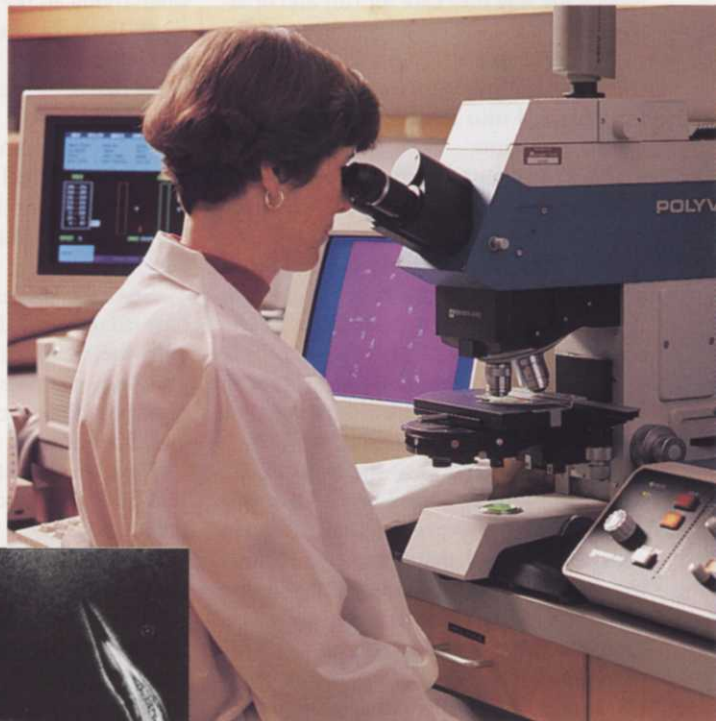
(Photo courtesy of Mycogen.)



the same. In Florida, researchers are looking at specific viruses that infect only aquatic weeds, and Abbott Laboratories has registered a biological herbicide—Devine—for use in certain counties. Landscapers can expect to add bio-rational agents to their weed-control arsenal in the near future.

For the past 30 years, another bacteria, *Bacillus thuringiensis*, (*B.t.*) has been produced and marketed by 20 different companies for managing populations of larval forms of some species of flies, beetles and moths. Several manufacturers in the U.S. have registered formulations of bacteria with the EPA and USDA for landscape use.

Important progress has been made in the production, formulation and market-



Biosys, of Palo Alto, Calif., has perfected fermentation technology to breed trillions of nematodes.

ing of nematodes that attack immature forms of insects in the soil and on plants.

An essential condition for nematode survival is adequate moisture in or on the material inhabited by the immature insect. Moist soil and/or moist plant parts are ideal sites for the activities of *Neoaplectana carpocapsae* nematodes. These nematodes can enter an insect through any body openings, particularly the mouth and spiracle, into the respiratory system.

Nematodes multiply in the body of the attacked insect which, in turn, increases nematode egg production. This action results in a continuous supply of nematodes to control additional generations (if moisture conditions are suitable).

Nematodes respond to the presence of susceptible forms of insects and literally seek out their prey.

IPM, biologicals now partners in pest control

■ Integrated pest management (IPM) programs have become a way of life for many green industry professionals seeking to modify the way they care for turf and ornamentals.

And IPM practitioners await the day when biological controls can be fully incorporated into their existing chemical control programs.

It's been around for years, but for the uninformed, IPM involves the carefully managed use of three different pest control tactics—biological, cultural and chemical—to get the best long-term results with the least disruption of the environment.

Dr. Pat Cobb, entomologist at Auburn University, likes to think IPM stands for "Intelligent Plant Management."

Cobb told attendees at the annual Lofts Seed Field Day in Bound Brook, N.J. this summer that the proper IPM program consists of proper management, monitoring, threshold setting, timely controls and evaluation. "The 'when' is more important than the 'what you do,' she noted. "IPM starts with putting a plant in the right place, and that means plant selection for the site selection."

Susan Barton, horticulture specialist with the University of Delaware Cooperative Extension, prefers the name 'Plant Health Care' (PHC), and is applying it to urban environments. She believes PHC is a more accurate label, and wants the attention taken away from the pest and focused on the health of the plant.

"Instead of one crop and several pests, you have hundreds of different plants, each with many potential pest problems," says Barton. "But by focusing on healthy plants, and periodically scouting for pests, it can be done."

The Delaware Extension "Plant Health Care" program selects appropriate plants for each site, and well-timed maintenance practices, including fertilization, watering, pruning and pest control.

One of the things the "keepers of the green" should be concerned with is insect identification, first and foremost. "Be sure you know the insect and whether it's a pest or a beneficial insect," says Cobb. "You don't want to wipe out the good guys."

Developments in bio-technology show some application in the turf and ornamental care areas, she notes. "Some of the cit-

rus products (oils) promise control for fire ants."

Other points Cobb thinks are important when trying an IPM program:

- Use area mapping to treat only the problem site.

- Sell a "service," not a "spraying program."

- Proper communication with customers is critical to their accepting or turning down an IPM approach. Explain the concept in simple terms, and stress the benefits.

Several companies operating in Maryland have adopted an IPM program in tandem with their conventional spray programs. This way, customers are offered a choice of either IPM or cover sprays. Both programs are of equal cost.

Here are the steps necessary to work IPM into your landscape pest control program:

1. Hire one person with an in-depth knowledge of ornamental insect and disease management. The ideal place to obtain such a candidate is from your state land grant university, if it has an IPM training program.

Be sure the person you hire is able to recognize beneficial insects. It is preferable to hire someone who has been trained in the methodology of IPM if the program is to work for you company. The manager must be familiar with beneficial insects, cultural and mechanical controls, biorational pesticides, and pesticides.

2. Define the type of customer you wish to work with. Different landscapes require different time commitments for a monitoring program.

The average half-acre residential landscape takes 30 to 40 minutes for a thorough inspection in the spring, and 15 to 20 minutes by midsummer, when fewer pests are active.

3. Decide on how many customers you can handle. One good scout supervisor should be able to handle 40 to 50 half-acre residential homes per season.

4. Contact your local extension service for help. Extension agents in urban agriculture are experts in plant diagnosis.

5. Decide on a price for you service. Most companies presently using IPM are charging the same amount charged for cover sprays. Determine the frequency of seasonal monitoring and the time required, then add your profit margin.

6. Advertise your IPM program, and stress its benefits. Let your regular customers know they have a choice of programs.

7. Read as much as you can about IPM and the different approaches being used.

EPA grants exemption to Ecogen's Bt research

■ Ecogen, Inc. announced recently that it has received clearance from the Environmental Protection Agency (EPA) to evaluate recombinant strains of *Bacillus thuringiensis* (Bt) in small-scale field trials without prior notification or seeking an experimental use permit before testing each strain.

Under the generic EPA exemption, the Langhorne, Pa.-based Ecogen will be able to immediately field test recombinant Bt strains it has already developed, using the company's proprietary cloning vector system. Using this vector system, Ecogen can develop recombinant Bt strains that contain new combinations of Bt insecticidal genes but no foreign genetic information.

In 1991 the company received EPA go ahead to field test its first recombinant Bt strain without an experimental use permit.

The strain, developed to control the Colorado potato beetle and certain caterpillar insects, has been found to be very effective in field trials performed during 1991 and 1992.

Ecogen has already developed and is marketing second generation Bt products.

"This EPA testing exemption significantly enhances Ecogen's Bt development program by allowing novel Bt strains with unique gene combinations to be quickly evaluated in the field," said Dr. Bruce C. Carlton, executive vice president of research and development.

According to Carlton, the research allows Ecogen to develop new strains or alter existing strains.

Mycogen settles patent suit; cuts deals with Kubota, Lubrizol

■ Mycogen Corp. and Entotech Inc. announced recently that the two biological pesticide companies had settled two lawsuits brought by Entotech against Mycogen for patent infringement and patent interference.

Entotech's patents are based on the discovery by Professors Krieg, Huger and Schnetter, of a new insecticidal technology using the *Bacillus thuringiensis* (*B.t.*) strain toxic to beetles, including *B.t. tenebrionis*.

As part of this settlement, Mycogen has formally acknowledged the discovery of Krieg, Huger and Schnetter. It also has conceded that the original *Bacillus thuringiensis* 'San Diego' strain is actually the *B.t. tenebrionis*, and has therefore disclaimed several Mycogen patents directed to the use of *Coleoptera*-specific *B.t.* Other patents in this area have also been assigned to Entotech.

Mycogen paid \$1.3 million to Entotech

to resolve past claims in the lawsuits. For an additional \$3 million, Mycogen received a non-exclusive paid-up license under the Entotech patents in the U.S. and Canada.

In July, Mycogen announced it had signed an international licensing agreement with Kubota Corp., providing for the commercialization of bioinsecticide products in Far East Asia and Japan.

Mycogen and Kubota have been field testing products in Far East Asia since 1989. Registration is currently pending in Japan, Taiwan and Korea for MVP bioinsecticide, the first product that will be commercialized in Far East Asia.

MVP was recently approved by the Spanish Ministry of Agriculture, Fisheries and Food for commercial sale in Spain.

On August 27, Mycogen said it had agreed to form a partnership with the Lubrizol Corp. to buy Lubrizol's seed and plant science unit in a transaction valued

at \$135 million. Mycogen will have a 51 percent interest in the venture, and Lubrizol will have a 49 percent interest.

The companies will work together to develop genetically engineered biological crop pesticides and seed products. Mycogen said the transactions will strengthen its technology base and broaden its participation in the emerging biological crop protection industry.

Jeffrey Zekauskas, analyst with New York's First Manhattan bank, said the venture would help Mycogen because of the patents held by Lubrizol's Agri-genetics company.

According to Mr. Zekauskas, the deal allows Lubrizol's management to focus on its specialty chemical business, "which is most important for its long-term growth."

Lubrizol, based in Cleveland, makes and sells specialty chemicals for a variety of industries, and develops and produces crop seeds and specialty vegetable oils.

Biosys links with chemical firms for marketing opportunities

■ Biosys, breeder of the beneficial nematode, recently announced it had entered into a joint, long-term partnership agreement with Archer-Daniel-Midland's Bio Products Division.

The agreement—the company's third major joint-marketing move this year—gives Biosys access to significant additional large-scale fermentation facilities for the production of products beyond its core nematode-based biopesticides. According to Biosys, the agreement includes products it develops, or those it scales up and manages for third parties.

Under the new and existing agreements, Biosys technical personnel will work in conjunction with ADM personnel at ADM's new bioproducts manufacturing facility in Decatur, Ill., to provide production technology and expertise and management of the fermentation and downstream processes. Biosys mass produces its beneficial nematodes, insect-killing micro-organisms that constitute the active ingredient in the

company's biological pesticide products, at the ADM facility. Products that Biosys can produce under the new agreement include biopesticides and other industrial fermentation products which are not competitive with ADM's own product lines.

Dr. Mark Whitacre, president of ADM's BioProducts Division, says ADM is hoping to prosper from other products Biosys will bring to ADM's facility.

The agreement with ADM marks the second time this year that Biosys has taken up with larger chemical concerns. Its first quarter report told of an agreement with Ciba-Geigy, Ltd., of Basle, Switzerland, which granted exclusive worldwide marketing rights to Ciba-Geigy for all agricultural and horticultural markets excluding the U.S., and the turf market in Japan. Under the agreement, Ciba-Geigy is to provide \$5 million of research and development funding through 1993—a drop in any research program coffer—to support development of Biosys' beneficial nema-

tode technology.

Ciba-Geigy Corp., U.S., currently markets Exhibit biological larvicide for control of turf and ornamental insect pests.

Other Biosys products are marketed in the U.S. and Europe under the brand names BioSafe Lawn and Garden Insect Control (marketed by Chevron's Ortho unit); and Sanoplant and Boden-Nutzlinge for homeowner use.

BioVector and BioSafeN biological insecticides are used for a broad range of agricultural applications.

The biggest news about Biosys—at least as far as investors are concerned—may have nothing to do with nematodes. Craig Torres, writing in the *Wall Street Journal* of April 30, noted the company could represent a takeover opportunity. According to Torres, these various marketing agreements give Archer-Daniels, Ciba-Geigy and Ortho equal time in evaluating the nematodes' customer appeal over standard chemical control products.

Biorational agents for ornamentals

■ Biorational pesticides are naturally-occurring biochemicals and pest control agents that are used to maintain pests in the ornamental landscape at an acceptable level. Here's a look at some of the most popular agents:

Pyrethrum: A botanical insecticide naturally produced by the flowers of the *Chrysanthemum cinerariaefolium* plant.

Pheromone traps: Sex attractants secreted by the glands of insects. Specific insect

pheromones duplicated and used in a trap containing a sticky substance are available for several pests.

Horticultural oils: Improved over the years, to the point where we now have high-quality dormant and summer oils for trees, they are a favorite of extension agents and state entomologists. The oil disrupts the insect's oxygen exchange, cell membrane function, and interferes with feeding habits of sucking insects.

Pesticidal soaps: Potassium salts of select fatty acids, effective against many ornamental pests, including aphids, spider mites, mealybugs and whiteflies. One such product is M-Pede insecticide, manufactured by Mycogen.

Microbial insecticides: *Bacillus thuringiensis* is the method of choice for lepidopterous larvae, particularly those with high stomach pH.

Source: Tree Care Industry

AgriDyne, Scotts to market Turplex

■ AgriDyne Technologies, Inc. announced in September that it had signed its first marketing and development agreement for its Turplex bioinsecticide—for cutworms, armyworms and sod webworms—since receiving Environmental Protection Agency registration earlier this year.

The five year agreement is with the Professional Business Group of O.M. Scott & Sons Company of Marysville, Ohio. Scotts has received exclusive rights to market Turplex to the U.S. golf course and professional turf markets in early 1993.

AgriDyne retains the rights to market Turplex internationally and to a select group of national lawn service companies.

Scotts initiated Turplex field trials over the summer, with a number of geographically dispersed golf courses.

According to Eric B. Hale, AgriDyne president and chief executive officer, Turplex is an environmentally-friendly insecticide that has been registered for various turf and lawn applications.

"This new relationship with Scotts represents an important part of AgriDyne's overall

marketing strategy of aligning with market leaders," Hale said.

"Our extensive network of field technical representatives, with programming expertise, will enable Scotts to provide the stewardship necessary to successfully launch this innovative new product," said James T. Fetter, Scotts' vice president of marketing.

The active ingredient in Turplex is azadirachtin, a compound extracted from the seed of the tropical Neem tree, known to have natural insecticidal properties.

A potent insect growth regulator, azadirachtin controls insects in the larval stages and has exhibited no evidence of insect resistance.

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temperature increases by aeration can lead to early spring growth and premature reduction of overseeding, particularly when cool spring temperatures follow.

Maintaining a mowing height that prevents the ryegrasses from shading out the bermudagrass is critical to a smooth transition. Lowering the cutting height when soil temperatures increase stresses the cool-season turf and aids in warming the soil. Although coring, verticutting and topdressing also may help increase soil temperatures, these practices recently have been shown to inhibit warm-season recovery and thus should be avoided during green-up.

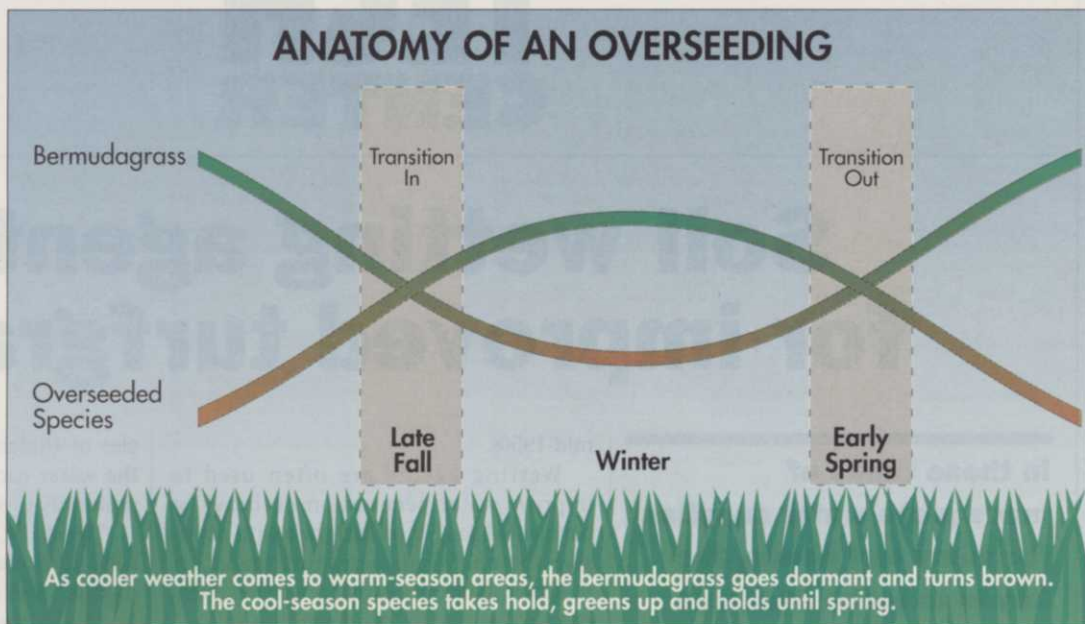
When temperatures are high enough, an application of soluble N can stimulate warm-season growth and encourage cool-season decline. Chemicals such as Retard

or Slo-Gro, Embark, Kerb and some crabgrass pre-emergence herbicides also have been shown to encourage transition by reducing cool-season grass survival.

The key to successful overseeding is the same as with most other turf management programs: it requires proper year-round turf management and understanding to

what degree growing conditions are dictated by weather.

—As extension turfgrass specialist with the University of Georgia, Dr. Landry provides leadership in developing statewide educational programs in turf management. He is president of the Sports Turf Managers Association.



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Soil wetting agents for improved turfgrass

In these times of inadequate water supplies for many turf needs, the key is to make available water more efficient.

Wetting agents are members of a broad category of chemicals called surfactants. This category also includes detergents and emulsifiers. Soil wetting agents are designed to improve the ability of water to penetrate soils without harming plants. Their use for horticulture and turf culture was first conceived and patented in the

mid-1950s.

Wetting agents are often used to improve water penetration on heavy or compacted soil, or on turfgrass with excessive thatch. What many turf managers overlook, however, is that a wetting agent can also be used to "dry down" wet soils.

How they work—Soil wetting agents primarily work by loosening the bonds that hold water molecules together, often hindering uniform water penetration and thorough drainage, according to Drew Effron of Aquatrols Inc.

Wetting agents change the physical properties of water. They reduce surface tension, which makes it possible to wet the surface of solid objects such as soil parti-

cles or thatch. With less surface tension, the water can penetrate and move more uniformly through soils.

"Wetting agents do not change the soil—they change the way water behaves in soils," says Effron.

"A wetting agent-treated soil will be easier to more thoroughly and more uniformly wet, but it will be more difficult to over-wet because of the water's increased mobility."

The basics—Soil wetting agents can be non-ionic, anionic, cationic, or a blend.

Anionic (negatively charged) wetting agents are seldom used on turfgrass because they are somewhat more phytotoxic and are suspect to leaching. Cationic

How wetting agents can help your turf

Thatch can absorb insecticides, and insecticides are only effective if they come in contact with the target organism. That's why it's sometimes better to pre-wet the thatch, and then apply 1/2 to 1 inch of water afterward.

In this way, the use of a wetting agent can increase the effectiveness of an insecticide.

Wetting agents can often increase foliar uptake of nutrients like nitrogen and iron. By spreading water over the leaf tissues and wetting the waxy cuticle, greater stomatal and cuticular absorption can occur.

In some instances, herbicide and fungicide activities may also be enhanced by wetting agents.

On sloped areas where thatch contributes to water run-off, a wetting agent can allow rapid wetting of the thatch and better water infiltration. Thatch tends to become hydrophobic (water repelling), and wetting agents help correct these conditions for one to two weeks after application.

A common observation for one to two weeks after applying wetting agents is less dew formation. The wetting agent allows dew to spread over the leaves and thatch instead of forming droplets. On golf course greens or high maintenance turfgrasses, this can inhibit disease activity. However, on home lawns, this should be viewed as a side benefit—but not of sufficient importance to warrant applying a wetting agent for this sole purpose.



Golf course superintendents are often confronted with hydrophobic sands on golf greens or fairways of very high sand content (more than 95 percent). Wetting agents are a primary treatment for these areas. Fortunately, this problem is extremely rare on other turf areas.

On hydrophilic soils (wetable soils), which are the vast majority of turfgrass soils, wetting agents have sometimes been applied to improve drainage, structure, rooting and/or aeration. These benefits of wetting agents on hydrophilic soils have not been consistently documented in research studies, nor is there theoretical reason to believe any significant benefits would occur.

In conclusion, wetting agents can be used to alleviate specific soil or climatic factors that limit growth.

When specific problems exist that wetting agents can alleviate, they are indeed beneficial.

Routine or indiscriminate use of wetting agents is not recommended.

—Dr. R.N. Carrow, Univ. of Ga.

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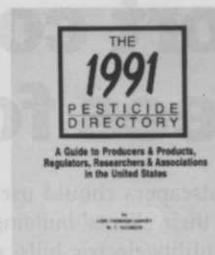
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Benefits of soil wetting agents:

- 1) Prevent, control and/or touch up localized dry spots.
- 2) Control wet areas.
- 3) Improve pesticide activity.
- 4) Improve water use efficiency.
- 5) Reduce disease resistance.
- 6) Improve turfgrass rooting.
- 7) Reduce irrigation requirements.

(positively charged) wetting agents act much like cations in the soil and are tightly held to the soil, which makes them less effective.

But non-ionic wetting agents have no charge and appear to be less phytotoxic than the other classes. They come in the form of esters, ethers and alcohols, which—in combination—provide more effective wetting over a wide range of soil types.

"Some products, too, are irreversibly adsorbed onto the soil particles so that they continue to exert their effect for several months," notes Effron. "Such products do not leach out of the rootzone, but are slowly degraded over time."

Localized dry spots—The number one benefit of using a wetting agent is the elimination of localized dry spots, a problem most affecting turf quality on golf courses but also a problem of many other turfgrass sites, according to Dr. Martin Petrovic of Cornell University.

The problem is caused by a fungal growth that produces a wax-like material that coats the particles of soil or thatch, Petrovic says. Sometimes the soil is affected by the fungus so deeply that cultivation may be ineffective. But when wetting agents are applied to localized dry spots, the soil moisture conditions are usually improved, notes research conducted at Michigan State University.

Selection—An important factor when

selecting a soil wetting agent is its percentage of active ingredient. Soil wetting agents are available in concentrations from 15 to 100 percent active. Keeping in mind that performance is a result of physically having enough material present to initially treat the water and then reside in the rootzone, products diluted with water cannot provide the same results as concentrated products unless higher rates or more frequent applications are used.

Finally, wetting agents—like any other product—can have harmful effects if not used properly. However, carefully selecting your wetting agent and carefully following the directions for application rates and frequency, you will experience fewer water-related problems, create more uniform turf growing conditions, and improve water use efficiency.

—Sources: Drew Effron, Aquatrols Inc., and Dr. Martin Petrovic of Cornell University ("Wetting Agents," *Weeds Trees & Turf magazine*, July, 1985.)

Hort consultant suggests using trees for shade, lower utility bills

■ Landscapers should use more plants around their clients' buildings in order to reduce utility/electric bills, says J. Joseph Pearl, a horticultural consultant in Mesa, Ariz.

"Whether it be in Arizona or somewhere in the Midwest, trees, shrubs and vines will work if planned out properly," Pearl says.

He suggests using trees that are deciduous and full in their growth habit.

"Although trees like mulberry (*Morus alba*) will provide incredible shade, they tend to use an awful lot of water," Pearl points out. And the shade is so dense under these trees that not many plants will grow under them. "It is best to select low-water-use trees, especially in the Southwest, where water is expensive and at times hard to come by."

Pearl cites mesquite trees (*Prosopis spp.*) on the west side of a home or building in the Southwest. "By planting these trees in groupings of threes, fives and sevens, the shade will be marvelous," he notes. "These fast-growing trees will block the sun in the summer while allowing the sun to hit the building in the winter, thus warming the building."

Pearl also suggests using ash (*Fraxinus*

spp.) "These globe-shaped trees will give ample shade in the summer and, once defoliated, allow for warming sun rays to heat the building."

As the plants mature, Pearl points out, the protected area will be much cooler,

though cooling effects are generally immediate.

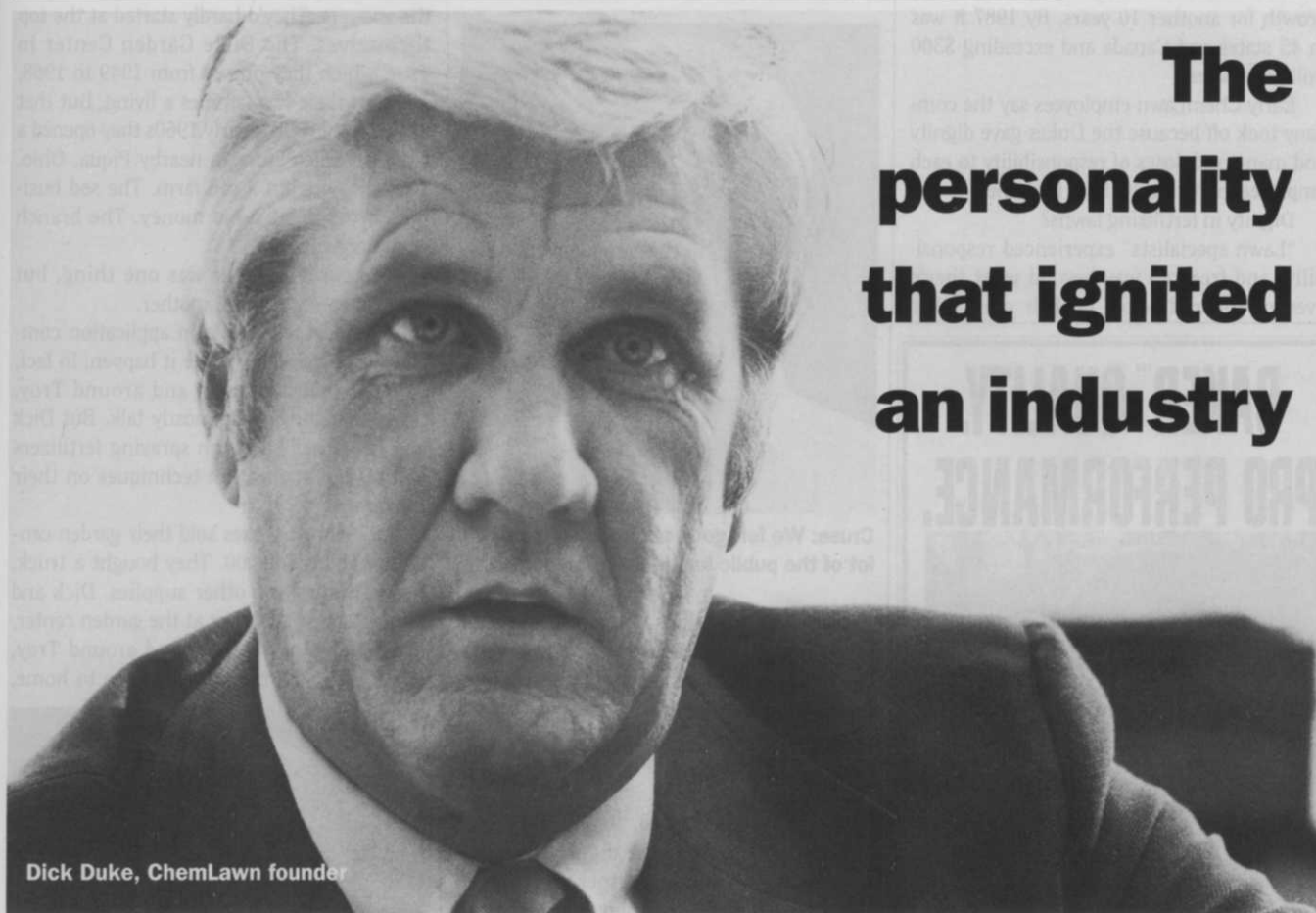
"Regardless, plan the landscape so that the trees planted on the west side of the home or office will provide shade in the summer and the sun's rays in the winter."



Pearl says mesquite trees help cool buildings in the Southwest.

LAWN CARE INDUSTRY

The personality that ignited an industry



Dick Duke, ChemLawn founder

Photo courtesy of ChemLawn Corp.

EDITOR'S NOTE: This is the first of a three-part series examining the business life of ChemLawn, Inc.—its rise in the lawn care industry, how it shaped and dominated an industry and, finally, the events leading to its disintegration and sale during the last 12 months.

How ChemLawn's Dick Duke convinced an unlikely team to share his dreams of employee self-worth, and customer service.

■ "Does that guy fill the truck every night?" Jack Steggeman asks his partner. Steggeman, a rookie lawn specialist, and a fellow applicator climb from their truck. They're bone tired after a dawn-to-dusk day

of spreading fertilizer on Dayton-area lawns.

"You don't know him?" says the second incredulously. "That's Dick Duke. Here, let me introduce you to him."

"Help yourselves to a beer in the refrigerator. You've earned it" says Duke by way of introduction.

Now, 22 years later and still working for ChemLawn in the Troy area, Steggeman remembers this first meeting with Duke wearing overalls, a flannel shirt, a cap, and horsing 40-pound bags of fertilizer onto the truck bed.

The complex personality of Dick Duke remains alive in the memories of those who worked with him during ChemLawn's early days: in ChemLawn's infancy, nobody worked for Dick Duke, they worked *with* him.

Dick Duke—energetic, charismatic, sometimes fiery, always unpredictable. He built ChemLawn from very little cash, a whole lot of determination and an idea. In the process, he excited and gave respectability to an entire industry.

"Dick's strongest character trait was his compassion for people and his belief in the importance of the individual's human dignity and integrity," says John Wright, who joined ChemLawn almost at its inception 24 years ago. "Dick never fit into any category."

Curious words from a man who, like other earliest ChemLawn employees, received harsh criticism from Dick Duke on occasion. Duke could charm a fellow co-worker with either praise or criticism. "It was always for your own good," says one of the company's first branch managers.

Indeed, Wright, now a businessman in Columbus, Ohio, and long separated from ChemLawn, says Duke was more than a friend: he was a mentor. Wright maintains a memorial garden in his Columbus, Ohio, office park dedicated to Duke's memory.

Dick Duke didn't live long enough to see ChemLawn at its zenith. He died of a heart attack at age 48 in August 1977 at his home in Hilton Head, S.C.

Dignity—By then, ChemLawn was not

even a fifth as large as it would eventually become. Paul, Dick's father and partner in ChemLawn's founding, survived him by almost 15 years. The philosophy upon which the Dukes built ChemLawn sustained its growth for another 10 years. By 1987 it was in 45 states and Canada and exceeding \$300 million in sales.

Early ChemLawn employees say the company took off because the Dukes gave dignity and man-sized doses of responsibility to each employee, particularly those first ones.

Dignity in fertilizing lawns?

"Lawn specialists" experienced responsibility and freedom way beyond what they'd ever experienced before in their nine-to-five

jobs. Not only did they spray lawns but they also collected payments, figured out their own routing, loaded and maintained their own trucks—all the while being required to spend whatever time they had to answer their



Cruse: We felt good about doing a job a lot of the public had looked down upon.

clients' lawn questions. They also liked the warm respect they received from customers. During an era of peace marches and long hair, ChemLawn applicators were uniformed, clean shaven, and helpful.

Dick Duke realized he couldn't watch over every employee.

And, he didn't want to.

So, he gave them the dignity to watch over themselves. And prosper. If a person minded their route, they should expect to go up ChemLawn's career ladder.

Just do it—Maybe he didn't have a choice, but Dick Duke's style was to delegate, delegate, delegate. That didn't change either. By the mid-1970s, ChemLawn branches began sprouting more than thousand miles from their Troy, Ohio, birthplace.

"What should I do?" John Cruse, a ChemLawn employee from 1970-1977, remembers asking Dick Duke after John had agreed to go to Dallas to open a new branch.

"How should I know? That's what you're going there for," Dick snapped back, recalls Cruse.

"He always made you feel like what you were doing was important, even when he was chewing you out," says Cruse, who now operates Easy Lawn in Piqua, Ohio.

One of Duke's oft-repeated sentiments became a company dictum: Take care of your employees. Take care of your customers. Then, the company will succeed.

"We got the people from filling stations, from factories, from farms," recalls William A. Copeland, ChemLawn's longtime former

chief financial officer. "Some of the people had little education, some had degrees. It seemed we all joined together."

Common people—Maybe that was because the Dukes didn't pretend to have all the answers. They'd hardly started at the top themselves. The Duke Garden Center in Troy, which they nursed from 1949 to 1968, provided their two families a living. But that was about it. In the early 1960s they opened a branch garden store in nearby Piqua, Ohio. They also bought a sod farm. The sod business brought in some money. The branch store flopped.

The garden center was one thing, but Dick's dream was quite another.

He talked about a lawn application company years before he made it happen. In fact, some acquaintances in and around Troy, Ohio, thought he was mostly talk. But Dick and his father had been spraying fertilizers and testing application techniques on their sod farm.

In 1968 the Dukes sold their garden center for about \$40,000. They bought a truck, hoses, pumps and other supplies. Dick and Tom Grapner, a laborer at the garden center, began spraying lawns in and around Troy, while Paul sold the service home to home,



Steggeman: Duke sometimes met and gave us a hand at the end of a work day.

business to business.

Not the first—ChemLawn wasn't the first outfit promising to make homeowners' lawns greens—for a price.

Typically these companies though didn't see beyond their own city limit signs.

"In some of these businesses, the guy who owned the company also ran the truck," recalls Hartle Lucks, who, at age 65, started a second career in 1970, this time with ChemLawn. (Lucks helped streamline and centralize ChemLawn's purchasing during

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Lucks: 'Dick Duke is the kind of man that made America great.'

his seven years with the company.)

"If that guy started having problems on a lawn, he began looking at dollars. Maybe he wouldn't do something on that lawn if it was going to cost him money.

"ChemLawn had a different attitude. The Dukes told their men that if customers' lawns aren't green, they don't need us. Whatever it takes, you do it," says Lucks.

"Curb appeal" had arrived.

Dick saw it coming.

American homeowners *would* pay for green lawns, particularly if the price was right. ChemLawn's was. The service didn't cost much more than if a homeowner did it his or herself.

And anyway, it looked mighty impressive to neighbors when the ChemLawn truck rolled up to a homeowner's property.

Starting midway through the 1968 application season, the Dukes soon became so busy they could hardly keep up. Within a year the customer base had jumped from 400 to 4,000, and the Dukes had decided to

expand to Columbus, 60 miles to the east. ChemLawn hired its first employees:

●John Wright, who had owned his own small landscape company in Union City, Ind.. He'd often driven the short distance to buy sod from the Dukes.

●Richard C. Lyons, who, in 1969, was fresh from a military hitch in Vietnam and was, just before joining the Dukes, working for a tiny newspaper.

●Russell "Bus" Favorite, Jr., 16 years a supervisor with the Hobart Brothers Co., manufacturer of kitchen and industrial equipment. He started to sell for ChemLawn.

●William Copeland, 19 years a salesman. He'd called on the Dukes often in the 1960s. He became ChemLawn's treasurer and, later, chief financial officer.

●Larry J. Van Fossen, a young member of the law firm of Porter, Stanley, Treffinger and Platt. In 1975 he became ChemLawn's president.

Moreover, the new ChemLawn employees themselves started coming up with ways to serve customers and increase production.

Jerry Waker, for example, during the winter of 1969, designed the hose reel that made every applicator's task much simpler.

"I'm kind of short and wrapping that hose on the truck was a big job for me," recalls Waker, one of the company's first lawn specialists. Through 1970 and 1971, Waker and several others then went on to design the nozzles and guns that became synonymous with ChemLawn. Waker now works his farms in southwest Ohio.

"People saw what happened to their yards when they became our customers and they started feeling real good about it," says Russ Favorite, Jr., who always carried a pocketful of dimes to telephone back to the Troy office for new leads while he was canvassing Dayton neighborhoods.

Customers ready—Favorite recalls stopping his Ford Galaxy at a red light on the Troy-Dayton road. Another motorist jumped from his car and ran over to it. Breathless, the man blurted out he'd recognized the ChemLawn logo on its passenger door.

"Do you have a brochure you can give me?" he asked a startled Favorite.

"So I handed him a handful of brochures and took off because the light had changed," says Favorite.

ChemLawn couldn't generate enough



Waker: CL applicators devised a lot of the equipment now taken for granted.

cash its first season to finance such explosive growth, so in 1970 it offered its 4,000 customers in Troy, Dayton and Columbus 30,000 shares of stock at \$5 per share. Employees could also buy into the new company. Dick Duke encouraged this. Many did.

The stock raised \$150,000 and allowed ChemLawn in 1970 to lease offices and new trucks for branches in Cincinnati, Louisville, Indianapolis, and Toledo, Ohio.

"We put a business plan together, as crude as it was considered by today's standards," recalls Bill Copeland.

"We made projections in '70, '71 and '72 and kept revising those projections and extending them on out. We met all of those projections. We said, 'we're going to do this' and 'we're going to do that' and 'we're going to open new markets.' And based upon what we've done so far, we can continue to do this in city after city across the country."

By the end of the Dick Duke era, ChemLawn had grown way beyond its Midwest roots. By 1977 it was a national company with \$50 million in sales.

"Dick Duke took a business that a lot of the public looked down upon and he made it important to both us and to our customers," says John Cruse.

—Ron Hall

ChemLawn sales 1969-1977

Fiscal Yr Ending	Net Revenues (in thousands)	% Chg	Net Income (in thousands)	% Chg
12/31/69	\$226		\$34	
12/31/70	\$981	134.1	\$9	(73.5)
12/31/71	\$2,288	133.2	\$69	666.7
12/31/72	\$4,892	113.8	\$282	308.6
12/31/73	\$9,760	99.1	\$512	81.6
12/31/74	\$15,216	56.2	\$1,196	133.5
12/31/75	\$22,848	50.2	\$689	(42.4)
10/31/76	\$36,270	N.A.	\$2,497	N.A.
10/31/77	\$48,913	34.9	\$2,271	(9.1)
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HOT TOPICS

ChemLawn: By any other name, is it still ChemLawn?

TruGreen ponders the value of ChemLawn's name while some ChemLawn franchise holders ponder the value of their non-compete clauses.

MEMPHIS, Tenn.—ChemLawn lives—in name anyway.

Several ChemLawn franchise holders say their trucks will continue to say ChemLawn even though they're now sending royalty fees to their former biggest rival, TruGreen. TruGreen, a subsidiary of ServiceMaster Consumer Services, Inc., bought ChemLawn this past May.

"ChemLawn still has tremendous name recognition. Why would you throw that away?" asks Richard Thoma, Erie, Pa., the biggest ChemLawn franchisee in the United States.

As summer drew to a close, Thoma was one of only two (of about 10) ChemLawn franchise owners who had settled the season-long dilemma of competing against, technically, their owner. In other affected markets, franchise owners began researching, often with the aid of attorneys, the significance of the non-compete clauses in their agreements.

Several franchise holders had renewed their agreements with ChemLawn and its former owner, Ecolab, Minneapolis, just months before TruGreen's \$100-million purchase of the company in May. They say

they were unaware of ChemLawn's impending sale.

Major swap—Thoma and TruGreen resolved their conflict by trading markets. Thoma vacated Wausau and Green Bay, Wis., Elkhart and South Bend, Ind., and Kalamazoo, Mich., and received the Pittsburgh market in return. Virtually all of his lawn care operations are now contained within Pennsylvania.

"We're pretty excited," says Thoma. "This is, as far as I know, the first time a



franchise has ever broken into such a large market (Pittsburgh)."

As of late this summer, others, however, remained in limbo.

"My trucks will continue to say ChemLawn because I have a franchise agreement," says Terry Korczyk, whose franchise in the Midland, Saginaw and Bay City area of Michigan goes head-to-head against a larger TruGreen branch.

"I have a business to run. They have a

business to run. That's what's most important day-to-day.

"But," says Korczyk, "the situation has put some stress, not only on me, but also on my employees. That's real hard."

Territorial rights—Korczyk's contention that he has exclusive rights to his territory is echoed by other franchise holders like Denny Rothlisberger in Peoria, Ill., Norman and Linda Mogohon in Springfield, Ill., and Allen and Sharene Little in Terre Haute, Ind.

"I've been in this business 21 years and had hoped to be in it another 15," says Rothlisberger. "We had all intentions of being a ChemLawn franchise another 15 years."

Allen and Sharene Little say they've been "ChemLawn people" for a long time—he since 1972, she since 1976. They became a franchise holder in 1987. They

don't think it's right they've had to compete against TruGreen which services their market from a Bloomington, Ind., branch.

"We remain in competition with them and we're paying royalties to them. That's the situation," says Sharene.

A similar scenario in Springfield, Ill., has Mogohon's operation and TruGreen battling for market share in the Springfield and Decatur, Ill., area.

"We've taken a market that was a losing

ELSEWHERE

**Husband/wife landscapers
fight back after Andrew,
page 58**

**U.S. EPA issues new
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proposition for the ChemLawn Corp. and developed it into a very nice small business," explains Norm McGohon, who started as a lawn specialist for ChemLawn in 1973 in Louisville.

"I couldn't tell you, honestly, one bit more what's going on with my relationship with TruGreen than I could on June 15," he said. On June 15, he and several other franchise holders met with TruGreen's Bob VonGrubben in Indianapolis.

We're trying—TruGreen Vice

President Norm Goldenberg admits TruGreen just hasn't been able to resolve every conflict as quickly as everybody would like.

"Some of them are moving ahead and some we just haven't gotten to yet," he says. "In those areas where we overlap, we're trying to do whatever we can to work out whatever needs to be worked out, whether it's a trade, whether it's buying or selling. We're somewhat flexible."

Meanwhile, he says, TruGreen has realigned its business into 12 geographic

regions, with staffing from both TruGreen and the former ChemLawn. There has been some consolidation of service, he says, but—more often—TruGreen and ChemLawn operations continue to operate independently.

"We're just trying to get the production done for this season," he says.

As for the ChemLawn name itself?

"ChemLawn obviously has a lot of value to its name, and we're not going to overlook that," says Goldenberg.

—Ron Hall

Living through Andrew's wake

CUTLER RIDGE, Fla.—Hulon and Victoria Moorman, owner and president of Emerald Landscape Maintenance here, saw the ravages of Hurricane Andrew firsthand.

Three weeks after the devastating wrath of Mother Nature was unleashed on south Florida and Louisiana, things still weren't back to normal—by a long shot.

"My house was destroyed, my office was destroyed, and most of my equipment was stolen by looters," Hulon tells LANDSCAPE MANAGEMENT. "Everything I did for two weeks was without the luxury of an office," he remembers. "I was walking around with my pockets full of pieces of paper with notes on them."

Andrew's 160-mile-an-hour winds swept across the Gulf States Aug. 24th, causing \$15-20 billion damage. Hardest hit was the Homestead area, where members of Florida's Landscape Maintenance Association flocked (story, page 60).

"Everybody around here was in a daze for three to four days," Hulon Moorman recalls. "And landscaping—as always—was not the top priority." (An estimated 63,000 homes were ruined.)

Trying to get Emerald's business back up to speed has not been easy, despite the understanding of most of its customers.

"Even the simplest things you take for granted became major obstacles," relates Moorman:

- "Fuel, ice—these things were almost impossible to get. I spent basically three-fourths of a day to get one chain saw working. I had to call some other members of the LMA like Mike Wilhelm and Tom Lund to help me get things, because I didn't even have ready access to a telephone.

- "And you don't have the luxury of time to make decisions. You're forced to make quick decisions without research. Some of them turn out right, some of

fallen oak trees. The first contractor he contacted said it would cost a minimum of \$3500; a second offered to do the job for \$750.

Though currently just trying to return his business to normal, Moorman believes that the south Florida area will eventually have plenty of jobs for professional landscapers like himself. More re-sodding, re-landscaping and irrigation work than ever before will need to be done. However, "at

this point, it's not professional landscape maintenance but more debris removal. And, of course, everybody and his brother is out doing that."

The Moormans were lucky: they had enough money in the bank to purchase replacement equipment. (Their old equipment had not been insured for theft.) Ads for new workers were being placed in the local newspapers. And, as this issue of LM went to press late last



Andrew so ravaged Florida and Louisiana that trees shorn off at their base like this were not an uncommon sight.

(Photo courtesy of Tom Lund)

them don't.

- "I had to let my key workers off. As a matter of fact, I've lost all but five of my people. They had bigger fish to fry."

Moorman says that a typical one-day job might take two or two-and-a-half times as long. While his company's policy is to charge extra for storm damage clean-up, "tales of profiteering" were running rampant, according to an Associated Press report.

The AP reported on one Dade County man who wanted his driveway cleared of

month, Hulon was trying to retain a sense of optimism.

"You can see progress by the day. I haven't been able to get crews back on schedule yet, but within a couple of weeks, they should be," he says.

"Most of the debris will be gone in the next few weeks.

"And, in six to eight months, I'm hoping to look back at this as a positive experience. We may even consider expansion down the road."

—Jerry Roche

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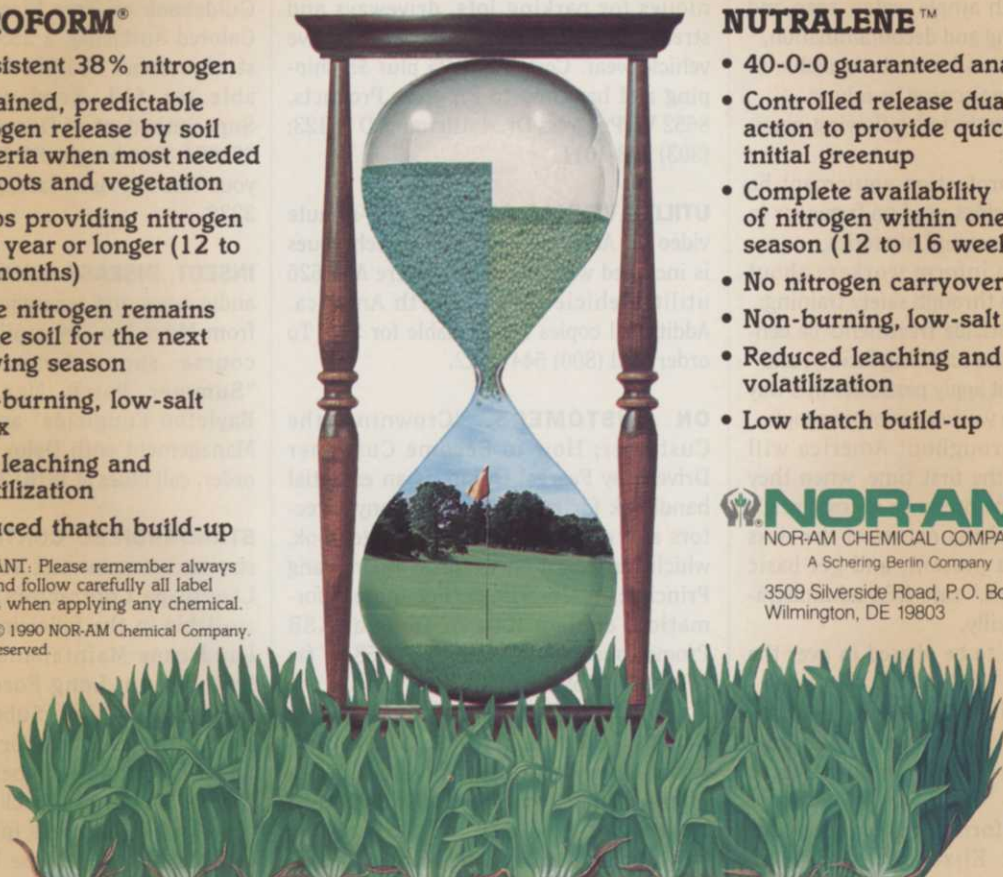
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So. Florida landscapers clean up after Andrew

LARGO, Fla.—More than 60 members of Florida's Landscape Maintenance Association visited Homestead the weekend of Sept. 5-6-7. The clean-up detail was coordinated by LMA member Tom Lund.

"We have a lot of family down there," Lund told LANDSCAPE MANAGEMENT. "The day after the storm hit, we took them ice, water and canned goods. I saw the problems and knew help was needed."

LMA executive director Charles

Bingaman noted that "most of our members there were wiped out."

Lund originally tried to coordinate through the American Red Cross but received little assistance. He finally went through the Homestead town manager and was allowed to set up a campground for LMA helpers on one lady's lawn. Before

the weekend was over, they had cleaned up 69 properties in one neighborhood.

A second clean-up expedition was planned for Oct. 2-4, this to help at Fairchild Tropical Gardens in South Miami, where numerous botanical treasures were wiped out.

"Fairchild is no longer Fairchild," says Lund. "We're trying to get 150 to 200 volunteers there, volunteers who are basically LMA members because we need people with expertise. We want to save as much material as possible."

—J.R.

Worker protection against pesticides announced by EPA

WASHINGTON—A new standard to protect workers who handle pesticides has been announced by the U.S. EPA.

The revised Worker Protection Standard requires that:

- employers provide pesticide handlers and workers with ample water, soap and towels for washing and decontamination,
- transportation be made available in case of pesticide poisoning or injury;
- entry be restricted following pesticide applications;
- personal protection equipment be used for all pesticides used on farms, or in forests, greenhouses and nurseries;
- employers inform workers about pesticide hazards through safety training;
- a list of pesticide treatments be centrally located in the handling facility; and
- handlers not apply pesticides in a way that could expose workers or other people.

"Workers throughout America will know, often for the first time, when they are working in the presence of toxic pesticides, understand the nature of the risks these chemicals present, and get basic safety instructions," says EPA administrator William K. Reilly.

The rules are to be phased in over the next two years.

The rules will not apply to government-sponsored pest control, home gardens or lawns or research on unregistered pesticides.

For more information on the standards, contact Elizabeth Lawder at Responsible Industry for a Sound Environment (RISE) by phoning (202) 872-3860.

INFO CENTER

Useful literature and videos offered to LM readers

SNOW PLOWING VIDEO... Learn the rudiments of proper snow plowing by viewing a 27-minute video from Progress Products. The video covers everything from plow hook-up and vehicle check-out to possible problems and dangers. The video also covers the various plowing techniques for parking lots, driveways and streets, as well as ways to avoid excessive vehicle wear. Cost is \$59.95 plus \$5 shipping and handling to Progress Products, 8652 W. Progress Dr., Littleton, CO 80123; (303) 973-1011.

UTILITY VEHICLE SAFETY... A 9-minute video on AMT safe operational techniques is included with each John Deere AMT626 utility vehicle sold in North America. Additional copies are available for \$15. To order, call (800) 544-2122.

ON CUSTOMERS... "Crowning the Customer: How to Become Customer Driven" by Feargal Quinn, is an essential handbook for managers, company directors and employees. The 160-page book, which was based on Quinn's "Boomerang Principle," costs \$19.95. For more information, contact Kate or Doug at KSB Promotions: phone (616) 676-0758 or fax (616) 676-0759.

CUSTOMER RELATIONS... The Professional Lawn Care Association of America offers "What You Should Know About Lawn Care Products and Services," a brochure in question-and-answer format. For a free sample of the brochure and information on ordering bulk quantities for customer distribution, send a self-addressed, stamped envelope to: PLCAA,

1000 Johnson Ferry Rd., NE, Suite C-135, Marietta, GA 30068-2112.

TREE PLANTING... A publication released by the U.S. EPA focuses on practical approaches to reducing temperatures in communities. "Cooling Our Community: A Guidebook on Tree Planting and Light-Colored Surfacing, a 255-page reference, stock number 055-000-00371-8, is available for \$13. Send pre-payment to Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250. Or, to use your Visa or MasterCard, phone (202) 783-3238.

INSECT, DISEASE MANAGEMENT... Two audio tapes and accompanying brochures from Miles Inc. are available *free* to golf course superintendents. They are "Summer Patch Management with Bayleton Fungicide" and "White Grub Management with Dylox Insecticide." To order, call Miles at (816) 242-2000.

STANDARDIZED CONTRACTS... Sets of standardized contracts from the Associated Landscape Contractors of America are available in the following subject areas: Landscape Maintenance; Short Form Installation; Long Form Installation; Landscape Design; Subcontract Agreement. Cost is \$1 each for ALCA members, \$2 each for non-members, with a minimum order of one pack (50 forms). To order, send your check (plus 6% shipping) to ALCA, 12200 Sunrise Valley Dr., Suite 150, Reston, VA 22091, phone (703) 620-6363 or fax (703) 620-6365. MasterCard and Visa orders accepted.

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CUSTOMER SERVICE TIPS

Brightening the day for your customer service reps

by Ed Wandtke

■ An inside customer service representative's time is spent handling customer complaints, solving problems, and performing some telephone sales or taking orders each day. This job is often one of many frustrations and very few thank-yous.

The challenge as an owner or manager is motivating these individuals and helping them maintain a positive attitude while dealing with customers.

These individuals are extremely important since they are your front line in customer communications. Having them come to work upbeat, excited about dealing with customers, and coming across concerned

about customer needs on the phone is very necessary.

If your company service reps do not have a very positive attitude, I am sure your company maintains a below-average level of customer satisfaction.

Money has proven to be very ineffective in motivating most customer service representatives.

The most effective methods of reinforcing customer service qualities and the values you want your representative to reflect when communicating with the customers is to repeat these qualities and values to the employees often. In addition, you should try some of the following techniques:

1) Send customer service personnel to training seminars

in your local community. For example, "positive thinking" seminars have typically enhanced their day-to-day performance on the job.

2) Hold regular meetings with customer service personnel to keep them informed about what is going on in the company. Particularly pay attention to how the company's performance could be affecting this person.

For example, if there have been a lot of "reworks" as a result of customer complaints, this could cause your service rep more stress than is typical for the job. Be aware and lend a hand if necessary.

3) Ask customer service personnel how the company can improve, and reward them for their ideas—even if all of them are not practical. Remember: the more ideas you get, the better the chances you find one that is exceptional. A

good reward could be taking that person to lunch away from the office.

4) Provide an upbeat, enjoyable setting for your customer service personnel to work in. A good way to keep people upbeat is to purchase a calendar with a joke a day. At least this way, each day there will be something different and humorous about the job.

Can't you always tell when you are talking to a person with a smile?

A conscious effort each day to sincerely check up on how your office personnel are doing can prove invaluable in the long run.

—Ed Wandtke owns Wandtke & Associates, a green industry consulting firm. His services are available by writing 2586 Oakstone Dr., Columbus, OH 43231, or by phoning (614) 891-3111.

GREEN INDUSTRY EVENTS

OCTOBER

8-10: American Society of Consulting Arborists annual meeting, Biltmore Estate, Asheville, N.C. Telephone: (303) 466-2722.

9: Target Specialty Products' annual fall seminar and exhibit, Red Lion Hotel, Ontario, Calif. Telephone: (800) 352-3870.

12-14: Production of Field Grown Nursery Stock, Virginia Tech, Blacksburg, Va. Telephone: (703) 231-5445.

19-20: Pacific Horticultural Trade Show, Los Angeles (Calif.) Convention Center. Telephone: (916) 567-0200.

21-23: Golf Summit, Marriott Orlando (Fla.) World Center. Telephone: (407) 744-6006.

21-24: Atlantic Seedsmen's Association Convention, Charleston, S.C. Telephone: (814) 237-0330.

22-23: Xeriscape '92, San Diego (Calif.) Convention Center. Telephone: (619) 443-1756.

22-24: International Society of Arboriculture Rocky Mountain Chapter annual meeting, Town House Inn, Great Falls, Mont. Telephone: (406) 721-7275.

23-25: New Jersey Tree Expo, Sheraton Poste Inn, Cherry Hill. Telephone: (908) 246-3210.

26-27: Fertilizer Outlook '93: Ana Hotel, Washington, D.C. Telephone: (202) 675-8250.

29-31: Texas Association of Landscape Contractors

annual conference and exposition, Infomart/Loews Anatole Hotel, Dallas. Telephone: (214) 241-1399.

NOVEMBER

1: Southwest Outdoor Power Equipment Show, Arlington (Tex.) Convention Center. Telephone: (512) 443-7999.

1-4: International Irrigation Exposition, New Orleans, La. Telephone: (703) 524-1200.

1-4: Southern Agricultural Chemicals Association annual convention, Hilton Head Island (S.C.) Hyatt Regency Hotel. Telephone: (912) 995-2125.

1-5: New Tree Biology Seminars, Appalachian State University, Boone, N.C. Telephone: (704) 262-3045.

3: Florida Chapter, Sports

Turf Managers Association meeting, Pompano Stadium. Telephone: (305) 938-7477 or (305) 938-0217.

7-9: American Society of Landscape Architects annual meeting, Washington (D.C.) Grand Hyatt Hotel. Telephone: (202) 686-2752.

8-10: Georgia Golf Course Superintendents Association annual meeting, King & Prince Hotel, St. Simons Island. Telephone: (404) 769-4076.

8-11: National Institute on Park and Grounds Management annual educational conference, Richmond, Va. Telephone: (414) 733-2301.

11-15: New Tree Biology Seminars, Appalachian State University, Boone, N.C. Telephone: (704) 262-3045.

GREEN INDUSTRY SHOWCASE

Golf course industry gets new bentgrass

Lofts Seed Inc. has added Southshore creeping bentgrass to its line of turfgrass varieties.

Southshore became available this fall for use on golf course greens, tees and fairways.

It was developed through a breeding program of Dr. Richard Hurley, Lofts' research director, in cooperation with Rutgers University. Hurley and Dr. C. R. Funk of Rutgers University collected its derivative plants from old putting greens located in New Jersey, New York, California, Arizona and Pennsylvania.

An attempt was made to identify putting greens in old, established golf courses that had been subjected to many years of wear, close mowing, disease, heat and moisture stress.

From the original highly tolerant collection, further selection was based on

attractiveness, disease resistance, moderate aggressiveness, upright growth, medium-bright green leaf color and medium-



fine leaf texture that produces less grain.

In university trials, Southshore is displaying excellent resistance to brown patch and producing a very desirable medium-bright green color with excellent overall turf quality.

Next year, it will be included in National Turfgrass Evaluation Program tests.

Southshore can be used alone on putting greens, or in combination with other improved bentgrass varieties for fairway and tee overseeding.

It is being used on golf courses in various parts of the country, sometimes as a blend. Pine Valley has seeded its new nine holes with Southshore.

"It's been doing very well for us," says Lofts turfgrass agronomist John DeMatteo. "Its overall quality on golf courses is great."

DeMatteo says that Southshore is in the same "elite" category as some of the other newer bentgrasses.

Circle No. 191 on Reader Inquiry Card

SHOWCASE PRODUCT REVIEW

New software version for lawn maintenance

L-W Software says that a significantly improved version of "Clip" lawn maintenance software was released last month. The new version, 4.0, has been tested by seven different-sized lawn maintenance companies for more than six months. The company says the program greatly increases management productivity.

According to L-W, all companies that tested the software agreed that the new version is an unprecedented success. The Clip software has gone through two substantially improved versions, each the result of ongoing customer/programmer interaction. The new version will retail for the same price as its predecessor: \$695 for up to 125 customers and \$1190 for the unlimited (up to 99,999 customers) package.

Circle No. 192 on Reader Inquiry Card

Monitor trucks daily, accurately, affordably

The Vehicle Monitoring System company in Orlando announces a low cost Electronic Monitoring System to help keep accurate records of the coming and going of trucks and company cars.

The Time Keeper is described as a low cost, solid state vehicle monitoring system that monitors daily vehicle movements including daily start time, number of and duration of stops, and ending time for each day. The unit installs on any vehicle, has no moving parts and does not require a personal computer.

It consists of three parts: the recording unit is placed in the vehicle; a memory module is plugged into the recording unit, and one reader unit in the office extracts the recorded information from the memory module in seconds.

Circle No. 193 on Reader Inquiry Card

In-tank mounting system accommodates 4 sensors

Flowline's "Smart Trak" is an in-tank mounting system which enables a user to install and adjust up to four Flowline sensors, of any technology, to any depth, along the entire length of track. Smart Trak is made entirely of 20 percent glass-filled polypropylene and is available in two, four or six foot lengths.

Each Smart Trak section may be cut to any length.

Smart Trak mounts vertically, through the top wall of the tank, installed with a two-inch NPT fitting or to the side wall of the tank, installed with Flowline's side mount bracket. Smart Trak is mixer compatible, with velocities up to 1.5 fps.

Each kit includes everything necessary to install one sensor, less the fitting and conduit termination.

Circle No. 194 on Reader Inquiry Card

PRODUCT REVIEW

Flow sensor design serves in harsh environments

The Signet insertion flow sensor is made to provide reliable and accurate signals, while offering ease of use and flexibility. Using the proven insertion design principle, the Signet 8500 Flow Transmitter features a two-wire, isolated, process-ready, 4-20 mA output signal that is computer-compatible. The 8500 is totally self-contained in a waterproof housing to remain precise, even in extreme conditions involving temperature, humidity and moisture.

The rugged construction will extend service life by resisting harsh applications created by acids, salt solutions and alcohols.

The Signet product line includes a full range of plastic pipe fittings, valves, tank linings, heat exchangers and flow-monitoring and process control information.

Circle No. 195 on Reader Inquiry Card

Tractor series expands to widen job capabilities

Kubota Tractor Corporation has added five models to its popular L-Series tractor line-up. The new L2350 model and the additional clutch and transmission packages available on the L23650, L2450 and L3650 models give greater range to the L-Series line, according to the company.

The 20.5 PTO horsepower L2350 is equipped with the basic features needed for efficiency in standard agricultural and light construction applications.

The tractor's performance is enhanced by power steering and durable, wet disc brakes. Both 2WD and 4WD models are available, with standard gear transmissions for eight forward and two reverse speeds.

Glideshift Transmission is available on the L2650, L2950 and L3450 tractors, with clutchless shifting through eight forward and eight reverse gears.

Circle No. 196 on Reader Inquiry Card

Maintenance software uses IBM-compatible system

Omni Comp, Inc. has released a new version of its best-selling Service Call Maintenance Management software for IBM compatible microcomputers.

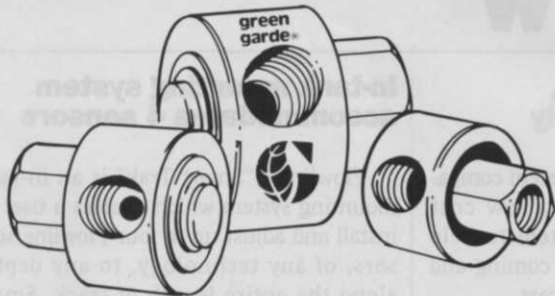
The new version incorporates the latest programming technologies and adds dozens of significant enhancements, including: mouse support, color, extensive pop-up windows and memos, networking, report macros, speed keys, new methods of generating preventive maintenance work orders, and browse windows.

Omni-Comp says it has formed a joint agreement with Deluxe Computer Forms for multi-part maintenance request and work order forms.

OmniComp says Service Call is used at more than 500 sites for tracking corrective and preventive maintenance work orders and spare parts inventory.

Circle No. 197 on Reader Inquiry Card

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Circle No. 113 on Reader Inquiry Card



Finally, a quality light-weight with plenty of mowing muscle.

At less than 10 PSI ground pressure, the all-new Jacobsen LF-3810 treads lightly on the most delicate fairways. Yet its 5 heavy-duty

7" diameter, 10-blade reels deliver the high torque to handle all kinds of grasses and conditions beautifully. Plus, 26" balanced reels and our unique rear roller down pressure system produce tournament quality results at production mowing speeds, hugging undulations other machines would scalp.

Accessibility you'll flip over.

The entire operator platform and rear hood flip up, completely out of the way, for easy access to all key components. Also, the center cutting unit slides back, for quick, easy adjustments.

Comforting news for operators.

The LF-3810 is loaded with operator comfort features, including: full suspension seat with armrests; 5-position tilt, power steering; easier two-pedal hydrostatic drive; full instrumentation; even holders for their favorite soft drink and personal items.

Transverse engine mounting helps you handle

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This up-front automotive design produces surprising traction and excellent climbing ability in a 2-wheel drive unit.

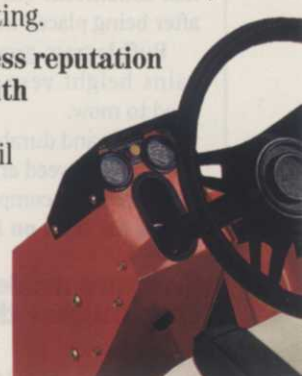


Exclusive SynchroLift control—Cross cutting at its easiest & most productive.

A simple push or pull of the synchronized lift levers is all it takes with this system. The machine automatically raises the reels to turning height, then lowers them for nimble, flawless cross cutting.

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**JACOBSEN
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Jacobsen Division of Textron, Inc.

Circle No. 108 on Reader Inquiry Card

THE FIRST TRULY HEAVY-DUTY LIGHTWEIGHT.

PRODUCT REVIEW

Buffalograss marketers promise low maintenance

The Turf Farms of Crenshaw & Doguet have introduced two buffalograsses it says are improved strains from Texas A&M and the University of Nebraska. According to the Texas Water Commission, buffalograss requires water every 21-45 days under normal conditions. The species fills in quickly after being placed in sod or plugs.

Buffalograss grows thick and lush, but gains height very slowly, reducing the need to mow.

Tough and durable, buffalograss lessens the need for weed and pest control because it is dense and competitive.

Circle No. 198 on Reader Inquiry Card

Tractors made to do the job, the tougher the better

The GT series of tractors from Simplicity combines rugged construction

and dependability with maneuverability, ease of handling and modern styling. A 14-hp shift-on-the-go gear model and a 16-hp hydrostatic unit are available.

All-steel hoods completely enclose the



tractors' air-cooled engines. The overhead valve engines with oil filters and full pressure lubrication are mounted to a massive welded steel mainframe.

Seven gauge frame rails absorb the heavy shocks of tilling and pulling loaded attachments for long hours of use.

Simplicity says its gear model provides on-the-go shifting through a unique six-speed transmission design.

Circle No. 199 on Reader Inquiry Card

New walk-along trencher has three engine options

The Model 1020 is a new walk-along trencher from Ditch Witch. A 10-hp class unit the 1020 is a compact machine that is extremely easy to operate, is productive, reliable and easy to maintain.

The 1020 has mechanical powered digging chain and hydraulic ground drive. Three engine options are available

The 1020 replaces the Ditch Witch 1010.

According to the company, the new model offers a greater value than the model 1010.

Circle No. 200 on Reader Inquiry Card

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Send ad copy with payment to: Susan Ramseth, **LANDSCAPE MANAGEMENT**, 7500 Old Oak Blvd., Cleveland, Ohio 44130, or call (800) 225-4569 ext. 742 outside Ohio; (216) 891-2742 inside Ohio; FAX (216) 826-2865.

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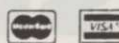
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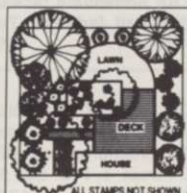
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The job called for heavy work at elevations that could bust your lungs, over terrain that could break a truck's back. Then going in again to erase any sign you'd been there. No sweat.

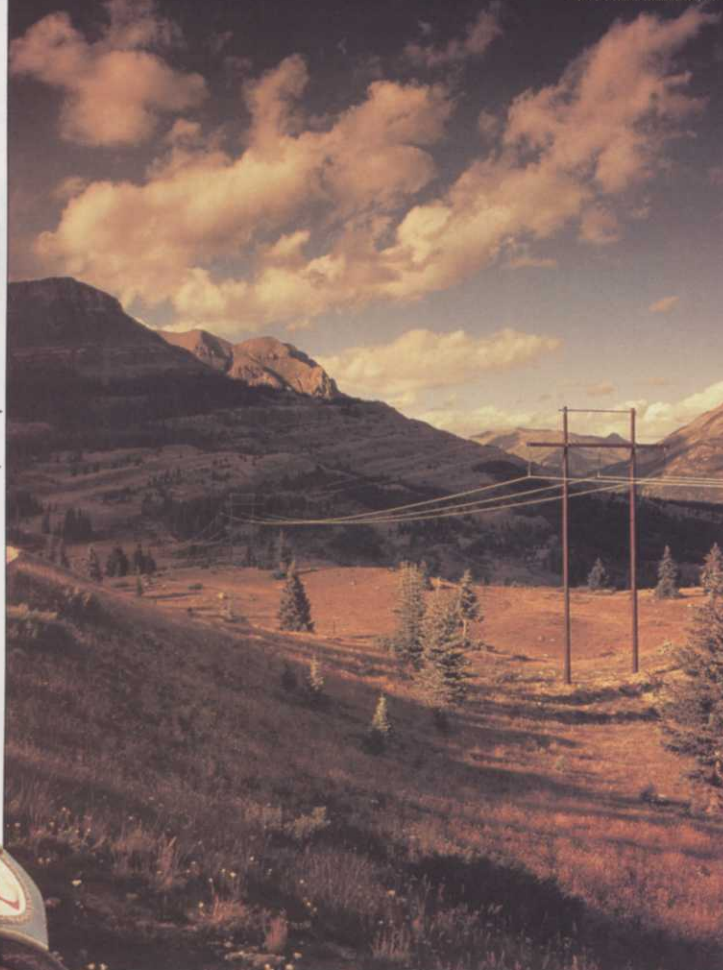
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on horseback or on foot," foreman Mike Williams says. "A Polaris gets you in, hauls your gear, does the job, gets you out. Good machines."

Like every Polaris, Mike's machines have automatic transmission, full floorboards and one-hand braking. Now he's looking into a new Polaris Big Boss: all-terrain vehicles with 850-pound tiltbed, load rack and tow hitch, six-wheel stability, and four-wheel or six-wheel drive. Handy features whether you're clearing brush at 12,000 feet or hauling equipment around a jobsite.

So what advice would Triple-L Construction offer other companies in need of strong, dependable help?

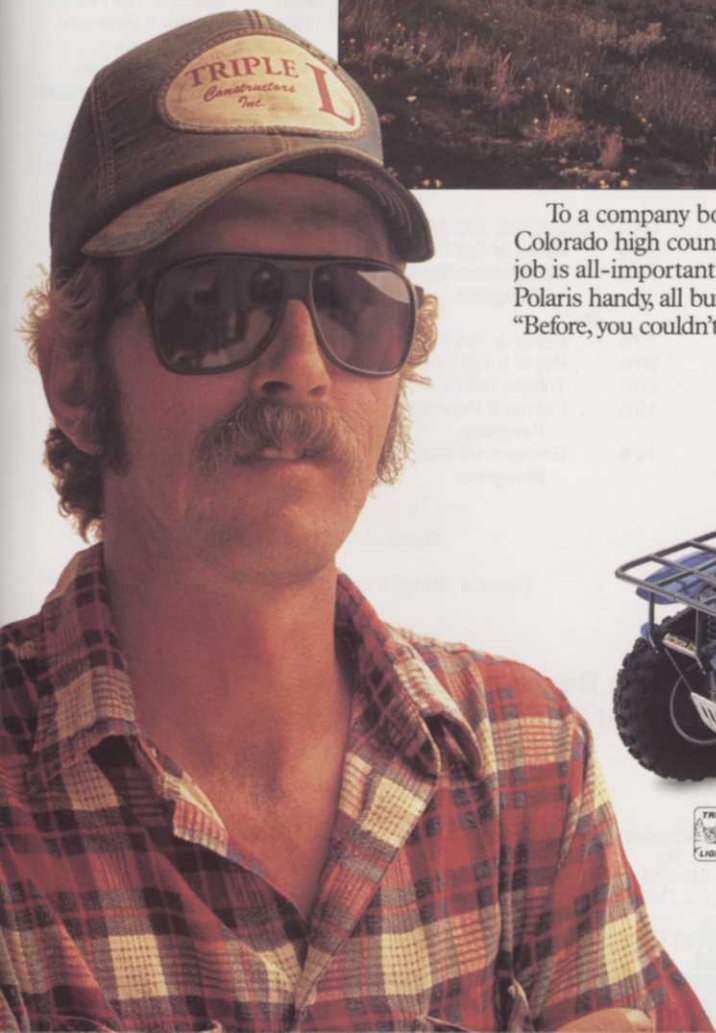
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RIDE THEM AS CAREFULLY AS WE MAKE THEM.

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The darker color of Rebel Jr is apparent in these test plots comparing Rebel Jr to other tall fescues.

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Rate of Establishment: While Rebel Jr displays moderately slow growth, its rate of establishment is faster than the extreme dwarf varieties such as Bonsai.



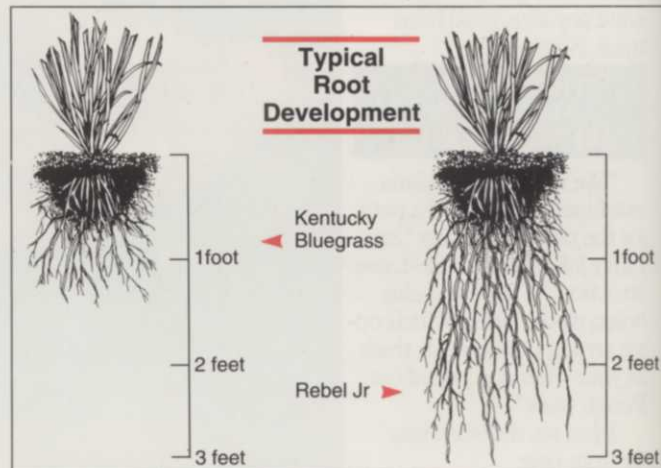
The dense, slower growth of Rebel Jr can be seen one week after mowing.

Top Performance with Less Maintenance: Rebel Jr from seed or sod is adaptable to full sun or moderate shade. It needs only low to medium maintenance and uses 25% less fertilizer than Kentucky bluegrass.



Rebel Jr will give excellent performance in sun or shade. It's ideal for use in hard-to-maintain areas such as golf course green banks, slopes and bunker faces.

Improved Drought Tolerance: A deep, extensive root system allows Rebel Jr to display excellent drought tolerance.



Recommended Seed Mixtures for Sun or Shade

HOME LAWNS

- 100% Rebel Jr Tall Fescue
- or
- 90% Rebel Jr Tall Fescue
- 10% Baron or Nassau Kentucky Bluegrass

- or
- 34% Rebel Jr Tall Fescue
- 33% Rebel II Tall Fescue
- 33% Tribute Tall Fescue

GOLF COURSE ROUGHS

- 90% Rebel Jr Tall Fescue
- 10% Georgetown Kentucky Bluegrass

- or
- 30% Rebel Jr Tall Fescue
- 30% Rebel II Tall Fescue
- 20% Tribute Tall Fescue
- 10% Palmer II Perennial Ryegrass
- 10% Georgetown Kentucky Bluegrass

ATHLETIC FIELDS

- 80% Rebel Jr Tall Fescue
- 10% Palmer II Perennial Ryegrass
- 10% Baron or Nassau Kentucky Bluegrass

- or
- 30% Rebel Jr Tall Fescue
- 30% Rebel II Tall Fescue
- 20% Tribute Tall Fescue
- 10% Palmer II Perennial Ryegrass

- 10% Baron or Nassau Kentucky Bluegrass

UTILITY TURF

- 100% Rebel Jr Tall Fescue
- or
- 34% Rebel Jr Tall Fescue
- 33% Rebel II Tall Fescue
- 33% Tribute Tall Fescue

GOLF COURSE BUNKERS

- Rebel Jr Tall Fescue Sod
- or
- Rebel Jr, Rebel II and Tribute Tall Fescue Sod

Use Rebel Jr wherever a tall fescue is suitable. You'll get dark color, moderately slow growth and top performance in sun or shade.



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