

sc12j

Lawn & Landscape MAINTENANCE

MORE THAN 40,000 BUSINESS READERS MONTHLY

MAY 1991 • \$2.50

A 7437 X 0000
LIBRARY-SERIALS
MICHIGAN STATE UNIVERSITY
E. LANSING MI 48824



BUILDING RELATIONSHIPS WITH CLARENCE DAVIDS & CO.

*Forty years haven't dampened
its commitment to the
community or landscaping.*

ALSO IN THIS ISSUE:
SPECIAL REPORT:
**Irrigation
Management**

**Pesticide
Management**

**Industry
Diversification**

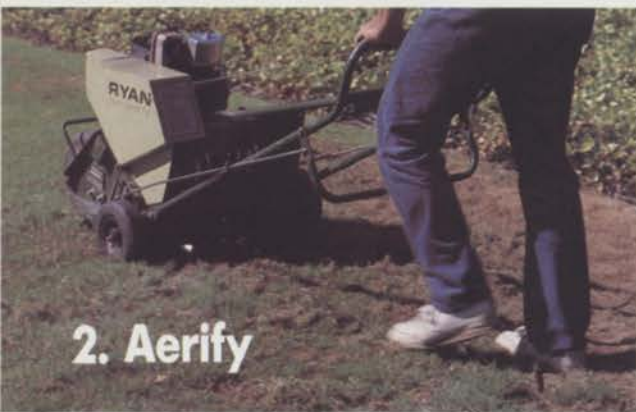
**Renewed
Interest in
PGRs**

A close-up photograph of a person's hand gently touching a lush green lawn. The grass is vibrant and well-maintained.

Turf-Seed products lead the

RENOVATION REVOLUTION

Home lawn two months after overseeding with Turf-Seed ryegrass and bluegrass products.



Quality Turf Products Green-Up Your Bottom Line

Lawn renovation can be a profitable addition to an LCO's services, but like other programs, satisfied customers are the key to continued success. Along with professional technicians, proper equipment and timely service, the grass seed used make the long lasting impression that creates referrals. And Turf-Seed, Inc. has the premium quality seed for *your* program ... in *your* region. Ask for these products by variety name ... because it's really *your* name that's on the line.

Northern Turf Renovation

Perennial Ryegrasses
Citation II • Birdie II •
Omega II • Manhattan II •
CBS II Blend • 246 • 2DD •
2HH 'Charger'

Kentucky Bluegrass
Midnight • Challenger •
Columbia • Galaxy Blend

Southern Turf Renovation

Tall Fescues
Olympic • Apache • Monarch
• Silverado • Eldorado •
Triathalawn Blend

Perennial Ryegrasses
Citation II • Birdie II •
Omega II • Manhattan II •
CBS II Blend • 246 • 2DD •
2HH 'Charger'



PO Box 250, Hubbard, OR 97032
FAX 503-981-5626 TWX 510-590-0957

1-800-247-6910

Use ROUNDUP® herbicide to kill undesired turf. ROUNDUP® is a registered trademark of Monsanto Company.

reader service 14

Lawn & Landscape MAINTENANCE

VOLUME 12, NUMBER 5

MAY 1991

SERIALS
MAY 17 1991
MICHIGAN STATE UNIVERSITY

Cover Photo:
Jim Nasheim, Lansing, Ill.

FEATURES

24 Building Relationships With Clarence Davids & Co.

Stable growth through quality service distinguishes this company's long tradition in the maintenance industry.

28 Making A Big Splash With Low-Volume Drip

Good design and automation, like any other type of irrigation, are the answers to efficient drip.



p. 24



p. 28

32 Water Regulators: Finally Finding A Niche?

In early water conservation days, maintenance firms were plagued by water-conserving products that didn't work, causing many operators to remain wary today.

40 Preplanning Goes a Long Way In Irrigation Installation

Keep your installation practices consistent with the quality of work you want to provide.

46 Horticultural Waste Dilemma Spurs Interest in PGRs

With landfills banning disposal of yard wastes, lawn and landscape contractors look to plant growth regulators for help.

50 The Ins & Outs of Handling, Mixing, Applying Pesticides

Pesticide management is not a new concept, but it's not always taken as seriously as it should be.

54 Nursery Stock: Not Just For Wholesale Growers Anymore?

Running your own growing operation is something that crosses the minds of many landscape contractors. What are the risks and rewards?



p. 54

DEPARTMENTS

73
Advertiser's Index

12
Association News

71
Calendar

72
Classifieds

6
Editor's Focus

20
Industry Viewpoint

18
Labor Focus

Labor shortages are the industry's biggest roadblock to success.

8
News in Brief

62
People

66
Products

57
Trees & Ornamentals

LAWN & LANDSCAPE MAINTENANCE (USPS 657-470 ISSN 1046-154X) is published 12 times per year. Copyright 1991 G.I.E., Inc. Publishers, 4012 Bridge Avenue, Cleveland, Ohio 44113. All rights reserved. No part of this publication may be reproduced or transmitted by any means without written permission from the publisher. One year subscription rates, \$25.00 in the United States, \$29.00 in Canada and \$82.00 in other foreign countries. One year foreign airmail rate: \$182.00. Two year subscription rate: \$35.00. Subscriptions and classified advertising should be addressed to the Cleveland office. Second class postage paid at Cleveland, Ohio and additional mailing offices. Postmaster: Return form 3579 to LAWN AND LANDSCAPE MAINTENANCE, 4012 Bridge Avenue, Cleveland, Ohio 44113.

It only takes one insecticide to protect your customers from top to bottom. By using TEMPO® 2 Ornamental Insecticide, you can treat home lawns, flowers, plants, shrubs, even trees with unmatched effectiveness.

Reduce exposure. TEMPO uses 80% less active ingredient than the leading insecticide, so there's 80% less chemical to impact the environment. And that reduces the potential for exposure to your customers and their pets.



TEMPO reduces exposure to your customers, your employees and the environment.

Since TEMPO is a broad-spectrum, advanced generation pyrethroid, it gives excellent control at low dosage rates.

This allows you to control tough surface-feeding pests like sod webworms, cutworms, armyworms, even ticks

without yellowing the grass or interfering with fertilizers or fungicides.



A Little Tempo Will

On top of all that, TEMPO is practically odorless.

No phytotoxicity on ornamentals. Using TEMPO on all your customers' flowers, plants and shrubs is an excellent way to control leaf-feeding insects without burning the leaves or blooms.

Plus, the fast knockdown and long residual of TEMPO make it effective on tough pests like pine shoot moths, webworms and sawflies.

And again, 80% less chemical means less handling, mixing and disposal hassles,

as well as less impact on the environment.

Less chemical needed to spray trees. Nothing is better on trees than TEMPO. Because not only are you spraying less



TEMPO effectively controls surface and leaf-feeding pests like tent caterpillars, Japanese beetles and bagworms.



Cover The Whole Lot.

chemical into the air, TEMPO also costs less than other leading insecticides.

In addition, TEMPO is compatible with all types of spray equipment and won't cause downtime due to clogging.

And it's effective on such leaf-chewing and leaf-skeletonizing insects as gypsy moth larvae, oakworm caterpillars, leafrollers, bagworms and cankerworms.

With 80% less active ingredient, it only takes a little TEMPO to cover a lot of ground. And that has big advantages for you and your customers.

For more information, contact the Mobay Corporation, Specialty Products Group, Box 4913, Kansas City, MO 64120 (800) 842-8020.



Mobay 
A Bayer USA INC COMPANY

Editor's Focus

IF YOU HAVEN'T figured it out by now, doing business in the 1990s is dramatically different from what the lawn maintenance industry has ever known.

The silent minority who have repeatedly sung the praises of the environmental movement have surely reached a respectable number and are changing attitudes of consumers across the country.

We've heard about the greenhouse effect, last year we saw a renewed interest in Earth Day and a week doesn't go by when you don't hear about a tree planting campaign going on somewhere.

Albeit somewhat disconnected from the day to day happenings in the maintenance industry, these events send an important signal to the landscape contractor: A nationwide green movement is under way and is making a major impact on buying decisions.

Improving the environment ranks fourth on the list of national priorities after the problems of crime and drugs, a cure for AIDS and containing health care costs, according to a recent Roper study commissioned by S.C. Johnson & Son.

Concern about the environment has grown dramatically over the last few years. Since the late 1980s, the proportion of people saying that major efforts are needed to improve the environment has jumped from 56 percent to 78 percent.

Public concern about the environment is quite high among every group of Americans. Whether young or old, rich or poor, Easterner or Westerner, in no case do fewer than 72 percent mention the environment as a problem requiring a major national effort.

The most serious environmental problems are thought to be water pollution from manufacturing plants, oil spills, chemical waste, industrial air pollution, destruction of the ozone layer, contaminated drinking water and nuclear waste — all cited by two-thirds or more of the public, according to the Roper report.

The top causes of solid waste problems are, in the minds of Americans, almost exactly the same nationally as they are locally. The leading culprits: disposable diapers, plastic packaging, plastic bottles, aerosol containers and discarded items such as furniture and appliances.

Ironically, the perceived top causes of consumer solid waste problems are not the top contributors to the nation's landfills. The above mentioned items contribute only about 10 percent of what goes into the typical landfill. The bottom perceived causes of the problem — wastepaper, paper



plates and paper napkins, food scraps and horticultural wastes — constitute nearly 50 percent of the average landfill.

Nevertheless, perception is reality; and the reality is that these issues are moving closer to home in the lawn maintenance industry. In some instances the industry has joined forces, and in others the event was just that, an event.

Case in point: Recently, a Michigan couple sued their lawn maintenance operator over the death of their dog. The pet was said to have died from ingesting 2,4-D.

Aside from initial support over the incident, the operator said he was more or less alone in his battle.

An increasing number of municipalities in California are attempting to impose legislation restricting or banning backpack blowers. Several manufacturers and landscape contractors are actively promoting common sense use of the blowers, while others continue to start up their blowers at bizarre times of the day.

Last month, the U.S. Supreme Court held a hearing to determine whether municipalities can impose exacting pesticide regulations. Both state and national associations have fought to keep this right in the hands of state and federal government.

Elsewhere, manufacturers are gearing up for the Clean Air Act of 1994 which will affect all gas-powered equipment, the industry continues to fight the sting of sensational articles such as the one appearing in *Family Circle* magazine, efforts to understand composting are mounting; the list goes on.

This isn't just a fad anymore. It's part of the nationwide green movement, and it's coming your way today. — *Cindy Code*

Cindy Code
Editor

Julie A. Evans
Associate Editor

Charlotte Goerss
Art Director

Helen Duerr
Assistant Art Director

Tracy Green
Staff Artist

Jami Childs
Production Manager

Tracy Brubaker
Production Assistant

Maureen Mertz
Publisher

Rosalie Slusher
Circulation Manager

Mark Fosse
Marketing/Research Manager

Fran Franzak
Office Manager

CORPORATE STAFF

Richard J.W. Foster
President

Christopher W. Foster
Business Manager

Maureen Mertz
National Sales
1723 South Hill
Milford, Michigan 48381
313/685-2065
Fax: 313/685-2136

Tim Kasperovich
Midwest Sales
4012 Bridge Avenue
Cleveland, Ohio 44113
216/961-4130
Fax: 216/961-0364

ADVISORY BOARD

Karl Danneberger, Tom Garber
Des Rice, Joe Vargas
Patricia Vittum, Richard White

EDITORIAL OFFICES

4012 Bridge Avenue
Cleveland, Ohio 44113
Phone: 216/961-4130
Fax: 216/961-0364

Subscriptions and Classifieds:

216/961-4130



The Selling Revolution Continues . . . in **TAMPA**

GREEN INDUSTRY EXPO/91

"THE ONE SHOW"

YOU CAN'T AFFORD TO MISS IT!

NOV. 19-21/1991 IN THE NEW TAMPA CONVENTION CENTER

"The Big Three"

Professional Associations of the Green Industry:



**Professional Grounds
Management Society**



**Professional Lawn Care
Association of America**



**Associated Landscape
Contractors of America**

Unite their resources to bring you "The One Show"

"An Exhibitors Dream"

Reach landscape contractors, grounds maintenance professionals and professional lawn care operators.

"Whatever Your Product"

The entire lawn/landscape market will be on the trade show floor to see and buy.

"Outdoor Equipment Demo"

Demonstrate your latest equipment and techniques on Thursday, November 21 at the outdoor demonstration facility.

Get Details Now . . . complete and return this form or Call (404) 973-2019

CHECK ONE OR BOTH I'M INTERESTED IN EXHIBITING I'M INTERESTED IN ATTENDING AS A DEALER/DISTRIBUTOR

NUMBER OF BOOTHS AND POSSIBLE BOOTH SIZE (NOT A COMMITMENT TO EXHIBIT):

NUMBER OF BOOTHS _____ CORNER LOCATION YES NO

SIZE: 10 X 10 . . . INDICATE NUMBER OF SPACES _____ ISLAND (MINIMUM 20X20) . . . SPECIFY SIZE _____

NAME _____

COMPANY _____

ADDRESS (STREET, CITY, ZIP) _____

PHONE _____ FAX _____

Mail to: GREEN INDUSTRY EXPO. c/o PLCAA 1000 Johnson Ferry Rd., NE Suite C-135 Marietta, GA 30068-2112

News in Brief

NEWS DIGEST

Advanta® Lease Offers Options

Exmark's Advanta Lease® program makes it easy to free up cash, build credit and buy mowers now.

A short application form and same day credit approval speed the process. No fees and low down payments make it economical.

Advanta lease offers a variety of competitive leasing options including 90-day, same-as-cash terms or lower out-of-season payments. The lease program is offered on Exmark's entire line of commercial mowers. See your Exmark dealer for details.

Hunter Opens Irrigation Hotline

Hunter Industries is offering a new design and technical assistance phone line to answer questions about products, irrigation designs and installations.

The DATA line service is available to irrigation consultants, landscape architects, distributors, installers and end users. The number is 619/591-7034.

Mowing Safety From Briggs, Red Cross

Briggs & Stratton Corp. and the American Red Cross will train more than 20,000 people this spring and summer in mowing safety through their "Knowing Mowing" program.

May 13-19 is designated "Knowing Mowing" week with a goal of focusing national attention on mowing safety. Throughout the mowing season, classes will be offered in more than 300 Red Cross chapters around the country.

In its seventh year, the program has trained more than 65,000 people in safe mowing practices.

Aquatrols' Moore Announces Retirement

Robert Moore, president of Aquatrols announced his October retirement during a company sponsored reunion party. Moore, who founded the company, appointed his daughter, Tracy Moore, as his successor. He will remain active with the company as CEO.

Equipment Shipments Expected to Increase

FUELED BY STRONG export demand, a greater number of households, good replacement/upgrade demand and a healthy commercial market, U.S. shipments of lawn maintenance equipment are projected to increase more than 7 percent per year through 1993 to \$6.5 billion.

Real growth, excluding inflation, will be 3.9 percent per year through 1993, according to a report from The Freedonia Group, Cleveland, Ohio.

Further industry consolidation and better market growth in the higher valued-added segments will decrease price competition over the intermediate to long term.

Overall, mowers will enjoy strong growth of nearly 9 percent per year through 1993 to \$3.5 billion. In the aggregate, shipments of commercial lawn maintenance equipment are projected to increase 9.3 percent per year through 1993 to \$770 million.

Strong growth in all commercial segments will be based on expanding markets in professional home lawn care, landscaping services and golf course maintenance.

Edgers and trimmers, on the other hand, will face a mature market and functional competition, resulting in minimal growth. Parts and attachments will experience slightly below-average growth as most demand consists of the replacement of original equipment.

Commercial maintenance equipment will enjoy stronger overall growth prospects compared to the residential market.

SUMMARY TABLE

Item	(million dollars)				% Annual Growth	
	1977	1988	1993	2000	88/77	93/88
Population (million)	219.8	245.8	256.5	269.0	1.0	0.9
real GNP/capita (000\$)	13462	16257	17828	20532	1.7	1.9
Gross National Product (bil \$)	1991	4864	6687	10550	8.5	6.6
\$ lawn & garden/000\$ GNP	1.2	0.9	0.9	0.9	—	—
Lawn & Garden Equipment Sales	2367	4450	6300	9340	5.9	7.2
Net Exports	21	130	185	500	—	—
Total Lawn & Garden Shpts	2388	4580	6485	9840	6.1	7.2
Commercial Lawn & Garden	287	494	770	1280	5.1	9.3
Eq Shpts:						
Turf & Grounds	125	319	505	850	8.9	9.6
Mowing Equipment						
Turf & Grounds Care	115	60	90	130	-5.7	8.4
Equipment						
Parts & Accessories	47	115	175	300	8.5	8.8
price deflator	68.3	114.6	134.3	162.5	4.8	3.2
Total Lawn & Garden Shpts (mil 82\$)	3497	3995	4829	6055	1.2	3.9

Source: The Freedonia Group

State Pesticide Labeling Preempted by FIFRA

State claims of inadequate pesticide labeling are preempted by the Federal Insecticide, Fungicide and Rodenticide Act, according to a decision from the U.S. Court of Appeals for the Eleventh Circuit.

"This is a major victory for the entire pesticide industry," according to Lawrence Ebner, NPCA legal counsel and the attorney who argued the case for Zoecon Corp., a pesticide manufacturer and a defendant in the suit.

Ebner also filed a "friend of the court" brief in the case on behalf of NPCA and other trade associations. "The decision makes it clear that juries are prohibited from second guessing EPA about what pesticide warning statements and precautionary measures are adequate."

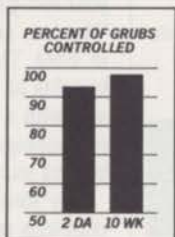
The unanimous decision of the court of appeals, located in Atlanta, affirms a 1989 ruling by a Florida federal district court. The case involved claims by a veterinary worker that he did not receive adequate warnings about pesticides which he used on the job.

The court of appeals held that under the principles of implied preemption, "the federal government has occupied the entire field of labeling regulation, leaving no room for the states to supplement federal law, even by means of state common law tort actions."

According to Ebner, the decision should make it "much tougher for plaintiffs to bring personal injury or property damage suits alleging harmful exposure to pesticides which have been applied in accordance with EPA-approved labeling."

(continued on page 10)

When it comes to grubs, it's not enough just to suppress them.



Compiled from 18 university trials, 1985-86.

You want to squash them. Pulverize them. Grind them into dust. Send the little buggers to the root zone eternal.

And who could blame you?

After all, this one creature has probably baffled more turf professionals, made a mockery of more chemical company claims, than all other turf

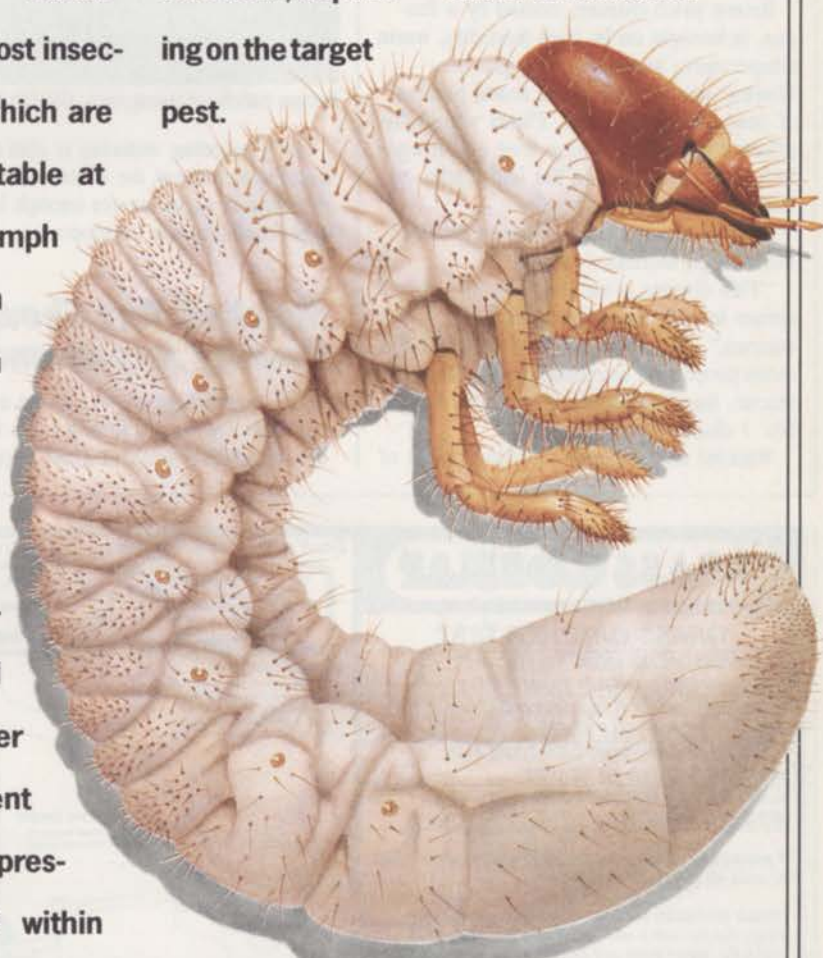
insects combined.

Triumph[®] is changing all that.

Unlike most insecticides, which are unpredictable at best, Triumph has been proven in over ten years of testing to consistently rid turf of over 90 percent of grubs present. And within just 2-3 days of application.

Better yet, once applied to the soil, Triumph keeps on working for up to 10 weeks, depending on the target pest.

grub damage. And protect you from losing what profits you have made to callbacks.



So one preventive application in late summer or early fall is all that's needed to protect turf from costly

To find out more, contact your turf products distributor or Ciba-Geigy representative.

TRIUMPH

HOW TO SQUASH A GRUB.

© 1990 CIBA-GEIGY Corporation, Turf and Ornamental Products, Box 18300, Greensboro, NC 27419. Always read and follow label directions. For retail sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the applicator certification.

Management Key To Brown Patch Control

A medium cutting height and minimal nitrogen application are the key management practices for preventing brown patch disease in tall fescue without using fungicides, according to John Watkins, plant pathologist at the University of Nebraska, Lincoln.

Brown patch disease, caused by a fungus, is brought on by high humidity, warm temperatures and lush green growth. Disease symptoms include round patches of dead and dying grass. Plants within the affected patches will have long and irregularly shaped lesions on the leaf blade, Watkins said.

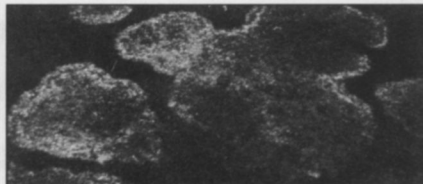
The disease has been reported in tall fescue with increased regularity.

"This disease is on a significant increase in both home lawns and golf courses," Watkins said. "And as more and more people get interested in planting tall fescue, this is probably going to be the No. 1 disease developing."

Watkins recommends a cutting height of

about two to three inches, and a fertilizer application of two pounds of actual nitrogen per 1,000 square feet applied in mid-October or early May to reduce the threat of brown patch injury to tall fescue.

This minimal amount of nitrogen will be enough to maintain the green color, but brown patch disease will be limited, he said.



Brown patch on bentgrass. Credit: NYSTA.

Early morning watering is also recommended to prevent the disease, he said. Watering at night creates enough humidity to promote disease development.

Mulched Turf Shows Healthy Appearance

Using a mulching mower to cut a typical half-acre lawn each summer can return nearly 5,500 pounds of grass clippings to


the soil, and eliminate up to 465 bags of clippings as waste disposal.

The volume comparison studies on the collection of grass clippings — and the removal of clippings — are part of a three-year test program launched by Garden Way Inc. and the Rodale Research Center in 1989. The two hope to determine the benefits of returning grass clippings to the soil with a mulching mower vs. bagging of clippings with a conventional walk-behind mower.

"By measuring the volume of grass clippings accumulated under controlled test conditions, we are able to make a more timely and significant contribution to the industry and grass-cutting public," said Terry Schettini, horticulture coordinator at Rodale.

During a five-month period last year, June to October, 23 bushels, or 292 pounds of grass clippings, were collected from the 1,078-square-foot area cut by the bagging mower. That's the same amount of material returned to sod in the plot cut with a mulching mower.

When extrapolated for a typical half-acre sized lawn, with 21,780 square feet, a mulching mower will return 5,473 pounds of grass clippings to the soil. Using a

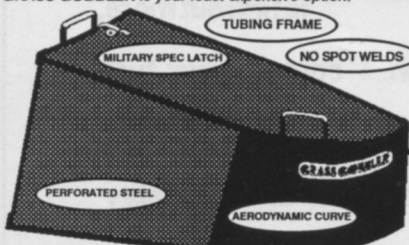


GRASS CATCHER TEST:

1. DO YOU SPEND MORE TO FIX YOUR CATCHER IN 3 MONTHS THAN IT COST?
2. DO YOU EMPTY A CLOGGED CATCHER WHEN IT'S ONLY HALF FULL?
3. DO YOU KEEP YOUR CATCHERS FOR MONTHS INSTEAD OF YEARS?
4. DO YOU DO WEIGHT LIFTING DURING WORKING HOURS?

If you answered yes to any of these questions you need to move up to GRASS GOBBLER.


GRASS GOBBLER is a durable, aerodynamic but light weight catcher with a one-year limited warranty. When useful life, repair costs and downtime are considered the GRASS GOBBLER is your least expensive option.




- AVAILABLE IN REGULAR AND JUMBO SIZES
- MODELS TO FIT ALL MAJOR BRANDS OF COMMERCIAL WALK-BEHINDS

LAWN-WRIGHT, INC.

18761A North Frederick Avenue, Gaithersburg, Maryland 20879
FOR INFORMATION AND SALES CALL: (301) 330-0066



Don't sulky, ride a "vel-kee!" PATENT PENDING



- HIGHLY MANEUVERABLE
Enables sharp turns (lock one wheel) without binding
Goes up, down and across steep hills with ease
Allows backing up by stepping off momentarily
Lets you keep both hands on hand controls
Ride wherever you could have walked
- MAKE MORE PROFIT
Mow 15-20% more lawn each day and KEEP the extra money!
- ONE YEAR LIMITED WARRANTY
- MORE PRODUCTION & LESS FATIGUE
Easily mow large areas at high speed and get the most out of today's faster mowers.
- FOLDS UP TO TRANSPORT
NO EXTRA ROOM NEEDED ON TRUCK...1-2-3!
- FITS ALL BRANDS
Intermediate commercial walk-behinds

FROM THE MAKERS OF GRASS GOBBLER™

LAWN-WRIGHT, INC.

18761A North Frederick Avenue, Gaithersburg, Maryland 20879
FOR INFORMATION AND SALES CALL: (301) 330-0066

LAWN MAINTENANCE SOFTWARE



- AUTOMATIC SCHEDULING
- INVOICES and/or DETAILED STATEMENTS
- AUTOMATIC POSTING TO CUSTOMERS' JOURNAL
- GEOGRAPHICALLY EFFICIENT ROUTE SHEETS
- ACCOUNTS RECEIVABLE SYSTEM INTEGRATED

General Ledger, Payroll, Payables
and other modules also available.

CLIP is now in use at hundreds of companies across the U.S.A. and abroad. References are available. Find out how these companies have cut their office work to a small fraction of what it was.

**CALL NOW FOR FREE
CLIP DEMO DISK!**

We'll send you sample printouts and a complete description of CLIP's powerful features. Just put the disk in any IBM® or compatible computer to see CLIP in action. (If you don't have a computer any computer dealership would be glad to let you try it on a showroom computer.)

CALL 1-800-635-8485 5 1/4" 

Please be ready with disk size: 3 1/2" 

For more information call:
1-800-635-8485
L-W Software, division of Lawn-Wright, Inc.
18761 N. Frederick Ave., Suite A
Gaithersburg, MD 20879

mulching mower on a half-acre lawn also will eliminate the need to collect and dispose of 465 bushel bags.

"Studies show that a mulching mower returns sizable amounts of nutrients to the soil; saves bagging time and costs; and alleviates the nation's landfill crisis by eliminating yard wastes," said Mark Hebert, Master Gardener for Garden Way.

After only two cutting seasons it's too early to receive definitive data from soil core samples, Schettini said, but grass cut with the mulching mower had a "healthy appearance" with no clumps of grass or visible thatch buildup.

Environmental Concerns Top Women's Agendas

Despite other pressing issues, the condition of the environment remains at the forefront of women's social agendas today. Asked the most important problems facing the United States, respondents in a recent Roper Poll consistently cited the environment as a major concern — ranking second only to drugs.

The Roper study, conducted for the Good Housekeeping Institute, randomly

surveyed women on their views and concerns about the environment. The responses indicated that interest in the state of the environment is not a passing fad, but rather a lasting issue affecting the action and choices of the majority of American women.

Underlying their concern for the environment is the belief by the majority of those surveyed that the state of the environment has gone downhill in the past 10 years. And nearly half of the respondents feel the situation will continue to grow worse over the next 10 years. A firm 50 percent, however, believe environmental conditions will improve or at least remain the same over the next decade.

Among the most pressing environmental problems cited is the disposal of "toxic and chemical" waste. Ninety-nine percent of respondents said they were very or somewhat concerned about the issue. Pollution of the water supply, disposal of solid waste and garbage and depletion of natural resources also emerged as issues of great environmental concern.

The degree of concern about air pollution, pesticide residues in food and ozone depletion fell slightly below the others. The least amount of concern, although

still considerable, was registered for acid rain, global warming and noise pollution.

Female consumers report that they will base purchasing decisions on a product's environmental impact.

Registration Fees Recognize Discrepancies

Pesticide legislation approved by the North Dakota Senate Agricultural Committee includes a distinction between agricultural and non-agricultural use pesticides — recognizing the discrepancy between the number of product registrations and the actual volume of use — in the assessment of registration fees.

The measure, Senate Bill 2451, proposes an "environment and rangeland fund" to be used for noxious weed control, groundwater protection, inspection of food products for pesticide residue and analysis and disposal of unusable pesticides. The special fund is supported by increased registration fees.

Non-agricultural pesticide registration fees will increase from \$25 to \$150 and agricultural use pesticide registrations will increase from \$25 to \$500. ■

**FACTORY DIRECT
FREIGHT-PAID NATIONWIDE**

SMOOTH
Vibration-free
balanced
non-plug
design!

4 MODELS
priced from
\$1049⁰⁰

DUERR

N. 207 CRESTLINE, SPOKANE, WA 99202

We didn't
invent the
chipper/shredder...
we perfected it!

PAT. PEND.



TURBO-VAC VACUUM / CHIPPER SHREDDER / BAGGER

NON-CLOGGING, no screen vacuum fed hopper and hose system. Out performs all other shredders available today!

Heavy duty construction.

Direct drive, no belts or pulleys. Vacuum **WET**

or **DRY** leaves, ships — no lifting, bending or stuffing/tamping into

hopper. Heavy double blade

3 1/2" chipper. All mulched debris is air driven into nylon **BAGGER**.

(800) 458-7011

TOLL FREE — NATIONWIDE

Association News



TWENTY-NINE colleges and universities and more than 350 students participated in the 15th annual **Associated Landscape Contractors of America** Student Field Days at the University of Kentucky.

The three-day event featured 20 competitions, including annual and perennial identification, bench construction, business management problem, irrigation design, landscape installation, maintenance estimation, pest management, weed and turf identification and exterior landscape design.

Cal Poly-San Luis Obispo took first-place honors in the overall competition for the fifth consecutive year. Cal Poly-Pomona took second place and the University of Kentucky took third.

The ALCA Student Field Days were established by Bob Calloway at Mississippi State in 1976. The event gives students hands-on practical experience.

Next year's event is scheduled for March 27-29 at Cal Poly-Pomona, Calif.

For More Information...

ALCA

405 N. Washington St.
 #104
 Falls Church, Va. 22046
 703/241-4004

AAN/NLA

1250 I St. NW,
 Suite 500
 Washington, D.C. 20005
 202/789-2900

NAA

The Meeting Place Mall,
 Route 101,
 P.O. Box 1094
 Amherst, N.H. 03031-1094
 603/673-3311

PGMS

10402 Ridgland Rd.,
 Suite 4
 Cockeysville, Md. 21030
 301/667-1833

IA

1911 N. Fort Meyer Dr.,
 Suite 1009
 Arlington, Va. 22209
 703/524-1200

Now available from the **Professional Grounds Management Society** is a complete right-to-know training program for the grounds maintenance industry.

According to the Occupational Safety and Health Administration, an employer must have a written compliance program

containing information concerning work place chemicals and hazardous materials. Employees must then be trained accordingly.

The complete training program package includes a training manual, videotape, employee handbooks, compliance instruc-

More Lawns Greener Greens Fewer Callbacks

That's a promise we can prove! With N-SURE[®], a triazone nitrogen source with low urea, the benefits are significant. ■ A controlled, slow release, non-burning nitrogen means greener, healthier turf. ■ Faster and easier application with less water, less waste and less downtime for more jobs per day. (Can be applied concentrated in the hottest weather.) ■ Less volatilization means more N in the turf. ■ No more clogged nozzles and screens. ■ Compatible with the most commonly used herbicides, insecticides and fungicides.

For more information on remarkable N-SURE, write or give us a call.

N-SURE[®]

Arcadian Corporation Triazone Division 6750 Poplar Avenue, Suite 600, Memphis, TN 38138-7419 Phone: 1-800-654-4514

© 1991 Arcadian Corporation

tions, forms and training certificates. Three other packages are also available.

Four training programs are available. Contact PGMS for details.

Two associations are currently accepting entries for their respective landscape awards programs.

The **American Association of Nurserymen** invites all industrial or commercial businesses, institutions and governmental units (or authorized representatives) to enter its 1992 National Landscape Awards Program. Entries are judged on the basis of overall excellence in design, quality of material, execution and maintenance. Size and project cost are not considered.

According to AAN, the jury will be particularly receptive to projects where plant material has matured on-site; therefore, the entry need not be made the same year as project completion. This awards program does not include residential landscape entries.

Entries that meet the highest standards set by judges will receive a landscape award on a framed 14-by-16-inch parchment. Individual awards will be presented to the property owner, the landscape architect or designer, the landscape installa-

tion firm and the principal supplier of plant material.

Entries are also being accepted for the **National Landscape Association** 22nd annual National Landscape Design Awards Program. All single family landscaped residential properties or public properties, regardless of size or cost, are eligible. Categories include: single family residence, active use area, public use, entrance and passive use area.

The annual program recognizes landscape professionals responsible for design, as well as those responsible for its execution and maintenance. Entries selected for national recognition receive a superior award or a certificate of merit. Also presented is the "Best Use of Plant Material in a Private Home" award, sponsored by the Wholesale Nursery Growers of America.

The **Irrigation Association** has announced the promotion of R.C. "Bob" Sears to the newly created position of vice president of membership and technical services. He leaves his former position as executive vice president for the IA.

In his new role, Sears will support member organizations and generate member

services. He will also oversee various technical programs, including continued participation in domestic and international standards development, educational seminars and the rapidly expanding certification program.

In addition, he will support irrigation industry efforts to deal with legislative and regulatory initiatives relating to water management and shortage issues in Western states.

During his five-year tenure as IA executive vice president, Sears helped expand the organization's certification program. He was also responsible for managing the annual International Expo and Technical Conference.

F. David Dickson, president of Swingle Tree Co., Denver, Colo., is the new president of the **National Arborist Association**.

Dickson has served as a member of the association's Board of Directors since 1986; Swingle, has been a member of the association since 1948.

Dickson is recognized for his approach to total plant health care, as well as his efforts in computerization and marketing. Under his leadership, the association plans to broaden its activities. ■

FERTILIZING WITH EASE

PUTTING LESS FATIGUE ON THE OPERATOR
WILL IMPROVE THE PROFITS!



Shown with optional liquid applicator.

RS-36 RIDING FERTILIZER SPREADER

- | | |
|---|--|
| <ul style="list-style-type: none">• 5.5 Honda O.H.V. Engine• 13" Turning Radius• 5 Speed Transmission with reverse• Fits through 36" Gates• 100 lbs. Earthway Granular Spreader | <p><u>Optional Liquid Applicator</u></p> <ul style="list-style-type: none">• 100" Spraying Width• 2 Way Bendable Boom• 12 Gallon Tank• V Belt Drive to Pump• Can Be Used for Spot Spraying |
|---|--|

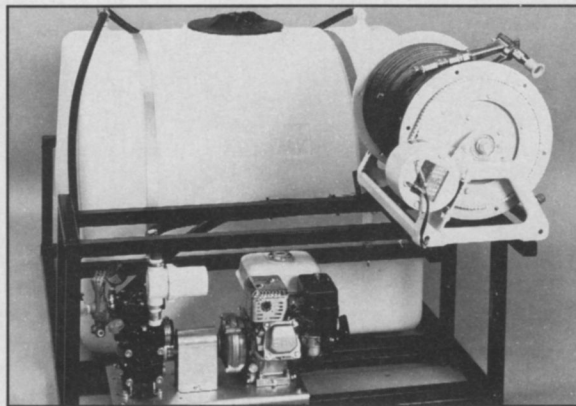
CLASSEN
MANUFACTURING, INC.

1403 So. Pine Industrial Road, Norfolk, NE 68701
Telephone (402) 371-2294 Fax (402)371-3602

reader service 54

CELEBRATING OUR 25th YEAR

OLDHAM CHEMICALS COMPANY, INC.



- 200-gal. poly tank in a metal frame.
- 5-HP Honda engine coupled to a Hypro D-30 Pump.
- Electric hose reel with 300 ft. of 1/2" hose mounted curb side or to back of truck.
- Unit is Pre-tested & ready to use.

Call for details
1-800-888-5502
901-794-0084

Or write: P.O. Box 18358
Memphis, TN 38118



"EVERYTHING FOR THE LAWN MAINTENANCE INDUSTRY"

reader service 55

Only
Cushman[®]-Ryan[®]
helps you make
more money by
the yard.



Cushman Front Line Mower with Grass Caddy[®],
and Ryan Lawnaire[®] 28 Aerator.

We'll help expand your business.

No other manufacturer has the products. No other dealer network has the know-how. No one can help you increase your income from existing customers today, and put you in a better position to compete for commercial clients tomorrow, as efficiently and expertly as Cushman-Ryan.



Ryan Jr. Sod Cutter.

Start with your basic service. Add aeration. Add overseeding. Move up to bigger mowing jobs. You'll not only get the best piece of lawn maintenance equipment for each task, you'll also get a dealer who's more like a business partner with proven ideas on how to sell and price your new services.



Ryan Mataway® Overseeder.

Member PLCAA



Ryan Lawnaire® IV Aerator.

We'll increase your productivity.

Nobody's been in the business as long as Cushman-Ryan. Our products are proven performers that simply do each job better and stay up and running longer than anything else on the market. Period.

You'll increase productivity by reducing downtime and increasing the ease and speed of operation. You'll reduce operating expenses from fewer repairs and lower maintenance costs. Cushman-Ryan equipment doesn't come back to the shop until the job's done, ensuring you get a full day's work for a full day's profit.

Contact your Cushman-Ryan dealer for a demonstration, and ask about our special lease on as little as \$1,000 worth of equipment. Or call toll-free 1-800-228-4444 for more information today.

CUSHMAN® RYAN®
BUILT TO LAST

Focus on Labor

THE HIRING GAME: WHO WILL SUCCEED?

WITH ITS EYES firmly fixed on the 21st century, the Crystal Ball Committee of the Associated Landscape Contractors of America has singled out labor shortages as the industry's biggest roadblock to success. In today's competitive marketplace, landscape contractors are struggling to hire qualified candidates from an ever-shrinking labor pool.

To examine the impact of this national problem on the landscape maintenance industry, the committee put together its latest report, "Personnel: Preparing to deal with the difficult people problems during the '90s and beyond."

Among its findings: Few landscape contractors are professionally recruiting, screening and hiring new employees for

production jobs. The committee also found that employers must find better ways to retain and groom qualified employees with management potential. To keep the industry on top of the hiring game, the report offers tips on attracting and retaining satisfied employees.

SETTING STANDARDS. Increased professionalism is key to retaining employees, according to the report. This includes improving your public and self image through some simple steps.

Firms that require crews to wear uniforms, for example, project a more professional image. Well-maintained trucks with emblems and identification are also examples of improvements that boost both

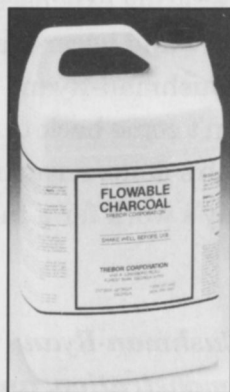
public perception and employee morale.

Many firms are improving their business management skills as well, creating attractive business environments for management-track employees to enter. Some firms enroll their managers in continuing education courses, such as industry seminars or community college classes.

A professional work environment can be sustained through careful recruitment, and some landscape contractors have developed sophisticated hiring practices.

The report differentiates between two types of employers, the "Majority" and the "Enlightened." In recruiting, for example, the majority uses classified advertising to solicit resumes and references. The enlightened, on the other hand, re-

You need this low cost insurance!



TREBOR FLOWABLE CHARCOAL

- Stops hydraulic spill damage
- Prevents herbicide phytotoxicity
- Improves seed germination

Clean up spills. Use against hydraulic mower fluids and organic pesticides, herbicides and insecticides. Keeps contaminants from spreading.

Neutralize excessive herbicide action. Apply whenever reseeding is required earlier than planned. Reseed after 24 hours.

Improve seed germination. Apply when earlier seed germination and grass cover is desired.

Only **\$21.50** gallon
One gallon treats
1,000 square feet.

Write or call today!

TREBOR CORPORATION

4045-A Jonesboro Road • Forest Park, GA 30050
404/366-0957 • (Outside Georgia) 1-800-331-1449
Telex 759-353 • Fax 404/366-9582

reader service **52**

The easiest way to acquire equipment for your business is to lease it. We specialize in tailoring leases to lawn care professionals. Contact us to see how easy it is to expand your business.

**FOR DETAILS CONTACT:
Mike Bush**

185 Park Dr.
Wilmington, OH 45177
**(513) 382-5502 or
(800) 766-BUSH**

reader service **53**

cruits at universities and career days, participates in job fairs and co-op programs and serves on technical or school curriculum committees.

In screening, the majority looks through resumes and applications. But the enlightened shows evidence of a more sophisticated hiring process: a professional interview, personality testing, performance or skill test and reference checks.

In hiring, the majority makes too many verbal commitments, whereas the enlightened makes all offers in writing, has written personnel policies and a clearly written job description.

The report goes on to draw a variety of comparisons between the two groups, but the point is clear: develop specific, forward-reaching standards and goals and put them into writing if you want to rise above the competition.

GOALS AND STRATEGIES. To survive a competitive job market, the landscape maintenance industry must unite and set clear goals and strategies for the future. Among the areas that demand attention: forming educational alliances, locating new labor sources from previously overlooked groups and offering competitive

wages and benefits.

To form stronger educational alliances, landscape contractors need to get involved with educational institutions. Such efforts may include visits to area schools, involvement on advisory committees at technical colleges and development of apprenticeship programs.

A second goal, locating new labor sources, involves an understanding of the changing labor force. Women, for example, have already begun to dominate the workforce. The industry needs to respond to this growing force and revise job descriptions accordingly. It also needs to promote qualified women to leadership roles and introduce special services such as flex-time and day care centers.

The number of retired workers will also continue to grow, and the industry should seek ways to attract these workers to part-time and seasonal labor. Firms should allow flexible work schedules to capitalize on this potential labor pool.

Other overlooked sources of labor include the unemployed, underemployed, students, immigrants and the disabled.

Finally, landscape contractors must keep an eye on other businesses in the service sector. Be aware of the local job market

and plan to be competitive on both wages and benefits.

The report also outlines several areas in which firms need to show improvement. These include: professional personnel practice procedures, rewards and recognition, personal satisfaction and growth, communications, personal involvement, continuing education and reduction of seasonality.

Finally, the report asks, "How can we produce more without hiring more?" The answers, it says, are found in the areas of efficiency, mechanization, simplification, technical advances and emerging landscape styles.

CONCLUSION. With an estimated growth potential of anywhere between 25 percent and 75 percent over the next 15 years, the landscape industry must keep personnel and labor issues a top priority or risk growing pains.

To learn more about personnel strategies and the report, "Personnel: Preparing to deal with the difficult people problems during the '90s and beyond," contact: Associated Landscape Contractors of America, 405 N. Washington St., #104, Falls Church, Va. 22046; 703/241-4004. ■

THIS IS RAW-KNUCKLED VERSATILITY WE'RE TALKING.

The all-purpose, universal, call-it-what-you-want, indispensable piece of grounds care equipment.

The Harley Landscape Power Rake, also known as a rock rake, dirt blade, athletic field conditioner, seedbed screener and pulverizer, thatcher, overseeding rake, beach cleaner, and more. Now that's versatility that'll serve you for years.

There's literally nothing like a Harley. Call or write for dealer locations, demonstrations and a free copy of our video.

Glenmac^{INC}

P.O. Box 2135 • Jamestown, ND 58402
(701) 252-9300 • 1-800-437-9779 • Fax: (701) 252-1978

©1990, Glenmac Inc.

Industry Viewpoint

THERE IS NO ROOM (ANYMORE) FOR OSTRICHES

DURING THE PAST 90 days, no less than 15 municipalities in the states of California, Illinois, New York and Florida have taken a stand either to legislate regulations or to outright ban power equipment, specifically power blowers.

The reason, in most cases, has been attributed to the perceived noise. In most instances, the efforts were initiated by individuals within communities and activist groups.

Fortunately, several manufacturers have accepted the responsibility and have taken a proactive, high profile, aggressive position to address the situation and work with the people and municipalities pursuing the issue.

But what has also surfaced has been an

Council turns deaf ear to leaf blower ban—for now

The leaf blower controversy refuses to quiet down.

alarming level of lethargy among power equipment industry professionals in regard to the leaf blower noise issue, as well as messages delivered by the matter's op-

ponents and proponents.

My concern is the inability of most outdoor power equipment industry profession-

(continued on page 22)

THE SAFE CHOICE IN LOW-PROFILE EDGINGS



SAFE FOR ALL PLAYGROUNDS, LANDSCAPE AREAS, OR RUNNING TRACKS

Over the years some landscape architects and contractors have told us they didn't like the look of round top edgings, so we created two styles that are unique in the industry: SUPER-EDG and SLIM-EDG.

Both styles have low-profile straight tops about 1/4 inch thick and can be used safely in place of steel, aluminum, or wood edgings (benderboard). For a clean well defined bedline combined with complete safety they are an excellent choice.

SLIM-EDG

- 5" Depth x 1/4" Top Width
- Great Flexibility
- UV Treated Black Poly
- Steel Anchoring Stakes

SUPER-EDG

- 6" Depth x 1/4" Width
- Black Rigid Vinyl
- Great Flexibility
- Steel Anchoring Stakes



THE UNIQUE DESIGN OF OUR BRIC-EDG EDGING STOPS THE PAVERS FROM MOVING HORIZONTALLY



Oly-Ola Sales, Inc.

124 E. ST. CHARLES ROAD VILLA PARK, IL 60181

(1-800-EDGINGS (334-4647) in U.S. and Canada)

1-708-833-3033 FAX- 1-708-833-0816

Two new commercial trim mowers that come with all the trimmings

Beefed-up handlebars

Big 2.5-bushel bagger

Cast aluminum deck for durable performance

Steel wheels with sealed bearings

Commercial strength 5-speed transmission

Choice of 2- or 4-cycle, 5-hp engines

Steel height adjusters move from $\frac{1}{2}$ to $3\frac{1}{2}$ inches

Steel deck edge guards for wear protection



Add up all the heavy-duty features you get on a John Deere commercial walk-behind and what do you get?

A total of 18 pounds more than you get on our residential models. For example, you get a heavy-duty cut gear transmission. Steel height adjusters. And reinforcements all around. Like wear guards on the bottom edge of the deck. Plus steel wheels to keep you rolling year after year. Crew after crew. So see your dealer soon. Or call 800 544-2122 for more facts.



**NOTHING RUNS
LIKE A DEERE®**

reader service **24**



Viewpoint

(continued from page 20)

als to accept the reality that we are entering an entirely new phase of marketing and merchandising for lawn, garden and power equipment, and to accept part of the responsibility to address the opponents of the blower issue.

New products are wonderful. New products are important. Market share is also important. But all levels of industry participants are going to have to concern themselves with more than a creative new product "rollout" or "outdoing" their competition.

Industry representatives — landscapers, professional maintenance companies, power equipment manufacturers, distributors and retailers and the various associations to which these representatives belong — are going to have to take a stand not only in continuing product innovations, but in responding to the environmental needs of their customers and their customers' customers as well.

Legislative confrontations and concerns which have surfaced evolved primarily from environmental issues and a lack of courtesy by blower users. The leaf-blower

noise issue is not new. It's been around for four and a half years, and it's not going to go away. Actually, it's continually expanding and getting more involved. The problem can only be resolved by the collective efforts of many tiers of industry representatives.

The blower issue is one of a variety of issues centering around the environment that the industry must address. Customer education and direction is a must, be it by the professional landscaper, manufacturer, distributor or dealer. It can be a positive domino effect of tremendous proportion if the complacency that has been a part of the early 1990s dissipates and education takes its place, beginning at the top and continuing down...without any weak links. Only this will have an impact on the current issues that are beginning to build momentum.

Actually, the leaf blower issue and the selected industry response to this problem — while at one time strictly a California issue which now exists in at least four (and possibly six) other states — is emblematic of industries or groups that need to re-evaluate priorities.

The problem, for example, with leaf blowers is not the noise level. Technology

from four or five companies has brought a reduced noise level to an acceptable level for most municipalities.

The problem is the continued abuse and misuse of the power blower and all power equipment by various levels of professional and consumer users. This is where the manufacturers, distributors, dealers and associations are going to have to become a proactive component in an expanded, aggressive industry effort to teach and illustrate how to correctly use *all* equipment.

I propose that a forum be created encompassing all levels and representatives of various associations, manufacturers, distributor organizations and any group that has any potential level of concern. This forum of professionals would address the multitude of continually increasing environmental issues that are part of this industry.

Power equipment emissions, air quality, water use, lawn and landscape waste, pesticide concerns and landfill concerns are some of the developing elements that will challenge our industry in the 1990s.

It's no longer appropriate to bury your head in the sand. Now is the time to take a stand; to assess and resolve problems

(continued on page 73)

Green Garde®
Your No. 1 source
for quality, value
and service.

- JD9-C™ Spray Guns
- Triplex Pumps
- High Performance Spray Hose
- Hose Reels
- Hose Reel Swivels
- Nozzles, Root Feeders and Other Accessories
- Hudson Professional Sprayers and Dusters



**green
garde®**

Green Garde Division
H. D. HUDSON MANUFACTURING COMPANY
500 N. Michigan Avenue • Chicago, IL 60611-3748
1-800-523-9284 FAX 312-644-7989

reader service **74**

PUMPS
ENGINES
GUNS
SWIVELS
HOSE
NOZZLES
REELS
SPREADERS
TANKS
TOOL BOXES
FLOW METERS
STRAINERS
CHIPPER
REGULATORS
PTO'S
VALVES
MEASURING
WHEELS
HAND SPRAYERS
ROOT FEEDERS

**PARTS
REPAIRS
NEW +
USED SPRAYERS
TECHNICAL HELP
FULL SERVICE SHOP
...WE'VE GOT IT ALL!**

Dakota Industries, Inc. dba
**PROFESSIONAL TREE
& TURF EQUIPMENT**

6945 Indiana Court, #400 • Golden, Colorado 80403

303-422-7608 800-237-7785

BANJO
BRIGGS &
STRATTON
CHAPIN
EARTHWAY
FLOJET
FMC/BEAN
GATES
GREEN GARDE
HANNAY
HONDA
HYDRACELL
HYPRO
KOHLER
MICRO TRAK
MYERS
RAVEN
SPRAYING
SYSTEMS
TEEJET
TUFLEX
UDOR

reader service **75**

You can't grow wrong with Shaw's.



Shaw's Turf Food Insect Control with **DURSBAN**

We have over 40 years of experience supplying the highest quality turf products to our satisfied customers. Our Shaw's Turf Food Insect Control, containing Dursban, can be uniformly applied to any home lawns and other ornamental and recreational turf grass areas. This Shaw's product controls insects while feeding your lawn and turf areas.

Shaw's offers fertilizers from the top of the line to economical general use--plus custom grades that are prepared to exact customer specifications.

Shaw's product "excellence" is maintained and guaranteed by strict quality control throughout the blending, packaging and shipping processes.



KNOX FERTILIZER COMPANY

P.O. BOX 248, KNOX, INDIANA 46534
PHONE: (219) 772-6275 / FAX: (219) 772-5878

Shaw's

FORMULATORS OF CHEMICAL FERTILIZERS AND HERBICIDES • PRIVATE LABEL AND PACKAGING IS OUR BUSINESS

BUILDING RELATIONSHIPS WITH CLARENCE DAVIDS & CO.

Stable growth through quality service distinguishes this company's long tradition in the landscape development and management field.

By Cindy Code

FORTY-SIX YEARS AGO, CLARENCE DAVIDS BECAME ONE OF MILLIONS OF unemployed World War II veterans.

Today, the 68-year-old president and CEO of Clarence Davids & Co., Blue Island, Ill., has just celebrated his 40th year in business and is challenged and excited by what each new season brings, just as he was 40 years ago.

After a five-year military stint ended with WWII, Davids couldn't stand the thought of going back to factory work.

"I had a good job with Western Electric as a foreman, but I wanted to get out on my own," Davids said. "I guess it's the entrepreneur in me."

Working with an established landscaper, Davids became a partner in three months. His partner taught him how to bid jobs and make money, and gave him the foundation he needed to form his own company in 1951.

"It was very competitive, all you needed was a wheelbarrow and a truck," he said. "There was no real knowledge of bidding; if someone was bidding 90 cents a yard for sod, someone else would bid 85 cents. They weren't making a dime. Undercutting almost always got the job."

Competition was such that once a job was in hand, a wheelbarrow had to be put on the property so the customer couldn't go somewhere else.

"There was a lot of infighting. If you told someone you were going to bid on a job, they would call up and get the job before you. You couldn't trust anybody. There was no loyalty," Davids recalled. "We knew the industry had to be built on a level of professionalism. It was a process of educating the public that we were more than just sod layers and grass cutters."

In their quest for education and a professional image, Davids was one of five to form the Chicago Metropolitan Landscape Association, today known as the Illinois Landscape Contractors Association.

"We were all starving for education so we enlisted the University of Illinois to put on workshops and seminars," Davids said. "They furnished us with facilities to hold meetings. The board worked day and night to keep the association going."

The issues of 40 years ago don't seem all that different from those of today. The industry is still split with those yearning for education and those content to undercut the competitor. So what's the key to success? Perseverance.

"There were some lean years, but I had a dream I could succeed at it," he said. "After educating myself, I tried to surround myself with educated people."

The firm aggressively searched for and hired employees with two- and four-year degrees, and brought in an accounting major fresh out of college to handle the firm's money — the secondary key to business, according to Davids.

His son, Bill Davids, was one of those people. Encouraged to get involved with the firm at an early age, Bill began working for the company when he was 12. After completing a two-year horticultural degree at Michigan State University, he began working for the firm full-time

Crew foreman Jose Munoz cares for shrubs and petunias at the Amoco Corporate Research Center.





in 1975.

Bill, executive vice president, explains the company's success:

"We continue to look for clients that can support our billing system and we strive to be the best. Some of that work is always going to be there, but never as much as you like. Quality wins in the end the majority of the time, but you always have those clients who will go for better prices."

Within the last 15 years, everything seems to have fallen into place for the firm.

Now earning revenues in excess of \$6 million, Clarence Davids & Co. has reported annual growth of 15 percent to 20 percent in the last decade. The firm has one branch office west of Chicago in the Fox Valley area and is now building one north of the city in Lake County. Twenty acres — twice the size of its first — is set aside for the new branch.

Clarence Davids services more than 400 properties in and surrounding metropolitan Chicago including hospitals, shopping

centers, universities, corporate sites, apartments and condominium complexes.

Landscape management — design/build — and maintenance have been running neck in neck at Clarence Davids, although con-

struction is beginning to surpass maintenance revenues.

Both the maintenance and construction departments, operated as two separate divisions, took in about \$2.8 million in 1990. Irrigation revenues currently fall under

The Clarence Davids crew is pictured at the Fox Valley Branch office in Plainfield, Ill.

the construction department. About \$500,000 in lawn care, fertilizer, weed control, aquatic lake management and \$250,000 in snow removal were also achieved.

In addition to design/build, landscape management includes replacements, enhancements and seasonal flowers.

"We bill ourselves as a landscape development and management firm, meaning we do some work with other architects and we design projects that we install and usually maintain," Bill said. "It's important to us that we have professional design capabilities because with our clients, we want to be accountable for their desired results. Half of the firm's construction work is designed internally, while half is based on bidding."

Our philosophy is to execute the project in the way the client wants, not the way we want. While Clarence Davids & Co. likes to manage the entire site, it main-

CLARENCE DAVIDS & CO.

HEADQUARTERS: Blue Island, Ill.

BRANCH OFFICE: Plainfield, Ill.

FOUNDED: 1951 by Clarence Davids, Sr.

OWNERS/STOCKHOLDERS: Clarence, Josephine and Bill Davids and Gary Borgman.

PRIMARY SERVICES: Full service firm offering landscape design/build and landscape management as well as specialty services such as lawn care, arboriculture and seasonal color.

EMPLOYEES: 40 year-round; 150 seasonal.

1990 SALES: In excess of \$6 million.

tains sites it didn't build and constructs sites it doesn't maintain. It's the nature of the landscape business.

The firm employs 40 full-time workers and reaches a summer peak of 150 including three architects; about 10 office personnel; 14 degreed horticulturists, nine of whom are also sales representatives; 100 laborers; and 30 foremen.

The firm has a structure that consists of key departments — sales, design, accounting, administrative and production, with the latter being further departmentalized into construction, maintenance, lawn care and fleet including shop.

Each of the departments meets monthly and has a liaison to senior management committees. Information is designed to flow easily to all pertinent areas of the organization through these business channels.

"The philosophy here is that it's a family business. Even though we're a corporation, they're part of the Davids family," Clarence said. "Everyone working here is family or our best friend. We've got an open door policy; they can come in any time and talk with us."

As a result, Clarence Davids and his wife, Josephine, are fondly known as Mr. and Mrs. "D."

The firm has some loyal Hispanic employees that have been

Clarence Davids customers want quality product and good service at a fair price.

with them for more than 20 years. All materials are printed in English and Spanish. If anyone in the firm has a problem, information to help is posted on a bulletin board.

"We have a strong Christian background. No one is a number here; from the guy pushing the mower to the guy behind the

desk," Clarence said.

Rounding out the management team at Clarence Davids includes Todd Meyer, Fox Valley branch manager in Plainfield. Meyer was hired right out of the University of Illinois. He worked in the maintenance division as production manager before becoming branch manager.

Gary Borgman oversees the accounting and office personnel and brought the company on line with computers.

Sam Martin, sales director, has been a million dollar salesman for the firm for six or seven years, and is instrumental in the company's continued growth.

Kurt Pflederer, design manager, was also hired just out of the University of Illinois.

Mike Davids, marketing agent, is one of the keys to Clarence Davids' increased market share.

"He worked with us and told us exactly how to grow, where the market was and how not to get frustrated when we didn't get work because it was probably out of our market," Bill said.

In addition to running a successful firm, Clarence and Bill have established a track record with state and national associations.

Clarence served as ILCA's first treasurer, was a two-term ILCA president, ILCA's man of the year in 1975, chairman and director of ILCA's board for more than 17 years and was two-term president of the Professional Grounds Management Society.

Bill has served as ILCA president and is a past chairman of ALCA's exterior landscape division.

DESIGN COMPETITION. Because of its design experience, Clarence Davids is one of several entities working with state and national associations in an effort to develop industrywide design specifications. ILCA is one association which has held joint meetings with nurserymen, architects and landscape contractors.

The basic concept is to take maintenance, for instance, and create industry standards: how many times should a property be mowed, fertilized and so on. Standards would then be issued to property managers, among others, so they have a better understanding of what's needed, and won't be forced to compromise nearly

as much.

If nothing else, such specifications would take away the advantage of the low bidder.

"Everybody hopes it will, but I'm not completely sure," Bill said. "At least we're (contractors and architects) talking to each other, whereas before we didn't."

Design/build makes so much sense, Bill said, because an in-house team knows what works well and what plant materials are available because they're working with them every day. An architect, on the other hand, often designs without knowing the availability of plant materials.

Keeping in line with the firm's commitment to hiring educated personnel, all managers at Clarence Davids & Co. are thoroughly tested and interviewed before being hired. The exam includes a horticultural test.

"We know up front if they know about plants or if they don't. We also test them for business knowledge and math," Bill said.

BUSINESS CLIMATE. Despite a slowdown in the mid-1990s — when business dropped off and the economy was questionable — fall and spring activity signal a good 1991 season for Clarence Davids.

"Overall, everybody is conscious of pricing. It's good, but it could be better," Bill said.

It's hard to say whether maintenance or construction will have a better year. The company's maintenance business is strong; the firm has picked up a number of new, large accounts.

"We feel good about that. A lot of our construction comes from our maintenance work — renovations, upgrades and replacements," he said. "Usually the more maintenance accounts we have, the more landscaping we're going to do. We're a little bit different from those who just do construction — those people are always looking for their next new project."

The team has also landed a design/build, multi-family renovation project. The job also includes maintenance.

Clarence Davids has budgeted for at least 15 percent growth this year. All sales representatives participate in the budget by turning in what they think they can sell.

Retention rate among sales ac-



counts varies among representatives. As a company it's about 80 percent to 85 percent, but some individuals within the company have 99.9 percent retention.

Clarence and Bill are active sellers bringing in \$1 million and \$900,000, respectively, annually. Bill also handles the day-to-day operations of Clarence Davids.

"Being an account rep really keeps me in tune," Bill said. "I know what the clients are telling me. I know the quality of work we are doing and I'm dealing with some key clients on a daily basis. I'm very aware of what's happening within the company rather than if I was strictly managing the company and not dealing with the clients."

"I think it's important to build relationships with clients. It keeps a much firmer foundation if you know the client."

Some long-term customers of Clarence Davids & Co. include DePaul University, Draper & Kramer managed properties, Amoco Research Center and Ingalls Memorial Hospital.

"Our retention is just phenomenal. We might have to make adjustments, but we're willing to talk and negotiate with them," Clarence said. "We're not interested in short-term relationships, but long-term. With retention more



Crew foremen going over work order instructions at the 180-acre Amoco research facility.

than 85 percent, you can grow as much as you want to grow. If you lose more, you never seem to grow, you're always fighting to get back to where you were."

Customers of Clarence Davids want the highest quality product at a fair market price with the highest service possible. A majority of the firm's clients choose service over price.

"There's no guesswork in our bidding process," Clarence said. "We train our people to present themselves as part of the family. The follow-up, the contract, the professional brochures, sharing slide presentations at board meetings; not pushy, but a professional approach to becoming part of our landscape development and management family."

Because of the competition in the area — Chicago is said to have one of the highest concentrations of large-sized landscape development and management firms — Clarence Davids has looked at growth through acquisition a number of times. Although initially shying away, the firm hasn't ruled out future buy outs to gain market share.

"We could be bigger, but our screening process is so tight, we don't find the quality of people to put out extensive growth," Clarence said. "We can control

this size. I've talked to people who've grown 50 percent in one year then have to go back to square one. It's not our goal to be the biggest, but to be the best."

THE EDUCATION CHALLENGE.

Always wanting to educate themselves and the industry, Clarence Davids is a firm believer in a national certification program for landscape contractors, architects and anyone else working in the green industry.

The biggest hindrance to date: lack of enforcement, whether individuals or companies should be certified and a question of finances.

"When we attend seminars and different programs we should get points, and then we should be required to get so many points each year to keep up to date with our field," Bill said. "I've never heard of a super successful program. It's just generally a complicated issue which hasn't been worked out yet."

Bill said he's in favor of certifying individuals as well as companies if there is a proper way to do both.

Property managers, for instance, have to take a certain number of courses to receive certification. In addition, longevity as a property manager is a prerequisite to certification.

"If we could build something similar to that I think it would lend us more credibility," he said.

If and when individual and company certification is worked out, the next issue is how to coordinate national certification with individual states. The landscape industry currently has no requirements for certification, and there's apparently no movement toward coordination of state and national programs.

"One of the downfalls in our state was everybody thought certified individuals would be moving throughout the industry," Bill said. "They thought with certification they can get a job anywhere and the industry didn't want that to happen."

If states and national requirements can be meshed, certification may be a reality in the next three years, Bill said.

"As long as certified companies can get more money for their services then it's great," he said. "But if a consumer doesn't see the value of me being certified and asking for a higher price and someone who isn't certified, I'm in trouble."

The worst thing about it, Bill said, is if one firm is getting \$30,000 for a job and somebody else takes it for \$15,000, then it's going to take years before you can get it up to \$30,000 again. The customer is always going to look for that \$15,000 figure.

It's a vicious cycle. Without certification, the industry is lacking a certain professionalism and with it a new set of problems will be created.

ENVIRONMENTAL AFFAIRS.

Clarence Davids is still bagging clippings in areas where it's a potential danger to pedestrians, near buildings and in tight locations, mainly because the equipment it's using is made to bag.

"Contractors using that same equipment and not bagging will have insurance problems," Bill said. "We've tried mulching mowers, but we aren't satisfied with what is available."

The firm's maintenance department is set up in such a way that it can't wait a day or two before the lawn dries out to achieve the best results from mulching

mowers. In addition, Clarence Davids customers have grown accustomed to a certain look.

"We've spoiled our clients with the bagging method," he said. "It's sort of like vacuuming your carpet and then all of a sudden using a broom to clean your carpet. It just doesn't make sense. The client's not happy with the results."

Bagged clippings are brought back to Clarence Davids where they are picked up by scavengers — garbage men — and taken away to be composted.

The firm has looked into developing its own compost facility, but found that it didn't have enough property. Even if enough land was available at its branch location, nearby residents would not appreciate the odor generated by compost.

In the meantime, scavengers' fees remain one of Clarence Davids' highest costs.

Clarence Davids is interested in purchasing composted materials, but is waiting for easier-to-handle bags, instead of bulk, to be available.

UNTAPPED GROWTH? After 40 years in the industry, what's on tap for Clarence Davids?

"We haven't even scratched the surface. The heights this industry can go is phenomenal," Clarence said. "We'll see a lot of mergers, I just hope it comes through industry and not outside people."

Nearly 68 years old, Clarence is attuned to the landscape management industry. He's active and always bringing something new to the business.

"I'm open to new innovations. I want to move the company; I don't want to sit back and grow old," he said. "I get such inner joy seeing the fruits of my labor. How long will I stay in business? As long as the Lord lets me."

Clarence credits his wife of 45 years with giving him the moral support and willingness to let him spend a lot of time with his business.

"Every day is an opportunity for new ideas," Bill said. "There are going to be a lot of changes in this industry in the next five years, between new equipment, technology and chemicals. I think all of those things are going to reduce labor."

The best contractors are going

(continued on page 73)

IRRIGATION MANAGEMENT

MAKING A BIG SPLASH WITH LOW-VOLUME DRIP

Good design and automation, like any type of irrigation, are the answers to efficient drip management.

By Julie DeYoung

LAST SUMMER, in the throes of California's fifth drought year, the city of Santa Barbara took desperate measures to cut water consumption. One victim: lawn and landscape irrigation, with one exception—drip irrigation.

In Florida, watering restrictions have cut irrigation to two days a week in areas serviced by Marvin's Garden & Landscape, Sarasota. Mike Getzan, manager of Marvin's irrigation division, said the ordinances don't apply to drip. "Drip is excluded from that—they love drip."

Santa Barbara and the actions of other cities clearly illustrate why drip irrigation is becoming more prevalent and why, if you don't already, you may soon find yourself installing irrigation systems that include drip.

Drip irrigation has grown at a rate of 10 percent to 15 percent a year, according to Sam Tobey, president of Salco Products Inc., a manufacturer that has focused on drip irrigation since 1968 and on landscape drip for 15 years. "But remember, that's starting from a very low point," he said.

The growth curve reflects drought's role in drip's popularity. "Whenever there's a drought, that part of the country shows a spurt of interest. So despite the fact that the overall curve is positive, there are peaks and valleys."

The so-called "guru of drip" sees more long-term interest now. "People are getting educated a little more in the proper use of drip and how to use it effectively," Tobey said. "The state of the art in products is going up, too, and in doing so is eliminating marginal products."

Tobey reported that drip now comprises from 2 percent to 8 percent of the irrigation market, de-



Low-volume drip irrigation lends itself to use in contained areas. Photo: Rain Bird.

pending on how you break out the market. "If you define it as water emission devices, I'd say drip is 8 percent. If you include valves, controllers and the like, then it's only 2 percent."

Bob Sears, vice president of membership and technical services for the Irrigation Association, agreed that landscape application of drip irrigation is taking off.

"Since the drought of 1988 and the continuing drought in California, people are beginning to recognize it as a viable alternative, especially to having their water shut off," Sears said. "I feel

strongly that drip irrigation, integrated into an overall irrigation system, will be the future for irrigation."

John Briar, who owns Acorn Landscaping in Santa Barbara, Calif., said 90 percent of his projects now include drip.

"We're getting more and more away from overhead irrigation," he said. "We've been using it for years, but never to the extent we have in the last two years. Some installations are nothing but drip."

SPREADING EAST. California isn't the only area where drip interest is high. Dave Zeman, whose company, Disco Drip, manufactures a screw-on head which converts bubblers and shrub heads to drip, said sales in the Southwest have tripled in the last year.

"There are a lot of gardeners whose homeowner customers are looking at their water bill and saying, 'You have to convert to drip.' It opens up a whole new market for landscape maintenance people," he said.

Walter Mace is the founder of Walter Mace Associates, an irrigation consulting and design firm based in Loveland, Ohio. Though Mace worked with drip irrigation in Southern California prior to his move to Ohio in 1985, "It's just beginning to be introduced in the Midwest. The very first system I saw designed for this area was three years ago," he said. "But I'm confident we will see more and more and more."

In Florida, Getzan estimates that 30 percent of Marvin's installations include drip. "We do a lot of retrofitting of existing systems, not just to drip, but also installing heads that are more specified — low trajectory, flat spray — more low gallonage things," he explained.

A less-enthusiastic viewpoint comes from Toro's Steve Snow. "Everybody will tell you drip is going through the roof. We've done quite a bit of research with contractors and landscape architects and they say, yes, there's more of it. But when we ask if they are actually installing more, it's a different story," he said.

"Some say it's difficult to install, difficult to design, difficult to maintain. In short, there are problems with the product," said



Snow, retail sales and marketing manager for the company's Irrigation Division.

DEFINING DRIP. Drip isn't replacing sprinkler irrigation in all applications, at least not yet. The nature of the beast — slow, low-volume water application at very specific sites — lends itself to use on individual plants such as trees, shrubs, potted plants and other contained areas.

While drip irrigation may be divided into two types, point source and line source, most professionally installed drip irrigation is the first kind. A point source system generally consists of a control station, pipe network, lateral distribution system and emitters, according to Tobey. Flexible PVC or polyethylene tubing runs to plants to be watered with separate emitters installed at each plant.

Another version of point-source drip is tubing with in-line emitters on even spacings. For evenly spaced plantings or, buried in a grid pattern, for ground cover and turf areas, these products may be appropriate.

"Most people think of drip as point-source irrigation emitters," said Kurt Maloney, U.S. director of marketing and sales, landscape division for Netafim Irrigation. Netafim manufactures a product with drip emitters already in the tubing.

Maloney said that in-line emitter products have been touted for growing grass in the past, but

didn't. "So the industry is very leery of it. We don't promote it for grass, but in our hearts we know it works."

A line-source system disperses water all along its length. You're probably familiar with this type as soaker hoses, porous pipe or weeping waterers. Drip-irrigated ground cover areas often feature line-source products.

Drip, regardless of the type, is designed to deliver water and nutrients to the root zone of a plant at a rate the soil and plants can absorb. Rather than wet and dry cycles that may occur with other irrigation types, drip provides roots with a constant supply of moisture.

Because drip irrigation puts water at the root zone of the plant, it acts as an "intravenous feeder more or less," Sears said. "Such precise watering doesn't waste water on the areas between plants, and thereby discourages weed growth. And drip-applied water isn't susceptible to losses from wind or evaporation."

From a working standpoint, drip irrigation is a hydraulic system like any other irrigation method and is very compatible with traditional irrigation. Adding drip does, however, require attention to a few areas.

"If you install a combination of surface spray and drip, it's all in the controller," Mace said. "You need the capacity to switch between minutes and hours so it's going to be vitally important to have dual-control capability."

Drip is designed to deliver water and nutrients at a rate the soil and plants can absorb. Photos: ML Irrigation.

Water quality is of paramount importance with drip. Filtering is always recommended. "You almost can forget using drip on reclaimed water unless it's well-filtered. I never recommend using lake, pond or river water unless you use an elaborate filtering system," Mace said.

Compensating for the pressure differences between high-pressure spray and low-pressure drip is also key. "As with any other product, it's important to follow the instructions from the manufacturer because they're all a little different, but especially for pressure reduction. If you hook drip into a 60-pound system without pressure regulation, your drip will be all over the yard very soon," Sears added.

WHY DRIP IS HOT. The benefits of drip irrigation result from its precise, controlled application of water. Saving water, labor and chemicals plus better plant growth and health offer big incentives for learning to use drip.

But, just as with traditional irrigation practices, those benefits only come with proper use of drip.

"It's kind of a misnomer that drip saves water. Through management of drip irrigation you can save water, in putting out the proper amount of water. Some people are putting out systems and



leaving them on for two or three hours and they haven't saved water. There's a lot of misuse of drip irrigation equipment," said Dave Palumbo, a district manager for Rain Bird, based in La Mirada, Calif.

In fact, quantifying just how much water drip saves is not easy. Basically, it depends on what you're comparing.

The most graphic way to understand the difference in water use is to remember that drip waters in gallons per hour instead of gallons per minute, "a rate closer to what the plant can absorb," according to Palumbo.

"Drip can result in a drastic reduction in the amount of water used to maintain those types of plants. For an average bed of perennials watered with spray heads, by converting to drip and putting in emitters, you may reduce water use by as much as 60 percent or more," Sears said.

Brair estimates systems he has retrofitted to drip require only 10 percent of the water sprinklers' use.

Good design and automation, like any type of irrigation, are the answers to efficient drip management. "Drip lends itself to automation very well," said Mark Lurey, irrigation consultant and distributor. His firm, ML Irrigation, Laurens, S.C., specializes

MultiGreen II

"Like a shot
of Vitamins!"



Iron and micronutrient deficient turf and ornamentals respond quickly to MultiGreen II. Iron, zinc, copper and manganese are chelated in natural sugars which prevents chemical reaction with soil and keeps the micronutrients available for maximum plant uptake. Nothing improves root growth, color and stress tolerance more.

MultiGreen II tank mixes with many pesticides for beneficial results. Its natural spreader sticker properties enhance the results of many chemicals while providing all the micronutrients needed for the healthiest possible turf and ornamentals. And all this without burning the foliage.

Regal Chemical Company
P.O. Box 900
Alpharetta, Georgia 30239
Phone: 404-475-4837
1-800-621-5208



in drip irrigation.

For example, matching dripper flow rates with each plant's needs allows various size plants to be zoned together. With proper planning, the same watering time will provide each plant with the amount of water it requires.

Moisture sensors and rain shut-off devices can also be incorporated to minimize water run-off and percolation out of the useful root zone.

Water savings is the most obvious reason for using drip, but other benefits can be equally appealing. "Oftentimes there are more overriding reasons to use drip than just water savings," Tobey said. A few examples: avoiding overspray onto sidewalks and cars, hillsides where erosion is a concern and plants such as rose bushes where spray is undesirable.

Plant health benefits from proper drip irrigation. "We've experienced fantastic plant growth with drip irrigation, three to four times as fast as with overhead irrigation," Brair said. He attributes this to specific water application and deep water penetration. Drip also minimizes the spread of water-borne plant diseases.

COST COMPARISON. "In landscape applications, cost is kind of a trade-off," Sears said, and others interviewed agree. Materials are generally less expensive than the rigid pipe and spray heads of overhead irrigation. But installation often costs more.

Because point-source drip irrigation delivers water to individual plants, installation is labor-intensive. "I haven't found it to be more economical than other irrigation. It's labor-intensive because you service each individual plant when you lay it out. The savings come down the road in water savings," Brair said.

Maloney pointed out that labor savings can be substantial with in-line emitter products. "There's a landscape architect in Northern California who estimates 90 cents to \$1.25 per square foot for a sprinkler system. On a system where he uses drippers inside the pipe, installation costs are somewhere between 60 cents and 75 cents a square foot," he said.

DRIP DISADVANTAGES. As noted by Snow, drip irrigation isn't foolproof. But successful use of drip by contractors all across the country proves that recognizing troublespots and managing accordingly can overcome potential problems.

Difficult to monitor: Without spray, each emitter has to be observed to see if it's putting out water. It may not be evident that an emitter is clogged until the plant is almost dead, Palumbo said.

Installing pressure regulators and checking them regularly will alert you to potential clogging, not just of emitters but of filters as well. Care during installation to keep dirt out of the system and periodic flushing also minimize clogging problems.

More maintenance: This criticism is debatable.

"In one way, less maintenance is required because you don't have broken heads from kids kicking them or cars hitting them," said John Blevens of the consulting firm ISC Group, Union City, Calif.

"I recommend checking emitters and filters every other week at the start, then you can taper off as you gain experience. It varies depending on the size of the system and the delicacy of the plants, but mainly on water source," he said.

Tobey added his maintenance advice: "Check the filter regularly. How often is defined by the quality of the water — clean water, once every other month; well water, twice a month. Lines should be flushed periodically, from once a month to twice a year. Except for looking to see if the system is working, there's not a lot to do," he said.

In Brair's experience, drip is high maintenance. "It requires constant checking and upgrading as plants mature," he said. "The main emphasis should be on upgrading the system in a year or two. We've taken over projects where all the plants were dying from crown rot because the drippers were never moved. You have to extend the system to water the root zone as the plants grow."

"Also, if workers are nonchalant about raking, they can dislodge the emitters. And because there isn't any spray, you won't know it has been disturbed until the plant is showing wilt," Mace said.

Mineralization and root intrusion of porous pipe: Hard water minerals will clog pores in porous pipe. If buried, roots will infiltrate the pipe searching for water. Using an injector system to pump a mild acid solution such as vinegar through the line on a regular basis will remove deposits.

Lack of standardized products: "It can be a nightmare trying to make systems compatible," Palumbo said.

Tobey said that PVC-flex hose is available in standard pipe sizes and takes standard plastic pipe fittings. "However, if you use polyethylene, which is 90 percent of the market now, there are potentially 16 different sizes of 1/2-inch pipe, and a large number of 1/2-inch fittings for each."

"A lot of what's available out here is not interchangeable. Be sure what you've got and what you're buying and keep apples to apples," recommended Robert Littlepage, whose design/build firm in Auburn, Calif., bears his name.

Littlepage has used drip for a decade. To avoid some of the maintenance problems others have reported, Littlepage buries all pipe, with just the emitter above ground at the plant base. "That protects the pipe from sunlight and damage from people or animals, and it's cleaner looking."

ML Irrigation's Lurey echoes many others as he predicts continued adoption of drip irrigation in landscape: "Once people start using it, they use it for all their jobs." ■

The author is a free-lance writer based in Edgerton, Wis.



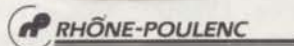
Add Chipco® 26019 to your spray program, and you may add a new truck to your fleet.

The best way to build bigger profits into your existing customer base is to add CHIPCO® brand 26019 fungicide to your regular spray program. Here's why! CHIPCO® 26019 provides more effective control of more damaging diseases than any other fungicide you can use. So, your customers get greener, healthier, more beautiful lawns. Second, CHIPCO® 26019 delivers this broad-spectrum control for a long time—up to a full month from a single application. That means it fits perfectly into your regular spray schedule. Third, CHIPCO® 26019 is

dependable. Applied in a preventative program, CHIPCO® 26019 provides the kind of reliable disease control that eliminates customer complaints and costly call-backs. Best of all, by upgrading your service with CHIPCO® 26019, you keep your current customers satisfied and build additional business through word-of-mouth. Add CHIPCO® brand 26019 fungicide to your spray schedule today, and you may just have to make room for a new truck in your fleet.



Chipco® 26019
Fungicide



WATER REGULATORS: FINALLY FINDING A NICHE?

In early water conservation days, maintenance firms were plagued by water-conserving products that didn't work, causing many operators to remain wary today.

By Mark Ward

EVERYONE AGREES TURF irrigation systems must be better built to conserve water. But when it comes to buying accessories that reduce consumption, some irrigation contractors and lawn maintenance operators haven't jumped aboard the conservation bandwagon.

"Operators don't pay the water bills, and they're judged on the appearance of the lawn," said Jane Payne, controller marketing manager for The Toro Co.'s irrigation division, Riverside, Calif. "So they tend to err on the side of too much water, rather than too little."

Toro and others manufacture a wide array of controller/timers, rain sensors and soil moisture sensors that regulate irrigation to avoid unnecessary watering. But Payne must convince operators that "because the public is concerned about water conservation, controllers and sensors give you a marketing edge. Today's models are also designed for easy use and low maintenance."

According to Stephen Perkins of Hardie Irrigation, Laguna Niguel, Calif., sales of sensors are "growing but sluggish." As

the manufacturer's Dallas-based Eastern sales manager, Perkins spends a lot of time educating clients about the need for cutting water consumption. He pointed out most maintenance firms aren't aggressive about conservation until a problem occurs.

Use of soil moisture sensors and other water-conserving devices have been common in agriculture for more than 40 years, said Bill Pogue, president of Irrometer Co., Riverside, Calif. Though he introduced one of the first commercially available moisture sensors in 1951, Pogue said his company did not find a market in the landscape industry until the late 1970s and early 1980s.

Landscape irrigators have so much catching up to do, Pogue said, that "for every water-conserving product being sold for installation with a new system, more than 10 products are sold for retrofitting an existing system." He cited studies that suggest when lawn maintenance firms "err on the long side" with irrigation, their overwatering typically ranges from 30 to 100 percent.

Paul Klinefelter, president of

Glen-Hilton Products, Richmond, Va., agreed most of his firm's rain sensors are sold for retrofitting. Sales are steadily growing, he said, "but I've had to beat the bushes for 10 years, educating maintenance operators about water conservation — and why it has direct economic and agronomic benefits."

From an agronomic standpoint, Klinefelter explained, too much irrigation can cause soil nutrients to drift below the turf's root system — and leach into groundwater. And by boosting plant health, tight water management cuts down on service calls and chemical applications.

But Payne pointed out that operators must also consider the bigger picture. "If the industry doesn't reduce water consumption, state and local legislatures will mandate it. Maintenance companies must learn how water-saving irrigation products work, so they can address the conservation issue before the politicians do it for them."

CONTROLLER QUANDARY. The irrigation controllers familiar to many maintenance operators are electromechanical units "with pins, dials and wheels," Payne said. But in recent years, she added, the industry has moved chiefly to programmable solid-state controllers with liquid crystal display (LCD) readouts.

"Electromechanical controllers were easy to use, but didn't offer much flexibility," Payne said, "but many programmable solid-state units have had the problem of not being user-friendly."

To gain the best of both technologies, Toro and other manufacturers are introducing hybrid controllers that combine solid-state and electromechanical features. For example, Toro offers

**If the industry
doesn't reduce
water consumption,
legislatures
will mandate it.**

eight series of controller units to provide an array of capabilities.

Another major manufacturer, Rain Bird of Glendora, Calif., offers nine series of controllers graded for industrial or residential/light commercial application. The company's newest series is a hybrid controller that seeks to combine easy electromechanical programming with precise solid-state design.

Hardie Irrigation markets five controllers, said Perkins, including a hybrid unit that "takes electromechanical simplicity and marries it to solid-state accuracy." The firm emphasizes both user-friendliness and flexibility because irrigators' needs are different for various projects.

Whether operators choose solid-state, electromechanical, or hybrid units, "every controller should have two essential water-saving features," said Brian Vinchesi of Eastern Irrigation Consultants, Pepperill, Mass.

Those two features are dual programmability and water budgeting. The former, said Vinchesi, "allows the device to control different parts of the system on different irrigation schedules. For example, shrubs and lawns do not have the same water requirements. Dual programming also allows different summer and winter watering schedules."

Water budgeting is another key controller feature, Vinchesi said, "that allows operators — usually with the touch of a button — to increase or decrease programmed watering times by a specific percentage without reprogramming the controller."

The most recent controllers introduced by Toro allow water budgeting adjustments ranging from 25 percent to 200 percent. The latest Rain Bird units can be adjusted from zero or 10 percent,

Controllers and sensors can give maintenance operators a marketing edge. Photo: Hardie Irrigation.

up to 200 percent. And Hardie Irrigation's newest controller is adjustable from zero to 250 percent.

Such a wide range of options are available, Perkins said, "that you can spend anywhere from \$125 for a basic electromechanical unit, to \$2,500 for an advanced weather station." Payne agreed, and suggested controllers costing \$300 to \$400 could be typical for commercial or high-end residential applications.

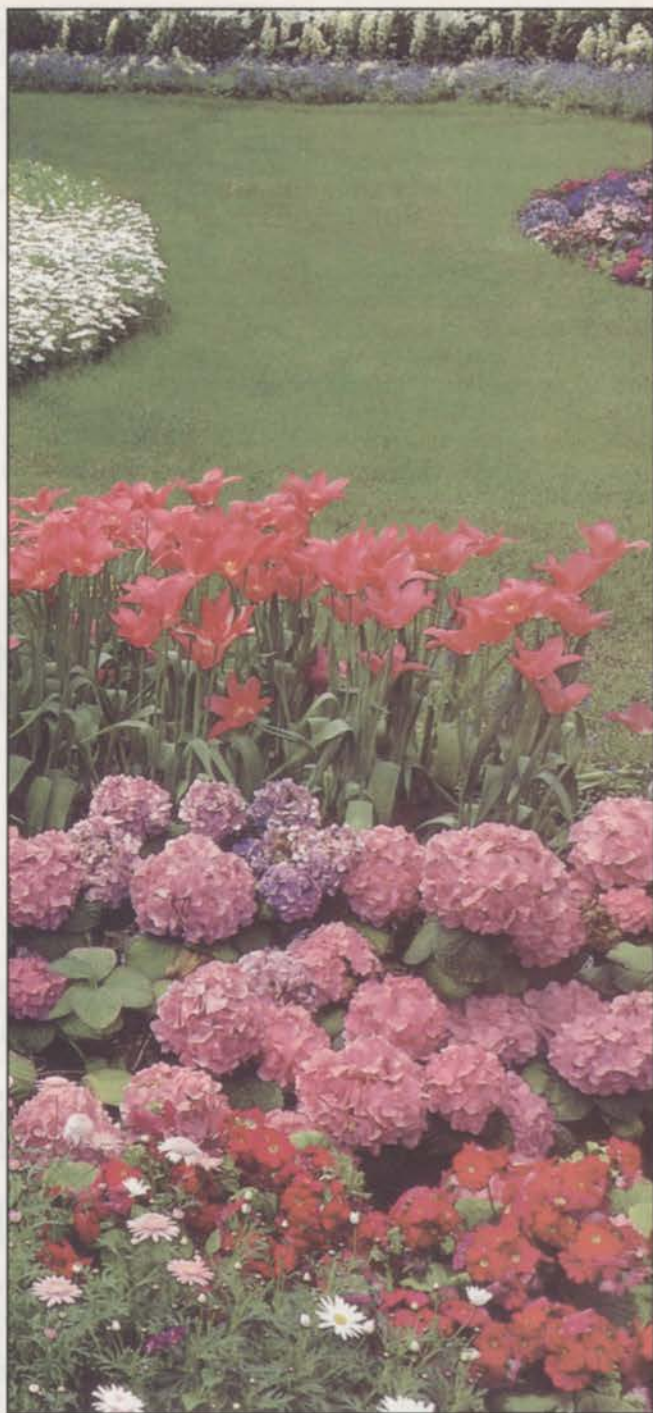
ALL ABOUT SENSORS. Sensors are often used in conjunction with controllers, and come in four types:

Rain sensors are designed for three purposes, according to Klinefelter: to shut off an automatic sprinkler system when the unit has collected a preset amount of rainfall; keep the system off during the rainfall and for a drying-out period; and reset the system for normal operation when the turf requires more water.

In many rain sensors, such as the Rain Bird model, water is collected in a cup or catch basin. But other units, such as those made by Glen-Hilton and Toro, employ absorbent discs in a plastic casing. Rainfall through the sensor's openings causes discs to expand at a calculated rate, shutting off irrigation at the preset level (typically in 1/8- or 1/4-inch increments up to 1 inch).

Klinefelter said absorbent-disc models are designed to prevent debris or wind from skewing water readings, and to dry out from rain at the same rate as turf. However, he suggested any rain sensors be installed on high areas — such as roof eaves — and away from trees or obstructions that would inhibit rain collection.

Costs for rain sensors, Klinefelter said, typically range from \$30



to \$50.

Soil moisture sensors are placed in the root area to sense the dryness or wetness of the turf. The earliest models, which are still the most widely used in agriculture and plant research, work on the "tensiometer" principle of measuring soil water suction.

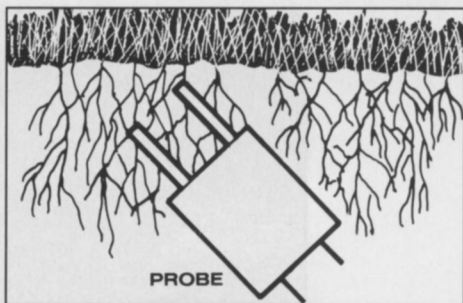
Tensiometers have made little headway in the landscape industry, Pogue said, because "landscape irrigation managers are unable or unwilling to undertake the periodic maintenance needed to keep the instruments in working order."

Another method for sensing soil moisture is measuring its electrical resistance. Most units built on this principle consist of a gypsum block embedded in soil, and connected by electrodes to the irrigation system. While the units are maintenance free, they are less accurate in wetter soils, and the gypsum can degrade quickly.

Irrrometer markets a hybrid electrical-resistance moisture sensor that adds features found in tensiometers. Units made by Toro and Rain Bird also dispense with gypsum blocks and are designed for corrosion- and maintenance-free operation.

According to Pogue, the simplest manually read moisture sensors can range in cost from \$20 to \$45. Sophisticated models range up to \$500, with one sensor required for each controller hooked into the irrigation system.

Flow sensors calculate water application rates, identify excess flows and log total water consumption. *Freeze sensors*, including the Glen-Hilton model, prevent irrigation systems from



Today's water conservation technology is designed for easy use and low maintenance.

operating during freezing or near-freezing conditions.

DIFFERENT COMBINATIONS. Either rain or moisture sensors can be effective.

control an irrigation system."

In earlier years, Klinefelter admitted, maintenance firms were plagued by water-conserving products that didn't work — and many operators remain wary today. Po-

Operators today can choose from an array of water-saving devices.

"Rain shut-off should be a minimum feature on any installation," Vinchesi said. "Soil moisture sensors, although not practical in northern areas for many years, now can accurately con-

gue added, "Our company has been in business 40 years, and even today we're still seeing several manufacturers come and go every year."

But Pogue, Klinefelter and

others all agreed maintenance operators today have a wide selection of effective water-saving devices from which to choose. Where people part company is advising what combinations of options work best in turf irrigation.

For example, Payne said, most operators use either rain sensors or moisture sensors, but not both, in conjunction with a controller. "In wetter climates, maintenance firms tend to use rain sensors, because that may be all they need. But in drier regions, the moisture sensors are more common."

In the years ahead, Perkins suggested, manufacturers may develop a combination rain-and-moisture sensor. But until then he favors moisture sensors for most applications.

"They cost more than rain sensors and require more maintenance, but in my opinion do a better overall job. Moisture sensors also work better in conjunction with drip irrigation, because these systems are based upon soil rather than atmospheric conditions."

Pogue is understandably en-
(continued on page 36)

BRON BULLET

A new lightweight-high performance walk-behind vibratory plow.

FOR UTILITIES AND IRRIGATION.

The new BRON BULLET. A high performance, multi-featured vibratory plow, is the perfect one-man machine for the installation of sub-surface cable and irrigation pipe.

Powered by an air-cooled HONDA engine, the BULLET will provide fast, economical installations with minimal turf damage.

Call today for more information.

RWF BRON

RWF Industries
1 John Street, Embro, Ontario, Canada
Tel: (519) 475-4101
Fax: (519) 475-4066

Hydrostatic drive with variable speed

Accessible operator controls

Air-cooled low maintenance HONDA engine

Quick detach blade assemblies

Contact RWF BRON for dealer and end user inquiries.

High flotation tires

The Quadra Bubbler® From Pepco Provides A More Effective Way To Save Up To 70% Of Your Water Use.

Since it's first design, the Quadra Bubbler from Pepco has set forth to make better use of our water.

Only the Quadra Bubbler moves forward on an intelligently planned path, delivering greater water savings, in less time.

The Quadra Bubbler delivers water in gallons per hour. Quads are available in 2, 6, 10 or 20 GPH flow rates and can be used on systems with 10-100PSI.

Better, the Quadra Bubbler is flow regulated and does not require expensive filters or pressure regulators. The best solution for RETROFIT or new systems.



Everything you need to know can be found in our fully illustrated, easy to understand

"WATER CONSERVATION HANDBOOK." The handbook is free for the asking. Simply call (800) 247-8138 or circle the reader response card number!

Balance With Nature.

ONLY YOUR IMAGINATION LIMITS THE POSSIBILITIES.

For instance, design your system with PVC. Using two Quadra Bubblers and the Pepco P7750T Tee on 1/2" risers, you'll deliver the water to eight plants and not waste a single drop. This configuration also works well for retrofit applications.

For corners or hard to reach areas, use the Quadra Bubbler and the Pepco P7550E Elbow on 1/2" risers. You'll deliver from four ports to the root base of four trees or shrubs. Above or below ground.

At times a single installation is needed where some plants are not getting proper water.

By using the FPA640 adapter, any 1/2" riser accommodates the Quadra Bubbler.

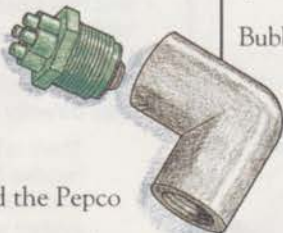
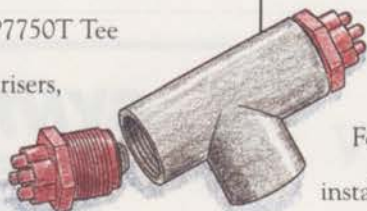
For landscape beauty, install the entire riser with bubbler under ground along with the tubing.

If polyethylene tubing is part of your plan, specify Quadra Bubblers with the new FPA630B Barbed Adapter. This allows greater flexibility and design patterns.

The latest and easiest retrofit option now available is the QB2 from Pepco. The QB2 simply replaces existing spray heads with four ports.



All Pepco products maintain the highest standards in manufacturing and quality control. In addition, the ecological design for above or below ground installation creates a sense of natural beauty without detection of where the water is coming from.



PEPCO

WATER CONSERVATION PRODUCTS, INC.

Quadra-Bubbler is a registered trademark of Pepco Water Conservation Products, Inc., Fresno, California 93722.

Water Regulations

(continued from page 34)

thusiastic about his firm's moisture sensors, but believes rain sensors also have a role in water conservation. "Moisture sensors are the basis of a good irrigation system, but rain sensors serve as a low-cost refinement that further fine tunes your savings."

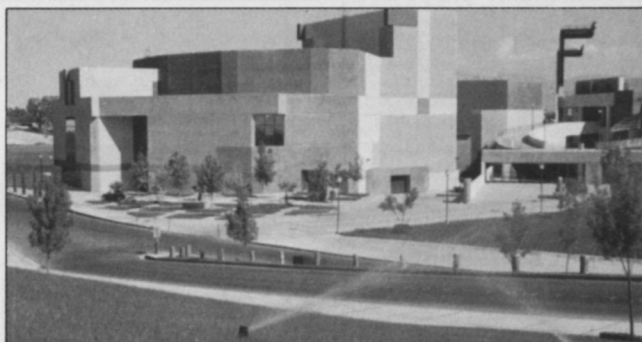
The difference between the two products, Pogue said, "is that rain sensors only tell the system when *not* to water, while moisture sensors can both inhibit *and* initiate irrigation." Yet rain sensors are needed for torrential rainfalls that come down so fast, significant water is present before moisture has penetrated soil.

Moreover, Pogue suggested,

sensors can eliminate the need for many features found on controllers. "Because soil moisture sensors allow 'feed-when-need' irrigation, that eliminates guesswork. It's like air-conditioning. You don't run it certain days at certain times, but use a thermostat to automatically regulate the system. Irrigation is the same, with moisture sensors acting as the thermostat."

Though his company makes rain sensors, Klinefelter agreed with Pogue about moisture sensors in many respects. He readily agreed moisture sensors "do work and have their place in irrigation. In the past they've been limited by higher prices and higher maintenance needs.

"But today the cost is modera-



A tight water management program can reduce service calls.

ting, while reliability is increasing. Moisture sensors can even eliminate the need for many independent controller functions — or vice versa. In fact, using the two in combination can be self-defeating. So which one you choose is a matter of philosophy."

Whether a maintenance operator favors controllers or moisture sensors, Klinefelter said, rain sensors are a necessary complement. "Well-designed systems, whether spray or drip, assure proper watering under normal conditions. The only thing they can't handle is the unpredictable. That's why rain sensors are such a vital component. Without rain sensors your

system only covers half the picture."

Despite differing advice on what products are best, all agreed the wide array of water-saving devices is healthy for the industry.

"The technology for water conservation is here, designed by manufacturers for the business needs of the lawn and landscape sector," said Payne. "Now it's the turn of operators and contractors to acknowledge their customers' concerns and join the parade." *The author is a free-lance writer based in Schroon Lake, New York.*

Moisture sensors are the basis of a good irrigation system; rain sensors further fine tune your savings.

FINALLY, DRIP IRRIGATION MADE EASY!

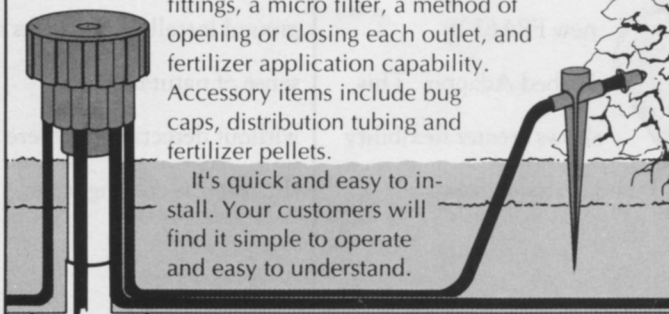
With the VIBRA-CLEAN EH-12 System:

- All the necessary drip components are in the head.
- Simply screw the EH-12 onto any 1/2 inch riser*.
- Lay out the distribution tubing to the area to be watered.
- Install the stakes and bug caps.
- Turn on the water!

* Back flow prevention required in compliance with local code.

The OLSON EH-12 contains 12 individually flow-regulated outlets with micro-tubing fittings, a micro filter, a method of opening or closing each outlet, and fertilizer application capability. Accessory items include bug caps, distribution tubing and fertilizer pellets.

It's quick and easy to install. Your customers will find it simple to operate and easy to understand.



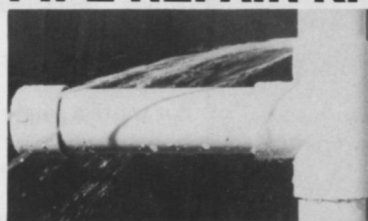
**OLSON
IRRIGATION
SYSTEMS**

when water counts®

10910 Wheatlands Ave.
Santee, CA 92071
(619) 562-3100
(800) 776-5766
FAX (619) 562-2724

reader service **63**

SYNTHO-GLASS PIPE REPAIR KIT



STOPS
LEAKS

SETS IN
MINUTES

WATER ACTIVATED

- Repairs joints and couplings in minutes
- Withstands pressure in excess of 150 P.S.I.
- Sets on wet surfaces
- Easy to apply
- Use directly from package

There is NO mixing and NO measuring—just remove **Syntho-Glass** from its foil pouch and wrap. In 30 minutes your irrigation system will be back in operation.

For more information call:

1 (800) 328-0090

NEPTUNE RESEARCH, INC.

2611 Old Okeechobee Road • West Palm Beach, Florida 33409

Phone 407-683-6992 FAX: 1-407-683-8366

DEALER AND DISTRIBUTOR INQUIRIES INVITED

reader service **62**

News from Monsanto...

ROUNDUP[®]
HERBICIDE

PRICE CUT

\$22

ON 2¹/₂ S!

Monsanto has lowered the price of Roundup[®] herbicide by \$22 on the 2¹/₂ gallon container size!

The price is even lower in 30's. Now you'll find even *more* value in Roundup and *more* places to use it *more* often.

Think of the budget-stretching savings Roundup can bring you compared to time-intensive string trimming. Or the labor-savings in using lower-priced Roundup to maintain weed-free beds and pine islands. Use it to eliminate brush, poison oak, poison ivy... in landscape site preparation and turf renovation.

Figure your savings at the new lower price. Then see your dealer or retailer to save on Roundup.



Always read and follow the label for Roundup herbicide. Roundup[®] is a registered trademark of Monsanto Company. © Monsanto Company 1991 RGP-1-170BR

reader service **73**

Split Level.



- Two-tier loadbed.
- More standard horsepower than Ford F250 4x4.
- More standard payload than Ford F250 4x4.
- Best standard gas mileage of any full-size, ¾-ton 4x4*

*K2500 4x4 with standard 4.3 Liter V6 and 5-speed manual transmission. EPA est. MPG city 16, highway 20.



Chevrolet and the Chevrolet emblem are registered trademarks and Chevy is a trademark of the GM Corp. © 1991 GM Corp. All Rights Reserved. Let's get it together... buckle up.

Chevy K2500 4x4. Two-tier loading lets you carry tools in the cargo box and supplies on top. Just put 2x6s in the built-in notches to make a second load platform. Chevy's higher payload rating can handle it. Whatever your business, Chevy's 3/4-ton has the power, payload and towing for the job.

More People Are Winning With *The Heartbeat*  of America. **TODAY'S TRUCK IS CHEVROLET.™**

IRRIGATION MANAGEMENT

PREPLANNING GOES A LONG WAY IN IRRIGATION INSTALLATION

Keep your installation practices consistent with the quality of work you want to provide.

*By Brian Vinchesi
and Brendan Lynch*



Install valve wiring with plenty of slack for servicing the valve.
Photo: Eastern Irrigation Consultants.

IF YOU ARE involved in the irrigation installation business, there are many installation techniques you can use to save time and money while raising the quality of your work.

Remember, the effectiveness of certain installation procedures and techniques are based mainly

on opinion; what works best for you may *not* work best for another installer. Only you can decide on the preferred installation method for your company. Some suggestions in this article may be of help to you.

To begin, organize your vehicle with enough inventory to get

the job done. You don't want to arrive at the job without the necessary parts; this could affect your estimated project completion time. If you can afford to, keep an inventory large enough to install several residential systems.

The day before you begin, inspect the site to make sure it's prepared for installation. Organize the crew with defined tasks and motivate them to get the job done within the estimated project time.

Each crew member should have the necessary tools and equipment to perform his or her specific responsibilities. It's also helpful to go through the job with the foreman so that he can run the job in your absence.

PLUMBING. If local laws permit you to do your own plumbing, presolder female and male adapters onto short lengths of pipe, saving the trouble of making more than one solder in the field. Standardize your backflow prevention and the setup you use for blow-out connections (if your systems need to be winterized).

If a plumber installs the backflow, consider purchasing it yourself. The plumber may be marking up his cost; you can probably buy it for less.

Use copper from the water tap, through the backflow preventer and into the ground. Local codes may dictate the type of copper to use. Do not run polyethylene or

(continued on page 42)

HOW TO MAKE THE GRADE IN TURF.

THE A-TEAM FROM NK MEDALIST.[®]

AMIGO,
ARRIBA
AND ARID
TALL
FESCUES.

We've blended three of the best improved tall fescues available and named them the A-TEAM. The



name says it all about the high grade of performance you can expect.

Arriba and Amigo are dwarf varieties that have ranked at or near the top in low-maintenance, color, texture and other key categories in the National Turf Evaluation Program (NTEP) Tall Fescue Trials. Arid, a semi-dwarf, finished the most recent NTEP Trials ranked #1 in overall turf quality. And all three varieties are already making the grade in actual use. These NK exclusives



are available individually or in the A-TEAM blend. Contact your NK Medalist Turf Distributor, or call 1-800-545-6093.



© NK, 1990

NK Medalist headquarters: Minneapolis, MN. Branches in: Tangent, OR, Downers Grove, IL, Bound Brook, NJ, Chattanooga, TN.

Irrigation Installation

(continued from page 40)

PVC pipe less than schedule 40 inside any building; otherwise, water damage may occur.

PIPE INSTALLATION. Pull or trench the pipe depending on location of the installation, the size of the pipe you're working with,

Inspect inventory before you begin installation.



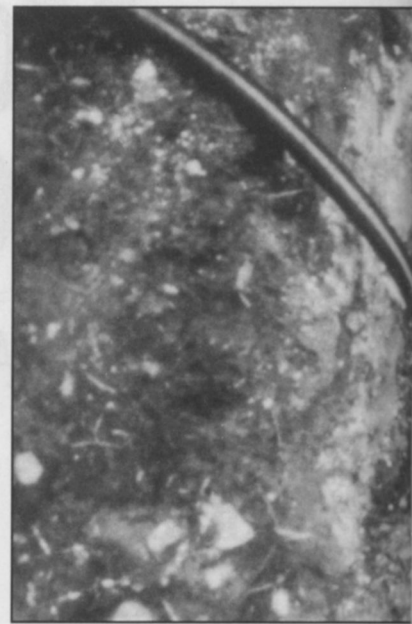
the type of pipe you're using and soil conditions. Once you or someone else has laid out the sprinkler locations, take a minute to figure out the most efficient pipe routing. Zone your sprinkler system so you don't waste pipe or wire. By preplanning this job, you can save time, labor, money, and most importantly, avoid costly mistakes.

When you have finished installing a piece of pipe, cap it. This

will prevent rodents, dirt and other debris from entering the pipe. Before installing the sprinklers, flush the lines. If you are using polyethylene pipe, double clamp the mainline. For PVC pipe, use primer and be sure to follow manufacturer's instructions, wiping off any excess glue. Do not glue bell and gasket pipe.

SPRINKLERS. Pre-install sprinkler nozzles in the shop before installation. Many sprinklers now come with a wide choice of nozzles. Make sure you have an adequate assortment so you can provide an even application of water throughout your system. Try to standardize the type of sprinklers you use and the spacing at which you place them. Standardization will save aggravation for your crew, make maintenance easier and keep your inventory costs down.

If possible, pre-adjust the arcs on your rotary-type sprinklers before installation. Use swing pipe on all sprinklers to make head adjustment easier and to absorb the weight of mowers and foot traf-



fic. Some installers also suggest making up the swing pipe assemblies ahead of time. On sprinklers over eight gallons per minute, use prefabricated PVC swing joints. Install the sprinklers flush to grade, throwing away from buildings, fences and walks to avoid staining.

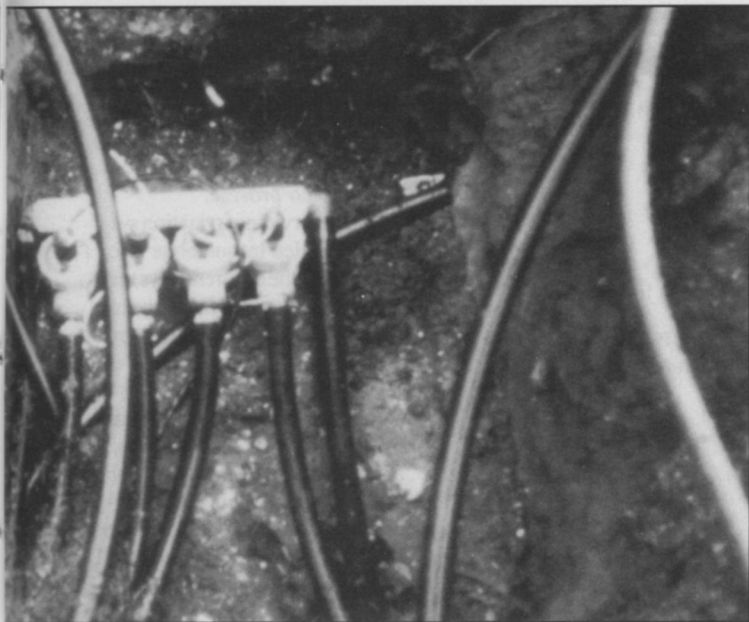
THE FINEST SPRINKLER SYSTEMS GOT CAUGHT IN THE RAIN.

For all their automated sophistication, sprinkler systems don't know to stop watering in the rain. They must be told. And Mini-Clik II is the rain sensor to tell them. Only Mini-Clik measures rainfall

through moisture-absorbing disks. They absorb water and dry out the same way turf does. So sprinklers shut off, and stay off, until the grass is thirsty again.

Other rain sensors rely on collection

cups to measure rainfall. But cups fill up with leaves, twigs, dirt and insects, as well as rain water. They're also affected by wind and damaged by heat and cold. All of which means your customers waste



VALVES. If the job allows, try to put your zone valves together in manifolds. Don't be afraid to have several separate valve manifolds on one job. Valve manifolds can be made up in sets of three or four valves ahead of time; you can then select as many sets as you need for a particular job.

PVC schedule 40 fittings and manifold tees are manufactured by a number of companies for use in constructing manifolds. Teflon tape should be used on all threaded connections in the manifold.

Do not cramp the valves in the valve box; various size valve boxes are available for all manifold sizes.

Prebuild valve manifolds to keep quality consistent with each installation.

Install the valves as if you were the person who had to service them. Set the valves and valve boxes on a layer of gravel, which

if your pipe depth is 10 inches or less.

In addition, extensions save digging time, cut down on disturbance and make valve box installation easier. Standardize the type of valves you use for ease of service and to keep inventory

Only you can choose the preferred installation methods for your company.

helps with drainage and provides a sturdy base. The tops of the valve boxes should be level with grade or two inches under the turf. Try to hide them under mulch, in shrub beds or in areas where they will not be visual.

If your valves are deep, use valve boxes with extensions to provide clear access all the way down to the valves. Six-inch valve box extensions instead of 12-inch-deep valve boxes are easier to use

down. If you need pressure regulation, especially with spray zones, use a valve equipped with flow control.

Some final tips: Mark the location of all valves on an as-built drawing, and write the zone number on the valve box cover with indelible ink to aid in servicing. Use only waterproof wire connectors to save service problems in the future. Size valve wires properly and install them loosely so

UNTIL MINI-CLIK.

© 1989 Glen-Hilton Products, Richmond, Virginia

water and you waste costly service time. But Mini-Clik's patented design is so reliable, it's guaranteed to work. Because it's simple, from the way you install it to the way you click in the precise settings.

For the nearest distributor, call Glen-Hilton Products at **1-800-476-0260** or **804-288-0200** worldwide. Make sure the irrigation systems you install have sensor enough to come in out of the rain.

MINI-CLIK^{II}
Saves You Money On A Rainy Day

there is plenty of slack in case you have to move or service the valves.

CONTROLLERS. Install controllers in locations easily accessible to the owner, who needs to reprogram for changes in the weather. If possible, install controllers close to an electrical outlet to avoid the use of extension cords or electricians.

Whether inside or outside, install the controller at eye level, making sure it is securely fastened and level so the display can be easily seen and the controller programmed. One advantage of the outside controller is that the contractor doesn't need access to a home or building to service the system. Outside controllers should have weatherproof cabinets with internal transformers.

To save time on site, you can prewire the controller transformer and install the batteries at the shop. With battery-operated clocks, you can preprogram the time, day and other features before installation.

As with other irrigation equip-

GETTING A HEAD START

- ✓ Build valve manifolds in groups of three or four using PVC tees or manifold tees.
- ✓ Install sprinkler nozzles ahead of time.
- ✓ Solder male adapters onto short lengths of copper pipe. This saves time and a lot of cutting in the field.
- ✓ If possible, preprogram the controllers with time and date, install the battery and wire-in the transformer.
- ✓ Check and order inventory.
- ✓ Clean and organize your vehicle.

ment and components, try to standardize the type of controllers you use, keeping in mind the different functions needed for each job. Standardize colors and zone numbers so that everyone on your crew can remember them. For example: Zone 1 is always red, Zone 2 blue, Zone 3 green, Zone 4 yellow, etc.

White is universally recognized as common in the irrigation

industry and should always be used for the common wire.

Finally, ground the controller per the manufacturer's recommendations to keep the warranty intact. Use U-type connectors on the ends of wires for ease of installation and serviceability. You might consider hanging a copy of the system as-built drawing in the controller cabinet to help with servicing and troubleshooting.

CONCLUSION. Keep yourself and your crew up to date and trained on the latest irrigation equipment, tools and installation techniques. Keep your installation practices consistent with the quality of work you want to provide.

When servicing irrigation systems installed by someone else, take note of the different ways that systems and equipment can be installed and learn from that experience, whether it is good or bad.

Remember that everyone has a different opinion about which irrigation system works best and how that system should be installed. But you have to decide what works best for you and your crew, the customer and the bottom line. ■

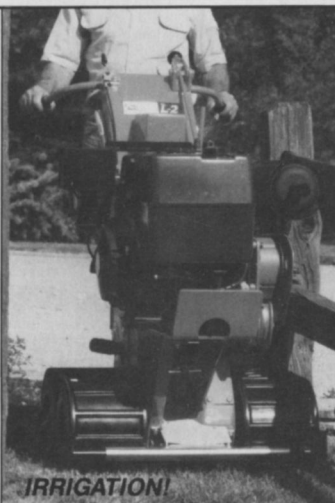
The authors are consultants with Eastern Irrigation Consultants Inc., with offices in Pepperill, Mass. and Beltsville, Md. The authors, who teach irrigation seminars across the country, specialize in irrigation systems for golf, residential, agricultural and commercial applications.

WE NEVER SAID IT WAS LOW COST

THE LINE-WARD LINE-LAYER

PREFERRED BY PROFESSIONALS FOR OVER 16 YEARS

- Handcrafted, Solid Construction
- Moves On Tracks, Not Wheels, For Superior Traction
- Efficient, All-Mechanical Drive—No Recurring Oil Leaks
- Ever Reliable Kohler 16 Hp. Engine—Optional Electric Start
- Up To 16" In Depth
- Quick Service & Parts Delivery
- Boring Attachment Available



For pipe or cable installation, Don't settle for less!

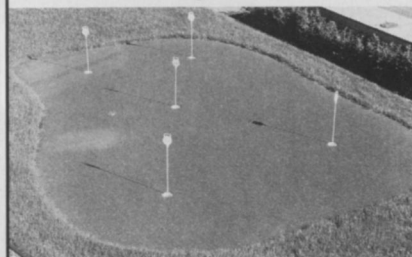
SEE FOR YOURSELF

Call For A Free On-Site Demonstration Of The L-2 Model Or Write For Our Color Brochure



Line-Ward Corp.
157 Seneca Creek Road
Buffalo, New York 14224
(716) 675-7373

Maintenance Free Putting Greens



Dealers are needed nationwide for this new state of the art product. PGI has developed a maintenance free putting green that is extremely realistic and easy to install. Perfect for backyards, apartments, condos, hotels, schools, etc. . . Call now to see how you can obtain a free PGI dealership and earn a profit of \$1,500 per day by installing maintenance free putting greens.

Putting Greens International
P.O. Box 172
Fishers, IN 46038
317-259-6800



JUST THE BEST!

reader service 30

reader service 32

WHEN YOU'VE GOT GRUB CONTROL THAT'S THIS GOOD, WHY NOT SPREAD IT AROUND?

When it comes to grub control, there's nothing faster or more effective than DYLOX® Insecticide from Mobay.

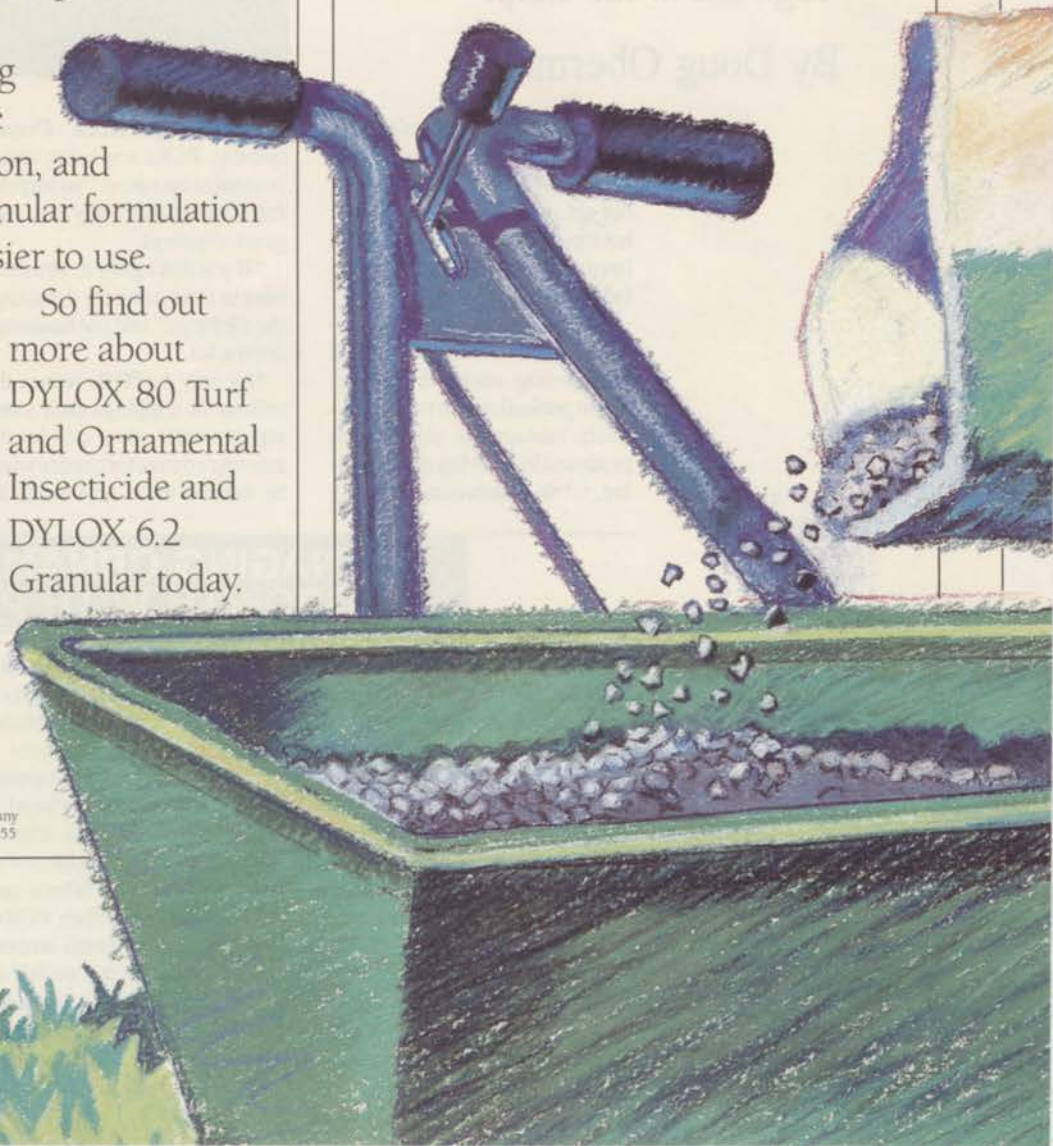
Now, thanks to DYLOX 6.2 Granular Insecticide, there are two great formulations of DYLOX to tackle tough grub problems.

DYLOX gives you the fast-acting protection you've come to depend on, and now the new granular formulation makes it even easier to use.



So find out more about DYLOX 80 Turf and Ornamental Insecticide and DYLOX 6.2 Granular today.

Because the only thing faster than DYLOX at work, is the way its reputation for grub control has been spreading. Mobay Corporation, Specialty Products Group, Box 4913, Kansas City, MO 64120. (800) 842-8020.



DYLOX is a Reg. TM of Bayer AG, Germany
©1991 Mobay Corporation 911355

reader service 34

Mobay 
A Bayer USA INC COMPANY

HORTICULTURAL WASTE DILEMMA SPURS INTEREST IN PGRs

With landfills banning disposal of yard wastes, lawn and landscape contractors look to plant growth regulators for help.

By Doug Obermann

PLANT GROWTH regulators as well as slow release nitrogen and iron/nitrogen products for green but not excessive topgrowth are hot topics for discussion in today's lawn and landscape maintenance industry.

Using these products and processes such as composting and grasscycling, allows the maintenance professional to more effectively manage the yard wastes produced by mowing and trimming, while maintaining a freshly



groomed appearance. Consequently, PGRs are being rediscovered as a positive, "no surprise from the weather" way to reduce grass clippings.

"If you don't grow it, you don't have to mow it and try to manage the clippings," said one landscape contractor.

Not only do PGRs reduce the volume of clippings each mowing generates, they also let the mowing contractor choose when he wants to mow. As a result, he

can manage his people and equipment more efficiently.

New rates, formulations, types and tank-mixes of growth regulators have moved their use from roadside and utility turfs to some of the finest quality grass in the country. By fine tuning the use of PGRs, discoloration of the grass is minimized. The higher maintenance turf is well suited for growth regulation since the grass is put "on hold" in its best condition.

MANAGING ORNAMENTAL GROWTH WITH PGRs

Ground cover and shrub trimmings are included in state and local laws which ban yard wastes from landfills. What can the maintenance professional do to reduce the amount of growth plants produce?

PGRs can offer a tremendous reduction in growth and volume of leaves and stems.

Growth regulators have been extensively used for many years in greenhouse and nursery production, but have been somewhat slower to catch on with the landscape maintenance market.

Professionals need to explore the possibility of controlling ornamentals with PGRs. The plant growth is not stopped, but merely put into a slowed mode. Most ornamental regulators are

leaf absorbed and place the growth on hold for eight weeks and as much as 16 weeks. Also, treated plants will maintain a freshly rimmed appearance longer when PGRs are used.

Maintenance costs and trimming volumes can be reduced by 50 percent and more in many cases. Cleanup time and disposal headaches are significantly reduced.


Where can the trimming debris be disposed? When PGRs are used, retrimming can allow the small amount of debris to fall into the ornamentals or fall to the ground to be recycled by nature. Otherwise, the trimmings can be composted after running them through a chipping machine and mixed with grass clippings.

TIPS FOR USING PGRs

1. For spring applications, treat after full green-up and after the turf has been mowed two to three times.
2. With late summer or early fall applications, treat one to two months prior to the anticipated killing frost.
3. Standard pressurized equipment can be used in most cases. The equipment and application should be carefully calibrated to ensure the most uniform coverage.
4. Most growth regulators perform best when two to four gallons of total spray solution is used per 1,000 square feet, which aids in proper coverage.
5. Avoid skips and overlaps — blue dye indicators or other marking agents are suggested.
6. Some growth regulators are leaf absorbed and others require irrigation or rainfall for activation. Follow manufacturers' recommendation.
7. Most broadleaf weeds are not suppressed by PGRs and weeds may actually proliferate if not controlled.
8. Never apply during or when dry, hot conditions are anticipated.
9. Diseases and insects need to be kept in check.
10. Sprinkler volumes may need to be reduced, since treated grass often requires less water.
11. Avoid treating turf areas with heavy foot traffic.
12. Always read entire product label.

PGRs FOR FINE TURF

Product	Manufacturer	Labeled grass species
Cutless	DowElanco	Bentgrass Common Bermudagrass 419 hybrid Bermudagrass 328 hybrid Bermudagrass Kentucky bluegrass Perennial ryegrass Zoysiagrass <i>Poa annua</i> management/conversion
Embark	PBI Gordon Corp.	Bermudagrass Centipedegrass Kikuyugrass St. Augustinegrass Kentucky and annual bluegrass Tall, Red and Chewings Fescues Perennial ryegrass <i>Poa annua</i> seedhead suppression
Limit	PBI-Gordon Corp.	Kentucky bluegrass Perennial ryegrass Tall and fine fescues
TGR Turf Enhancer	O. M. Scott & Sons	Bentgrass Hybrid Bermudagrass Kentucky bluegrass Perennial ryegrass St. Augustinegrass <i>Poa annua</i> control



Privet hedge 10 1/2 weeks after the left side was treated with a PGR. Photo: PBI/Gordon.

These improvements have changed the attitudes of maintenance contractors who were once concerned that PGRs might lower the quality of turf or even lower revenues by reducing the mowings each property receives. In many instances, PGRs are now thought of as valuable "clippings management" tools. By fine tuning the use of PGRs, discoloration of the grass is eliminated or minimized and grass clippings can be significantly reduced.

While many mowing maintenance customers may not be aware of the need for changes in cultural practices as a result of reduced disposal sites, the reality is that many landfills are full and are being closed faster than new sites can be opened.

According to *BioCycle* (April 1991) magazine there were almost 8,000 municipal solid waste landfills in 1988, 7,379 landfills in 1989 and only 6,326 landfills in 1990. To help slow this trend, many state and local governments have passed laws to prohibit or restrict yard wastes in already full landfills.

REDUCTION PROGRAMS. William Knoop, turfgrass specialist at Texas A&M University, is the father of the "Don't Bag It" campaign which advocates returning clippings to the soil. He said clients often worry that clippings will contribute to thatch buildup, but when properly managed, grass clippings can help recycle plant nutrients.

"The landfill issue is becoming more and more critical, and lawn service companies should look to PGRs since these products should be professionally applied," he said. "In order to reduce lawn clippings, the spray contractors may need to rethink their ferti-

lizer programs and use more PGRs."

The key question regarding PGRs is the level of acceptance they will reach with consumers, said Mike Shaw, DowElanco product development manager. DowElanco manufactures Cutless PGR.

"There's been a tremendous amount of interest in the last year, but the costs are still pretty high," he said.

Part of that interest was generated by the Professional Lawn Care Association's "Grasscycling" campaign urging lawn care companies and their customers not to collect grass clippings.

"A quality lawn is the goal of the lawn care professional and we feel that grasscycling is not only good for the lawn, it also reminds the homeowner to follow proper mowing, watering and fertilizing procedures," said Sandy Marting, PLCAA public relations director. "The homeowner then becomes a partner with the lawn care service to achieve optimum lawn quality and appearance."

If the turf manager is collecting and composting yard wastes, growth regulators will reduce the volume of clippings going into the compost pile and help make the management of the compost "heap" less laborious.

All growth regulators are organic based and

Many landfills are near or at capacity and are being closed faster than new sites can be opened.

will be broken down by physical decomposition and microbial organisms in the compost pile.

"Grass clippings are hard to compost and need to be bulked and turned more often in order to avoid matting and anaerobic conditions. This allows air to get into the compost and keep the microbial breakdown process going," said Louis Schroeder of Horticultural Consultants, a landscape maintenance contractor which operates a licensed, private compost operation in the greater Kansas City area.

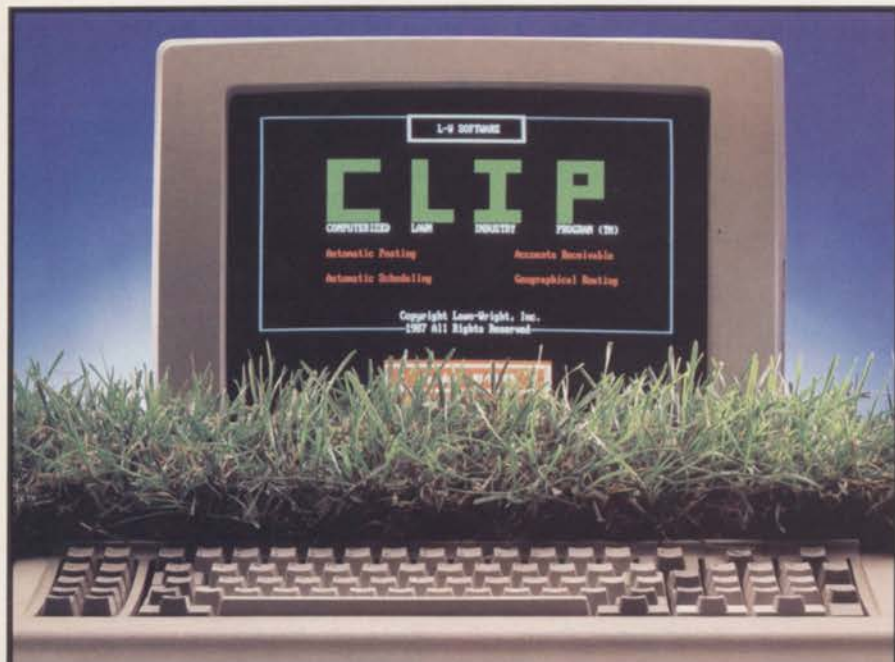
"We use Embark and Limit growth regulators to reduce our clippings, and they sure have a place in our maintenance program considering today's landfill situation," he said. "We would rather leave the clippings on the lawn instead of hauling them to the compost pile."

Also growing in popularity are mulching mowers which return grass clippings to the soil. According to Jim Wallace, marketing manager for professional products at The Toro Co., "Mulching mowers are the hottest thing going in the professional and homeowner markets. With yard wastes being banned from landfills and disposal costs rising dramatically, the best place for grass clippings is on the lawn. Mulching mowers can help achieve this goal."

The frequency of mowings may need to be increased when mulching mowers are used in order to maintain attractive turf, especially during periods of extremely heavy growth or when the turf is wet. Many mowing professionals agree that when PGRs are used, the decrease in the length of grass blades makes it easier for mulching mowers to zip through the turf.

Natural grasscycling can be accomplished with less stress and strain and minimizes "clumping" in tall or wet grass.

Fertility has a big role in the volume of yard wastes produced. Nitrogen contributes to lush topgrowth and can sometimes get out of control. Use of a slow release product helps the grass growth remain more uniform and moderate. Slow release nitrogen applied separately or in combination with PGRs helps to tame the growth spurts that occur when all soluble nitrogen is applied.



CLIP™ cuts paperwork faster than you can cut the grass!!!
Computerized Lawn Industry Program

Does scheduling, routing, posting and billing in minutes per day!

Other business modules for lawn services include:
GENERAL LEDGER, INVENTORY, ACCOUNTS PAYABLE, PAYROLL, PURCHASING, ASSETS & PROJECT

For more information or to place orders, write or call:

TOLL FREE



1-800-635-8485

A Division of

L-W Software Lawn-Wright, Inc.

18761 North Frederick Avenue, Suite A
Gaithersburg, MD 20879

(301) 330-0066



When PGRs can't be used, try composting. Photo: PBI/Gordon.

PGR use has moved to higher maintenance turfs. Photo: PBI/Gordon.

"Slow release nitrogen products work well to help even out the growth curve," said Milt Kageyama, director of new product development for O.M. Scott & Sons, "and the grass growth is even more manageable when PGRs are used in conjunction with slow release fertilizers."

The additional benefit of the slow release nitrogen is that adequate levels of available nutrients are maintained, which helps the grass keep its color. Scotts markets a PGR called Scotts TGR Turf Enhancer that is used to reduce topgrowth and clippings of some classes of grass.

"The product can be used on mixed, cool-season grass lawns, however, it fits best when you have a single species lawn such as St. Augustinegrass, hybrid bermudagrass or tall fescue since the growth regulation varies

PGRs are being rediscovered as a way to reduce grass clippings and help extend landfill life.

depending on the type of grass species present."

He added that clippings can be reduced as much as 50 percent for five to six weeks.

Liquid iron-nitrogen products can also be used to achieve the desired "in-season" turf color without unwanted topgrowth. When "irons" are used in conjunction with PGRs, lawn clippings are more easily managed. Some growth regulators recommend a tank-mix of iron-nitrogen products to mask or offset turf discoloration caused by the growth regulator.

The turfgrass professional can reduce clipping volumes by 50 percent or more during the peak growth period by adding growth regulators to their program (See Fig. 1).

PGRs are a positive "no-surprise-from-the-weather" way to reduce grass clippings by slowing the growth of the stem and leaves.

By using these multifaceted approaches — composting, mulching mowers, slow release nitrogens, iron-nitrogen products and plant growth regulators — turfgrass programs can be developed to reduce yard waste and extend the life of our landfills. Don't let lawn mowing cause you to be a slave. Avoid collecting your lawn clippings. ■

The author is product sales specialist, plant growth regulators for PBI/Gordon Corp.



prentox[®] Turf and Ornamental Products

Use Prentox[®] brand insecticides to prevent insect damage to turf and ornamentals. Products include Chlorpyrifos (Dursban[®]), Diazinon, Lindane, Malathion and Methoxychlor Emulsifiable Concentrates, wettable powders and granules. Call your local distributor for further information.



prentiss
Drug & Chemical Co., Inc.

C.B. 2000 Floral Park, NY 11001 • (516) 326-1919
15 S. Prospect Ave., P.O. Box 701, Park Ridge,
IL 60068-0701 • (708) 825-0020
P.O. Box 40301, Fort Worth, TX 76140 • (817) 293-9649
P.O. Box 55, 10884 Crabapple Rd., Roswell, GA 30077 • (404) 552-8072



prentox[®] - registered trademark of Prentiss Drug & Chemical Co., Inc.
Dursban[®] - registered trademark of DowElanco.

reader service 67

THE INS & OUTS OF HANDLING, MIXING, APPLYING PESTICIDES

Pesticide management is not a new concept, but it's not always taken as seriously as it should be.

By Dave Jones

PESTICIDES CAN BE the savior of mankind or the root of all evil depending on whom one talks to, and the relative experience that individual has in the use of pesticides.

There is a fine line dividing these two opinions, and most of the time the information used to make up one's mind is based not merely on the "reputation" of a product, but on the use or management of that product. Proper pesticide management practices are the key to preventing perceived or implied handling, mixing, loading, application and/or clean-up controversies.

Pesticide management is a discipline carried out every day in all kinds of establishments using pesticide products. Some individuals in these establishments have good management skills while others don't. Handling and applying these products, however, mandates — through the label — good management practices.

What are good management practices and how are they defined? All storage, handling, mixing, loading and application instructions are presented on a pesticide label. The label can be used as a training guide, offering instructions on what to do in most pesticide management situations.

All pesticide products must be labeled; therefore, they are readily available for your use. Many vendors also provide an expanded, multi-page label for some products having a variety of uses.

Pesticide management begins

the moment a product delivery is received. All professional use pesticides are in a concentrated form, compared to the ready-to-use formulations available on garden center shelves. Even dry formulations are more concentrated than those used by the homeowner. These higher concentrations allow operators to store less material; however, the contamination risk is higher if a spill occurs in the storage area.

HANDLING. Handling of these materials is critical and becomes the initial step in a good management program. Always wear the appropriate protective gear when handling — moving, storing, opening, closing and transferring — these materials. Read the label.

In all cases, hand and body coverings must be worn along with foot protection. In some cases, additional equipment may be necessary such as eyewear, respirator, splash shields and so on. All protective gear must be kept clean and functional; no leaks, holes or tears.

Respirators must contain the proper cartridge; undergo proper

maintenance, cleaning and filter changes; and be fit tested to ensure the mask will perform as desired.

Designate an area in which these materials are to be stored, preferably a secured area, then mark it and explain to all personnel who have authority in the area how and when it may be accessed. Keep the area clean and ventilated. Keep an inventory so these products can be reordered on a timely basis avoiding excess clutter and confusion.

MIXING. Proper mixing also needs to be part of a pesticide management program. Reducing the concentration of a product from delivered to applied rate is performed daily in most operations. The label again is the reference point from which to work. Oftentimes, concentrated pesticides are premixed in a specified size carrier and then added or mixed with the final volume to be applied. All appropriate protective gear, similar to that used in handling, must be worn for this process.

Before mixing, make sure all

necessary measuring devices are available: measuring cup, granulated cylinder etc., making sure they are clean and the graduations are visible. In addition, make sure the measuring units — fluid ounces, milliliters etc. — are correct. Don't use a milliliter unit to measure fluid ounce and vice versa.

As a management practice, mix or fill charts should be prepared and posted next to mixing areas to limit dilution mistakes. Keep these charts clean and readable by enclosing them in clear plastic sleeves. Try to keep the mixing functions in close proximity to the pesticide storage area so there is less chance of spilling concentrate in non-pesticide areas. If spilling does occur, have a plan in place to clean it up and re-use or dispose of the spilled material.

LOADING. The next step in this program is the actual loading of the pesticide into the application equipment. This function, like mixing, should take place as close as possible to the pesticide storage/mixing area.

Before loading anything into the equipment, make sure it is functioning, the holding area is intact and all hoses and pumps are not leaking. Many of the problems associated with pesticides result from malfunctioning or leaking equipment.

If and when deficiencies are detected, correct them immediately and re-check the system before loading. Be sure to wear the proper protective gear when

Tracking Pesticide Use



Illustration: Jeff Clark.

repairing equipment that may contain pesticide residues. Loading can continue if the application equipment checks out.

The fill chart should be referred to to ensure that the proper proportions are added and ultimately mixed. Water or other carrier is generally added first, filling the tank with about one half of the amount needed.

The appropriate materials are then added, followed by the rest of the water. In most cases, the materials used today are compatible in our spray mixes; however, consult the label for any incompatibilities.

If there is some uncertainty about the formulations being mixed, a jar test should be performed to check for any noticeable reaction. A vendor could also be contacted to answer any questions.

When loading, keep like mixes in the same tank. Keep specialty products in separate tanks, marking the tank to prevent contamination. Like any other handling process, clean up any spills. Make sure any concentrate spilled on

or near the mouth of the tank or on the tank itself be cleaned, again to prevent contamination of anything coming in contact with it. Clean up any hose, mixing or loading equipment when loading is completed.

CALIBRATION. Calibration is the key to guaranteeing the right amount of pesticide is applied to the target area. Many cases of pesticide failure or pesticide damage have resulted from poor calibration techniques.

All application equipment must be calibrated following instructions from the manufacturer. Calibration must be performed regularly during the application season, not just at the beginning. Equipment should be calibrated daily, in some situations, especially if it is subjected to bouncing, bumping, excessive dirt and so on.

It should also be calibrated whenever there is a product or rate change and following any repair work.

If the equipment is hand operated every time a new indi-

vidual uses that piece, it should be calibrated for that individual. People walk at different paces, pump the handle differently or have different hand/arm movements. If possible, keep the same equipment with the same applicator.

The calibration process itself may differ from equipment to equipment; however, there are a number of basics to be checked before and during the process:

- Make sure the system is intact, particularly with liquid application equipment.

If a leak is present when pressure is put into the system, it will be accentuated not only affecting the output, but causing potential safety problems. Double check the system.

- Use all appropriate protective gear.

- Clean up any material used for the calibration process. If possible, calibration should be done with carrier only, not pesticides.

- Double check your results through repetition. Do it more than once.

APPLICATION. Through calibration, the equipment has been evaluated and set up to perform as designed. Next comes the application itself. Since many misuse problems have been traced to how the pesticides were applied, application techniques must be taught and practiced to be correct.

Application training must be done without pesticides. An explanation of what will be done, how it will be done and expected results should be followed by demonstration and hands-on practice.

Use a designated area in a common measurement size when practicing application techniques; typically 1,000 square feet. Use an area with a hard surface such as blacktop or concrete so that the pattern will be evident. These areas can also be cleaned easily in the case of using dry material.

Once the pattern and technique have been mastered, try using a terrain similar to your service area. Do the application (a water soluble dye may be used), and then survey the area looking for

skips, excess applications and drift or overapplication into ornamental beds and gardens.

Critique the technique, make corrections and practice again. This may seem time consuming, and it is; however, mastering pesticide application techniques from the start will greatly reduce the chances for misapplication later in the season.

Calibration and application techniques can have a substantial impact in the lawn maintenance business so take the time to do both properly.

CLEANUP. The final section of a pesticide management program is pesticide cleanup. Cleanup must be performed on all equipment, storage vessels and protective gear.

No matter what cleaning is done, the rinse water will be contaminated and must be recycled or disposed of properly. The clean area should be designed to avoid runoff from the area. The cleaning water must be captured.

The size of the washing/cleaning area should be dictated by the

amount of water typically used to clean equipment. If entire vehicles are being washed the area must be large enough to accommodate the vehicle, as well as capture and collect the wash water. It is certainly beneficial to use as little water as possible when cleaning equipment.

Equipment should be washed thoroughly; not only those areas directly exposed to pesticides, but

any area that has been subjected to splashes, spray or drift. The driver's compartment in vehicles should be cleaned to prevent buildup of pesticide residuals from applicators' contaminated clothing and boots.

Keeping spray equipment clean

goes a long way in preventing pesticide contamination problems and in projecting a favorable image to the public.

All pesticide storage vessels must be cleaned whether they are going to be reused or disposed of. Clean the outside of bulk storage vessels, particularly the fill area. Even containers which will be discarded must be cleaned to industry standards: triple rinse. Pa-

ed right after use and stored in a pesticide-free environment until needed again. Personal protection gear (gloves, boots, etc.) should be cleaned at the end of the day and stored away from pesticides. The wash water used for this cleaning like other pesticide cleanup functions is contaminated and must be recycled or disposed of properly.

The disposal of unused pesticides and/or contaminated wash water varies from state to state, so contact local authorities for information. The best way to avoid a disposal problem is, first to mix only what you need, and second, recycle whenever possible.

Pesticide management is not a new concept, but it's not always taken as seriously as it should be. In order to ensure the future availability of these products, end users must begin, if they haven't already, to redefine the management of one of the most valuable tools of the trade. ■

The author is director of training for Lawn Doctor, Matawan, N.J.

Pesticide management is a valuable tool, but it's not always taken as seriously as it should be.

RIDE A WALKER

Discover Fast, Competitive, Profitable Mowing

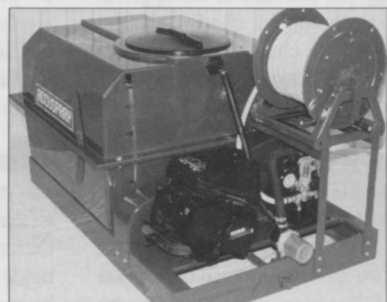


Most commercial mowing operations are using walk-behind mowers because they have concluded no rider mower is compact or maneuverable enough to mow landscaped areas. Now maintenance operators all across the country are discovering the compact, maneuverable *Mid-Size Walker Mower* fits their job and saves labor (usually cuts labor 1/2). The labor saving *Walker* looks good whether your business is trying to produce profit or is operating on a budget. Write or call for a free brochure. Ask for a demonstration.

Walker Manufacturing Company, 5925 East Harmony Road, Ft. Collins, CO 80525
1-800-279-8537

ACCUSPRAY

"Quality Spray Equipment
That's Affordable"



MODEL 150D30-5K (shown).

Available in 50-, 100-, 150-, and 350-gallon sizes.

All come standard with these excellent features:

- Fiberglass tank with gel-coated color.
- Stainless-steel mechanical agitation with maintenance free bearings.
- Heavy formed channel frame, welded both sides for added strength.
- Belt-driven hypro pumps that reduce vibration and add to pump life.
- Simple mechanics and well placed controls for ease of operation and maintenance.

For information on our full line of precision application equipment call or write today.

ACCUSPRAY INC.

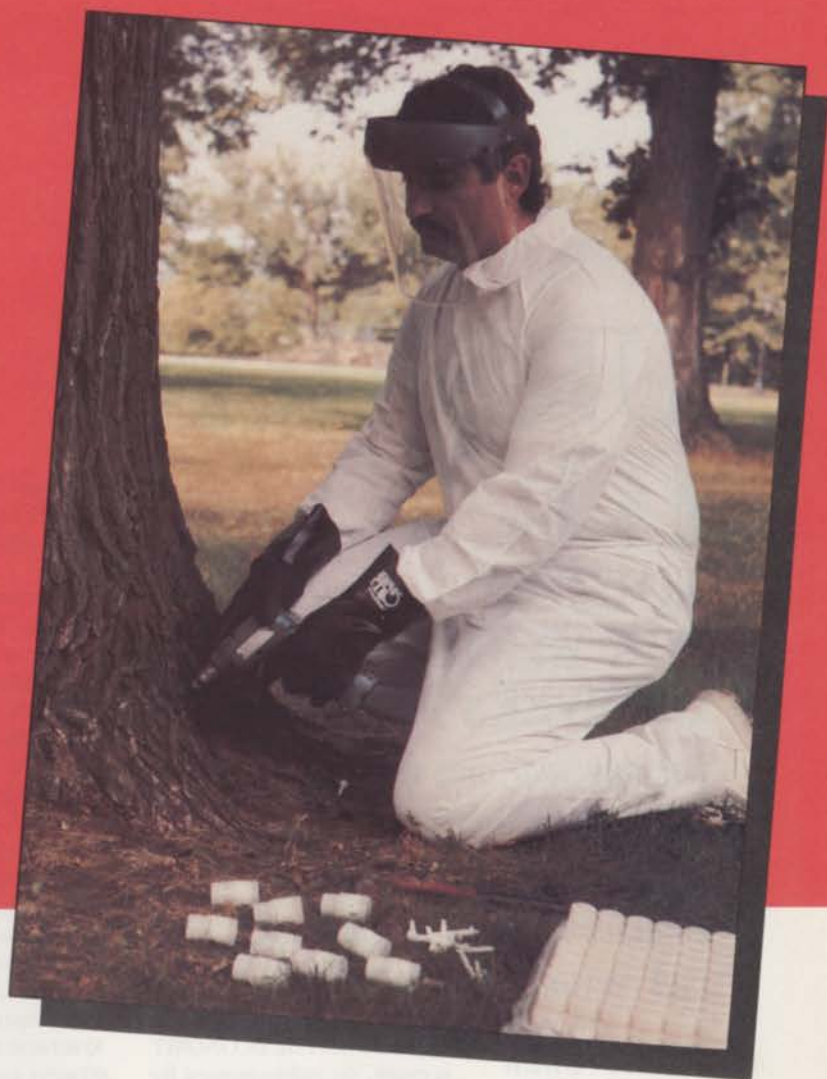
P.O. Box 1629

Rockwall, Texas 75087

214/771-0552

Fax #214-722-3097

Two proven ways to control tree insects without harming the environment



Inject-A-Cide® Inject-A-Cide® B

Stop pests that bore, chew or suck on plant tissues. Inject Mauguet Inject-A-Cide® or Inject-A-Cide® B into a tree's vascular system and control more than 35 major insects that injure shade trees and ornamentals.

Protects The Environment

The Mauguet micro injection process utilizes a closed system to keep pesticides from being introduced into the environment. No spraying is needed. Scientifically measured doses of EPA registered materials are placed directly into the tree's conductive vessels. This ensures environmental protection while controlling only injurious insect pests feeding on the tree.

Material Moves Via The Sapstream

The active ingredient in Inject-A-Cide* or Inject-A-Cide** B moves quickly into the sapstream. It is transported in the xylem from the point of

injection to the upper crown and leaves. Entry points are smaller, shallower and fewer in number than any other injection method used today.

Do your part to protect the environment with the positive addition of Mauguet micro injection to your IPM program. Stop boring, chewing and sucking insects from invading a tree's environment. Inject Mauguet Inject-A-Cide or Inject-A-Cide B and target only those insect pests that harm trees.

J.J. Mauguet Company

2810 N. Figueroa Street
Los Angeles, CA 90065
FAX: 213-225-3810
213-227-1482 (CA only)
1-800-TREES RX



Inject-A-Cide and Inject-A-Cide B are restricted use pesticides and may be applied only by a licensed and trained applicator. Inject-A-Cide and Inject-A-Cide B are registered trademarks of J.J. Mauguet Company.

* Contains *Metasystox-R, a Reg. TM of the Parent Company of Farbenfabriken Bayer GmbH, Leverkusen

** Contains technical *Bidrin, registered in U.S. & Canada Pat. Offs. by U.S. Pat 2,802,855; Canada Pat. 536,557

NURSERY STOCK:

NOT JUST FOR WHOLESALE GROWERS ANYMORE?

Running your own growing operation is something that crosses the minds of many landscape contractors. What are the risks and rewards?

By Bob Gitlin



Running both a nursery and a landscaping operation works best if the two are run as two distinct businesses.

ALTHOUGH THE ECONOMY is rough, the stubborn quest for diversification has led several landscapers into the business of growing and/or selling plant stock.

Those who have done so have found it to be a difficult transition, requiring a completely new set of skills. Many growers will argue the transition is easier going the other way: from growing into landscaping.

Even the professional who runs both a landscaping operation and a "nursery" — which is, by the way, an imprecise term that could refer to growing, garden-center retailing, or both, depending on who you talk to — maintains the transition works if the two are run as two distinct businesses.

"The thing that's always made Natorp successful," said Ron Wilson, general manager for Natorp Garden Stores, which serve the Cincinnati, Ohio, area, "is that people in charge of the landscape division have nothing to do with the nursery. The people in the nursery specialize in growing. People in my division just run the

retail end. Somebody who tries to do it all sometimes realizes too late he can't be good at everything."

A "grower," strictly speaking, grows for three kinds of customers: exterior and interior landscape contractors as well as garden centers. Not all landscapers who get into growing think it's a good mix.

Frank Colvett, president of the National Landscape Association as well as head of GreenScape Inc., Memphis, Tenn., sold his growing operation last year with a sigh of relief.

GreenScape has been around since the late 1920s. Originally a small operation, it expanded to 10 acres in the 1950s, swelled to 60 acres and ultimately reached 100.

"The concept was to provide specimen landscape material unavailable through normal sources of supply," Colvett said. "We took the adamant stance that our landscape architects had to know where the material was that they designed into projects."

That 100-acre inventory represented \$1.2 million in harvested wholesale value when Colvett sold it last year. To him, farming had put a clamp on cash flow; not that it had been a shabby operation.

"We kept careful records. We had the latest growing techniques and quite a facility for handling purchased inventory and what we grew ourselves," he said.

Having his own inventory of stock, however, began to look like an empty accomplishment. Colvett wanted zero inventory.

"That \$1.2 million represented five years of inventory for our own consumption; we never got into selling to anyone other than ourselves," he said. "We were tying

up too much capital. I analyzed the cost of what we had in the nursery that could be used for our landscape operation, and it was 180 degrees from where it ought to have been."

Over the last 20 years the wholesale-supply side has become sophisticated in its management, sales and transportation techniques making it cheaper for GreenScape to buy than grow its own, according to Colvett.

"The reason for us being in the business — having a captive supply — was no longer there. We only wanted inventory when we needed it. We didn't need it six months in advance (unless a special seasonal factor was involved), particularly containerized material. Things are containerized now so we can plant all year round."

So what kind of company starts off as a landscape contractor, becomes a grower and hangs on gladly to both businesses?

"Some folks just like to grow things," Colvett said. "I enjoyed farming trees and shrubs. I just didn't feel it was a good management tool."

Colvett just wants GreenScape to be a contractor.

"We do not have a retail operation, because we think of retailing as merchandising. There's as much distinction between merchandising and contracting as there is between contracting and farming. We didn't want to be all things to all people."

Those that do both, he said, tend to be smaller operations in less populous environments where growing may be needed to provide a broad enough base to make the landscaping business economically viable, and materials are not easily bought on the outside.



Many small growing operations have evolved from landscaping because at some point, they decide they can't get enough trees. Some contractors grow their own materials just for the sheer enjoyment.

A growing number of burgeoning landscape contractors straddle the fence between out-and-out growing and 100 percent outside purchasing.

Michael Guthrie, in charge of sales and estimating for both the maintenance and special-service divisions of Ground Control Landscaping, Orlando, Fla., maintains such a holding facility for purchased stock. Some is overstock, and some is for job usage.

It takes a big business to go from landscaping to growing.

Running your own growing operation is something that crosses the minds of many landscape contractors, he said.

"If you do a lot of landscape design and/or installation, it's advantageous to have a nursery (growing operation). Your cost factors are a known quantity. You have a definite edge when you're bidding a project. You don't have to go out, purchase it, qualify it

and then add all the markups to it. You have fixed costs."

Do traditional growers resent landscapers getting involved in growing?

"I haven't seen them do a whole lot of complaining," Guthrie said. "It's a wide-open market, especially here in Florida. There are more nurseries than you know what to do with. Competition is fierce — very fierce. Not many large landscape installers also have nurseries. You need a lot of land, and land is at a premium. And then you've got to have the right people to take care of it. It's not everybody's cup of tea."

Charles Racusin, head of Environmental Landscape Services, Houston, Texas, and an 18-year veteran of the landscaping business, has been growing some nursery stock for a year and a half.

"It's a different animal," he said. "It's a whole, entirely different business. Having worked on one side and going to the other, I have a lot of respect for those people who've been growing plant material for a long period of time. It's not as easy as it looks — like any other business."

What led him into growing?

"Just a little bit of diversification and some additional profit."

Currently, he has a 40-acre tree farm as well as 50,000 smaller plants (ranging from 5 to 15 gal-



lons) on another 10 acres.

"Growing is a business of its own and needs to stand on its own, operating independently of everything else," he said. "It requires expertise that some of your existing personnel may have had, but then again you can't spread yourself too thin. You need to delegate the work to some people who have experience in that particular industry, and let them spearhead your efforts."

Racusin still gets most of his shrubs and trees from outside sources nationwide, and probably will continue to do so.

Dick Ott, vice president of Botany Center, Knoxville, Tenn., now a division of Orkin Plantscaping, has added a garden center to his business, which started in 1973. But he's never set aside land to plant.

Botany Center was at first a 100 percent interior design firm which got its plants from various growers before becoming a full-service horticultural supplier of mulch, soils, cut flowers, landscape plants, large trees and small containerized trees.

Ott buys the materials from growers and plants them at his own customer sites, as well as sells them to other contractors.

"Some people call us a nursery because we handle trees and shrubs and plants, both outdoors and indoors," he said. "We have greenhouses, we have containerized material, we have blooming annuals and perennials. It's a good supplement, a complementary business for us."

Large capital reserves and accounting changes are necessary in order to make this sort of transition, he said. New vehicles and equipment are needed. "Instead of the little van or small cars you need for interior work, you have to have pickup trucks — flatbeds and dump trucks."

Botany Center's garden center is on a little more than two acres. An acre and a half holds plants, and a half acre is occupied by buildings and greenhouses. The "garden center" itself, or store, houses cut flowers, decorative containers, bonsai trees and all chemicals, fertilizers and other supplies.

Ott's interior landscape business concentrates on malls. "We lease plants (commonly flowering plants). We take care of them, we do the design, we change them out."

It takes a big business to go from interior or exterior landscaping into growing one's own vegetation, Ott said.

Perhaps a more common transition is from growing to landscaping. One such success story is Hillenmeyer Nurseries, Lexington, Ky., a company that started in 1841.

"I'm so used to it," said Stephen Hillenmeyer, part owner, when asked how it's feasible to do both. "I don't think of it any other way. I always think of how many problems the other people have without a nursery. Our nursery is set up in three sectors designed to sell to our retail centers, our landscape department and wholesale — to other, smaller, landscape firms. So it's almost a distribution center.



"It works out well. The nursery already has 'X' amount of product there, so the landscape department does not have to 'buy in' anything. We use it strictly as a holding area; all the problems of obtaining plant material become the nursery's problem and not the landscape problem."

Running them as two distinct businesses is the key to success, he said.

Hillenmeyer's nursery occupies more than 250 acres with an emphasis on growing shade trees, large trees — including evergreens — flowering trees and evergreen shrubs. The firm doesn't produce much of the smaller items — those available in containers with delivery schedules — because it already gets them in such a timely fashion. Bedding plants are handled through the firm's nursery division.

For quality control, Hillenmeyer Nurseries also grows its own annuals and perennials.

"We know the kind of demand we'll have in the upcoming year," he said. "We grow what we know our demand will be (on the basis of past history). We don't have to worry about subcontracting, buy-

ing from somebody else, bringing them in and holding materials."

Hillenmeyer said he doesn't notice a lot of companies who started off as landscapers and who, for the very reasons of convenience and economies he mentions, got into growing.

"I think probably the main reason is space," he said. "The two work well together because you have an automatic sale for the plants. But lots of people who want to get into growing don't know how to market or how they're going to get rid of their plants. You've got to go out and sell them; go to trade shows. They don't want to get into doing that."

Not to mention the fact that it takes real farmers to know how to really farm.

"It's a whole separate operation. If you're just going to try to take your landscape department and run a nursery, I feel like you will have problems. It's a whole different mentality."

Bill Scarff heads up Scarff Nursery, New Carlisle, Ohio, another grower that got into landscaping. Which transition is easier?

"Growing is wholesale; land-

scaping is retail. We had a growing operation and a garden store. It was a natural adding landscaping, because it's part of the retail operation. If you're a large grower, it's easier to go into landscaping, because you're your own supplier."

But it's tricky. New challenges in advertising, overhead and "skill people" arise, he said.

"A lot of small growing operations have evolved from landscaping, because they at some point determine: 'Well, I can't get enough trees, so I'm going to grow my own.' Or: 'I've got these trees left over from this landscaping job. I'll plant them in the ground and use them later.' And before they know it, they're growers."

Scarff said he wonders if such transitions work out as well as their engineers intended.

That's why many landscapers who get into tree farming do well to hire people from that other side. "It's a different set of skills entirely. Different overhead. A good landscaper does not automatically make a good grower and vice versa."

Scarff is in three businesses: growing, running a garden center and primarily residential landscaping. Being near the population center of Dayton, Ohio, enables him to live in all three worlds profitably. "We felt we could easily serve the homeowner."

Circumstances forced him to expand beyond wholesale farming.

"If you're near a population center, people are always stopping over. We're 110 years old; we've been in it a while."

Scarff still characterizes his business, which sits on 700 acres, as primarily a growing operation with adjunct retail segments.

"They're separate books, separate people-skill requirements. People have different department managers. Everything is kept separate — the equipment and everything else. Through osmosis you can become a landscaper if you're a grower, and through osmosis you can become a grower if you're a landscaper. But unless you're really committed, you can't do justice to both." ■

The author is a free-lance writer based in Cleveland, Ohio.

Focus on Trees & Ornamentals

GARDEN MUMS FOR FALL FLOWERS

THE POPULARITY of garden mums has continued to rise significantly over the past decade, according to Yoder Brothers Inc., a leading breeder of chrysanthemums.

Ed Higgins, Yoder's chrysanthemum product manager in Barberton, Ohio, said he expects this trend to continue. "Garden mum production in North America has easily doubled in the past seven years."

Using sophisticated and specialized breeding and selection techniques, the overall plant habit and performance of garden mums has dramatically improved. "No longer are garden mums tall and lanky," Higgins said. "Instead, cultivars today are compact, especially those in the 'Prophets' series with a basil-branching, well-mounded habit." More colors and flower forms are also available, and new varieties are typically longer-lasting and showier than older varieties.

Consequently, more landscape professionals are using garden mums for landscaping hotels, hospitals, restaurants, resorts, condominiums, commercial parks, shopping malls, plazas, golf courses,



Creative Plantings planted garden mums outside the Capital Hilton Hotel, Washington, D.C.

parks, industrial complexes, universities, corporate headquarters and cities.

GARDEN USE. Garden mums naturally bloom in the fall, and customers have come to associate mums with that season.

"It makes sense to plant something people expect to be planted in the fall," Higgins said. "It's only natural, as garden mums make a glorious grand finale to the growing season."

Bob Mangum, president of Creative Plantings Inc., an exterior/interior landscape firm and grower operation, agrees with Higgins. "Just after the kids go back to school, we start transplanting garden mums. By then, our customers want to see something different. People expect to see mums; so we give them mums."

Rather than installing mums at client sites once during the fall season, Creative Plantings usually installs mums two or three times. "In the Washington, D.C. area, winter doesn't actually begin until after Thanksgiving; and because we want mums in place between Labor Day and Thanksgiving, we schedule transplanting the first batch around Sept. 1, the second, Oct. 1 and third batch around Nov. 1.

When asked how he got his clients to pay the added expenses of one or two extra fall plantings, Mangum said, "If a client hesitates about having the plants in more than once a season, I do it gratis one season. Then I ask him if he likes it. Usually in future years, clients buy the program."

Mangum tests all varieties before using them at site locations. He looks for long-lasting bloomers that offer lots of show and prefers medium-sized flowers so that plants remain in full bloom, even if flow-

PROPHETS: NEW AND IMPROVED

IN 1983-84, Yoder Brothers introduced the garden mum series called 'Prophets.' To become one of the Prophets series requires five or more years of breeding and field trial efforts.

Each year, thousands of seedlings and potential introductions are evaluated at Yoder's sites in California, New Jersey, Florida and Leamington, Canada. Potential introductions are compared to currently available varieties to determine which new varieties are worthy of introduction.

"Prophets are our best garden mums," Higgins said. "They develop into mounded plants that have more flowers, offer more unusual colors and display better flower forms than many older varieties of garden mums."

Colors of the 39 varieties in the Prophets series are diverse. Pure whites, creams, pastel yellows, sunny yellows, mauves, lavenders, pinks, soft to dark golden bronzes, oranges, red bronzes and reds make a dynamic color palette within the series.

There are also several two-tone colors. Flower forms include: decoratives, daisies, buttons and pompons, some combined with petal variations such as spoon-tipped petals.

Eight Prophets varieties are being introduced in 1991: Cream Frolic, a two-tone ivory decorative; Anna, a yellow daisy with better keeping quality than Alure and larger flowers than Yellow Jacket; Holly, a golden-yellow pompon with better keeping quality than Legend; Yellow Illusion, a large, quilled yellow daisy to plant with Illusion; Yellow Triumph, a golden-yellow flat decorative on a compact plant; Emily, a two-tone decorative with dark lavender center petals and pastel lavender outer petals; Dark Triumph, a dark pumpkin-colored decorative; and Shelley, a bright red and golden-bronze bicolor button.

To receive Yoder's 1991 Garden Mums brochure, or for more information about garden mum varieties, write the Customer Service Department at Yoder Brother Inc., P.O. Box 230, Barberton, Ohio 44203; 800/321-9573.

ers are damaged by passers-by.

Mangum selects varieties for their strong colors, including: Goldmine, Legend (yellow); Stardom, Stargazer (pink); Ginger, Mirage (bronze); and Minngopher (red).

Jacobs/Ryan Associates is a landscape architectural firm in Chicago. According to Bernard Jacobs, partner of Jacobs/Ryan, "We especially like using garden mums in massive displays downtown. We usually plant at least 5,000, 6.5-inch mums in about a four-square block area."

Within these concrete city blocks, Jacobs uses mums in planters ranging from five feet round or square to in-ground planters measuring 75 by 200 feet.

"The purpose of having many planters is to push colors out into the hardscape," Jacobs said. "Equally important is having the same colored pot mums inside, so that the garden and pot mums can be seen through the windows on either side."

It is not uncommon for a seasonal project of this scope to cost a quarter of a million dollars or more.

Some of Jacobs/Ryan's favorite garden mums for overall quality and intensity of blooms are Debonair, Tinkerbell (pink) and Bravo (red).

Bill Parker, commercial maintenance supervisor of Moore Landscapes Inc., Glenview, Ill., considers it important to coordinate the hues of the building with

North American garden mum production has easily doubled in the past 7 years. New varieties are typically longer-lasting and showier than older varieties.

the colors of the flowers. Parker recommends the colors "should burst, when viewed from a distance." For this purpose, his favorite variety is Jessica, a yellow

decorative. In more intimate settings, such as court yards, he prefers colors such as purples, bronzes and reds. His favorite varieties in these colors are Sundoro, Viking and Bravo. Parker buys greenhouse-grown plants in 6-inch pots, spacing them on 15-inch centers.

ORDERING/SCHEDULING. There are two popular methods for producing garden mums: field grown and container grown. Both crops are typically planted in May or early June.

Yoder Brothers recently introduced a third method called "Multiple Cutting Crops." This method involves planting two — instead of one — cuttings in a container. It also means planting a month to six weeks later than the other two methods, in mid to late July. This method produces extra-full plants in 6- to 10-inch and 1- to 2-gallon pots.

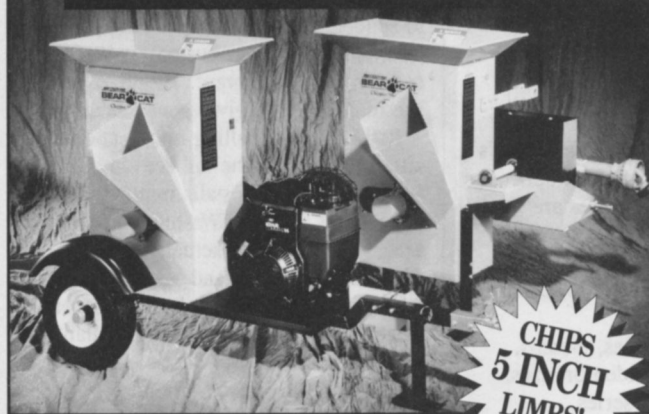
The multiple cutting method can be helpful if you receive a special order, and it's too late for your grower to use the traditional planting method. Your grower can benefit as well.

The multiple cutting crop requires less water and fertilizer, fewer pesticide appli-

(continued on page 60)

All-Pro Power

CHIPPER / SHREDDERS



CHIPS
5 INCH
LIMBS!

- 72 serrated self-sharpening shredder knives.
- 4 long lasting tool steel chipping blades.
- 16" long diamond shaped chipping chute.
- 10 gauge heavy duty steel construction.
- Blower attachment available.
- Dealer / Distributor inquiries welcome.

**4 Highway
Towable and
Tractor Mount
Models, Built
Tough for
Maintenance
Professionals.**

**CRARY
BEAR CAT**

Crary Co. ■ Box 849 ■ West Fargo, ND 58078 ■ 701-282-5520
U.S. Wats 1-800-247-7335 ■ Canada 1-800-231-1211 Ext. 151

B E A R C A T

reader service 47

FARBER BAG
& Supply Co.

EASY ORDERING! CALL TOLL-FREE
1-800-553-9068 (USA)
FAX YOUR ORDER 319-583-2701

FARBER BAG & SUPPLY CO. IS A NATIONWIDE DISTRIBUTOR OF PROFESSIONAL NURSERY TOOLS AND NURSERY SUPPLIES. COMPANIES FEATURED IN OUR PRODUCT LINE INCLUDE:

FELCO, CORONA, UNION, ARS, TRUE TEMPER, STRUCTRON, TRUE FRIENDS, AMERICAN STANDARD, VALLEY CRAFT, AMES, WW TOOLS, EARTHWAY, DUCKBILL, SANDVICK, TINA, DEWITT, VICTORINOX, WESTERN PULP PRODUCTS, BRAUN WIRE BASKETS, ZARN, FARBER TOOLS AND MANY OTHERS.

**OUR SPRING SPECIALS WILL TAKE CABIN
FEVER AWAY!**



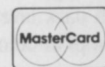
PLEASE CALL FOR OUR FREE CATALOG!

FELCO 2, 8 & 9 ONLY \$25.00 EA.
TRUE FRIENDS #512 ONLY \$48.00 EA.
CORONA #8 ONLY \$12.00 EA.
CORONA #32BN ONLY \$32.00 EA.
SPYKER SPREADER#64 ONLY \$60.00 EA.
AMES RAKE #19-237 ONLY \$10.00 EA.

ALL STRUCTRON SHOVELS & SPADES JUST \$18.50 EA.



FARBER BAG & SUPPLY CO.
8733 KAPP DR. P.O. BOX 78
PEOSTA, IA. 52068-0078
NATIONWIDE 1-800-553-9068
FAX 319-583-2701



JUST CALL NATIONWIDE 1-800-553-9068

reader service 48

Make your next drive to the green a dry one



How do you best experience the benefits of the new, all fiberglass utility carrier by Tuflex®?

Easy...Just add water.

Thanks to its weather-sealed door and high gloss molded finish, the Tuflex® utility carrier protects your tools, fertilizers and equipment from harmful moisture...keeping them dry even in the worst of rain storms.

Tuflex®
MANUFACTURING CO.

But staying dry is only one of its benefits. The Tuflex® utility carrier also offers you:

- Lockable rear door to prevent tool theft
- Optional interior shelves to provide space and organization
- Reinforced roof for additional topside storage
- Spring operated rear door that stays open for easy loading and unloading

The Tuflex® utility carrier can be matched to any color and can be used on any Cushman, Kawasaki, Club Car or utility vehicle.

So the next time you're traveling to or from the green, make your drive a dry one with the all weather utility carrier from Tuflex®. The best place to keep your equipment...coming or going.

For more information on the new all fiberglass utility carrier by Tuflex®, call toll free 1-800-327-9005. In Florida call 305-785-6402 collect.

The new all weather utility carrier...quality this good could only come from Tuflex®

Tuflex Manufacturing Company
1406 S.W. 8th St.
Pompano Beach, FL 33069





Here's Your Best Defense.

Put Tee Time with DURSBAN® in your turf care arsenal this year. You'll have the proven might to knock out a broad spectrum of invasive insects.

The combination of The Andersons' Tee Time fertilizers with Dursban® provides added turf nourishment in the same application. Available straight or custom blended, we've got the formula for you.

Ask us about:

- Tee Time 2.5% *Dursban*: This granular insecticide controls ants, chinchbugs, crickets, cutworms, sod webworms, sowbugs, billbugs, and others.
- Tee Time 38-0-0, 18-3-5, or 30-3-5: All incorporate *Dursban* but are fortified with fertilizer for turf enrichment.

These and many other "battle hardened" turf care products are available now from your nearest Tee Time distributor.

For more information call toll free:
1-800-225-ANDY (2639)

**the professional's
partner®**



® Dursban is a trademark of DowElanco
© 1991, Tee Time is a trademark of The Andersons



Moore Landscapes transplanted 1,500 pots for this complex.

Garden Mums

(continued from page 58)

cations, significantly fewer pinches and can be planted after (instead of during) the busy bedding plant season. Flowering dates and the overall size of the plants remain the same as the earlier planted methods.

Grower Ron Cleasen of Cleasen Ornamental Plants in Maple Park, Ill., said, "It's best to schedule the year's rotational program by the beginning of the year. While landscapers cannot always do this, it can make a difference as to whether I can get them the varieties they want from my specialized supplier of cuttings."

Cleasen, who grows at least 65 percent plant material on contract, recommends that contractors come to the greenhouse to see their plants before delivery date.

"I'd rather know a contractor's specifications before growing the plant (such as height, spread, pot size or soil mixture), than to later hear that the contractor was dissatisfied with the crop."

Colors should burst when viewed from a distance.

TRANSPLANTING TIPS. Yoder Brothers recommends two care techniques:

- Fertilization. Research conducted in 1988 by Terril Nell and Jim Barrett of the University of Florida in Gainesville, shows that blooms last longer by *not* fertilizing after mum plants approach maturity. Therefore, Nell recommends that you do not fertilize mum plants.

In addition, he recommends that you cease fertilizing the beds two to three weeks before the mums are to be transplanted and avoid incorporating a slow release fertilizer in beds or planters the latter half of the summer.

- Transplanting. Container grown plants: Loosen the roots at the bottom of the pots to stimulate new root development. Irrigate after transplanting to prevent wilting. Mulch to reduce watering requirements.

By transplanting mums with flowers in tight bud, there will be less likelihood of damaging foliage and stems so people can enjoy the daily development of the flowers as they burst into bloom.

Field grown plants: To minimize plant shock, transplant field grown plants just as they begin to come into color. For the first few weeks after transplanting, keep the soil moist while the roots become established. — *Kathy Zar Pepler.*

YOU
SUPPLY
THE
GAS

WE'LL SUPPLY
THE TRUCK!

Valued at \$18,000 (see coupon below for details)



Win a 1992 Chevrolet Truck in
LLM's Service Vehicle Give-a-Way.

ENTRY FORM

Lawn & Landscape
MAINTENANCE

WIN!

A brand new
1992 CHEVY

Name _____

Address _____

City _____

Company Name _____

Phone Number _____

Driver's License Number _____

OFFICIAL RULES

1. NO PURCHASE NECESSARY
2. Only persons who, as of the date of the drawing for the prize, are 18 years of age or older, with a valid driver's license, and are legal residents of the U.S. are eligible to enter.
3. This sweepstakes is not open to employees or the families of the Chevrolet Motor Division, Chevrolet Dealers, *Lawn & Landscape Maintenance* magazine or other GIE Publishing Co.

SERVICE VEHICLE SWEEPSTAKES

publications, and affiliated companies.

4. Enter by completing and mailing the official entry form available in the monthly issues of *LLM* magazine, your local distributors or at various locations at the Green Industry Expo '91, Tampa, Fla., November 18-20, 1991, or by printing your name, address, city, state, zip code, phone number and driver's license number on a plain 3-in. by 5-in. piece of paper and mailing it to *LLM*'s "Service Vehicle Sweepstakes," 4012 Bridge Ave., Cleveland, Ohio 44113, Attn: Fran Franzak, or depositing it in one of the official entry boxes located at the GIE exhibition hall before noon, November 20, 1991. Not responsible or liable for lost, late, stolen, mutilated, illegible, incomplete, postage due or misdirected entries. No mechanical reproductions permitted.

5. PRIZE — one 1992 Chevrolet truck of your choice valued at \$18,000.00. The winner will be determined by a random drawing of all entries received, to be conducted 1:00 PM on Wednesday, November 20, 1991 at the GIE exhibition hall. The winner will be announced and notified by U.S. mail and/or telephone. Prize notification returned as undeliverable as addressed will result in an alternate winner being drawn and notified until a qualified entrant is awarded the grand prize. Only one grand prize will be awarded.

6. No cash equivalent or prize substitution offered. Prize is not transferable.

7. All federal, state and/or local taxes and vehicle registration fees, if any, are the sole responsibility of the winner. Winner will be required to sign an affidavit of eligibility and liability/publicity release (allowing the sweepstakes sponsor to use the winner's name and likeness for publicity purposes) as a condition of being awarded the prize. Failure to do so will result in an alternative winner being selected.

8. Void wherever prohibited or restricted by law.

9. Odds of winning will be determined by the number of entries received. All entries will become the property of *LLM* magazine and GIE Publishing Co.

10. By participating, you agree to these rules and decisions of the judges which shall be final in all matters relating to this sweepstakes.

11. To obtain name of the winner of this sweepstakes, send a self-addressed, stamped envelope to *LLM*'s "Service Vehicle Sweepstakes," 4012 Bridge Ave., Cleveland, Ohio 44113, Attn: Fran Franzak.

People

Philip Gardner is LESCO's new executive vice president of sales. He will oversee sales operations.

Gardner joined the company in 1975 as a golf course sales representative. He has served as a regional sales manager, fertilizer and plant warehouse manager and most recently, vice president of the lawn

service sales division.

Mark Grundman, senior turf specialist for NK Medalist Turf, has been assigned new sales management and marketing administration responsibilities. He will manage the sales territories of Minnesota, North and South Dakota, Iowa and northern Wisconsin. Also, he will assist in



Gardner



Fisher

sales and marketing administration at the company's Minneapolis headquarters.

Prior to his promotion, Grundman was a turf specialist for the company's turf division for more than 11 years.

David Legg has been appointed Midwest district sales manager for Cushman and Ryan turf care products. He will be responsible for working with Cushman and Ryan dealers in Wisconsin, Michigan, Ohio, Indiana and Kentucky. He will be based in DeForest, Wis.

For the past nine years, Legg was employed by Ransomes, Johnson Creek, Wis., in the area of sales management.

Toro Irrigation has appointed **Mike Fisher** district sales and specification manager for the Northeast.

For the past five years, Fisher has served as Toro's sales and operations manager for turf products. In his new post, he will oversee accounts for Grasslands, Philadelphia Turf, Storr Tractor and Turf Products Corp.

Carole Allaway-Pelton is Rain Bird's new director of advertising. The advertising group serves as an in-house agency to all Rain Bird companies.

Allaway-Pelton joined Rain Bird in 1979.

Ciba-Geigy has added two marketing representatives to its turf and ornamental products group: **Mike Oleykowski** and **Mickey Lovett**.

Oleykowski joins the group from LESCO, where he was a sales representative for the past seven years. He replaces **Mark Jirak**, who has been promoted to the company's seed division. Oleykowski's territory includes Delaware, Maryland, Washington, D.C., and eastern Pennsylvania.

Lovett replaces **Al Dupont**, who retired after 27 years with the company. Most recently with the agricultural division, Lovett was previously a sales representative in the Midwest and on the East Coast for the turf and environmental products group.

His new territory includes northern Florida, where he works closely with **Ray Lea**, the Ciba-Geigy representative in the southern part of the state. ■

WANTED

Quick and Easy Billing Every time!

If you are tired of looking at expensive and complicated accounting programs, and are looking for a quick, painless way to do your monthly billing, then you need to call us! **The Billing Clerk** was specially designed to simplify your monthly billing process. That's why we've sold thousands of programs to businesses just like yours.

Our philosophy is to make billing software so easy to use that most people really don't need to be computer or accounting experts. **The Billing Clerk** will allow you to quickly get your bills in the mail. And when bills go out on time, customers pay promptly and cash flow increases.

The Billing Clerk handles your fixed recurring billing (monthly, quarterly, etc.), as well as sales/service invoices. There's even a customer note pad for job site notes, contacts, etc.

To back up our programs, we offer a 30 day money back guarantee* on all our products and telephone support by people who really know and use the program. We also offer custom modifications at very affordable rates should you need any changes.

\$179

The Billing Clerk handles invoices, statements, aging, late charges, past due notices, labels, Rolodex® cards, etc. Plus, it prints on widely available forms or blank paper. It operates on most PC/MS DOS® compatible computers with 640K of RAM and a hard disk.

To find out if **The Billing Clerk** is just what you need, call our toll free number **1-800-880-0887** today! Or, take advantage of our **30 day money back guarantee*** by sending your check for \$179 plus 8.50 shipping/handling. Be sure to tell us where you saw this ad.

Reward Yourself!

Call 1-800-880-0887



213 Congress Avenue, Suite 200 • Austin, Texas 78701 • (512) 629-7400

* all guarantees and warranties subject to written restrictions
 \$20.00 restocking fee per module • Fax (512) 629-4341

3 days in July...

Mark your calendar for the biggest 3 days of your industry's year!

Don't miss the showcase of new products...free seminars...
outdoor demonstration area...
Reba McEntire on Monday night...
Model Store...
All-American Engine Repair Championship...
Hall of Yesteryear...and much more.

Free pre-registration. (\$10 per person if you register at the door.)
Low per-diem rates in Louisville.
Airline discounts.

New for '91 — seminars for commercial end-users on Saturday afternoon.

July 1991

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

★ Louisville, KY



EXPO 91

International Lawn, Garden & Power Equipment Expo
July 28-30, 1991
Ky. Fair & Exposition Center
Louisville, Ky.

Call today for information and a registration form:
1-800-558-8767 or 502-473-1992
FAX 502-473-1999

Or write: EXPO 91, 6100 Dutchmans Ln., 6th floor,
Louisville, KY 40205

Products

Product Spotlight

Jacobsen introduces an expanded line of Crew King midsize mowers. In addition to its popular floating deck models, four fixed deck mowers, from 32 inches to 60 inches are included.

Floating deck mowers, available in 36- and 48-inch models, give a smooth, professional finish, even on undulating turf.

The cutting deck is suspended from the carrier frame so the mower "floats" over uneven surfaces to reduce the risk of scalping. Cutting height is adjustable from one to four inches without tools.

Two new Crew King fixed deck models — a 32-inch and a 60-inch — are also available.

Circle 126 on reader service card

IMPROVEMENTS TO **Ciba-Geigy's** Penant liquid herbicide label have been approved by the Environmental Protection Agency, increasing the number of desirable plants on which it can be used and weeds it controls.

The revised turf label allows the herbicide to be used on zoysiagrass. It's also labeled for control of annual sedges, smooth

and large crabgrass and bearded sprangle-top.

The ornamental label has been expanded to include more than 50 desirable plants not previously labeled, such as bulbs, bedding plants and annual flowers, as well as ground covers and woody ornamentals.

Circle 127 on reader service card

The new **Ford** heavy-duty Model 918H flail mower is available in 60-, 72- or 88-inch cutting widths.

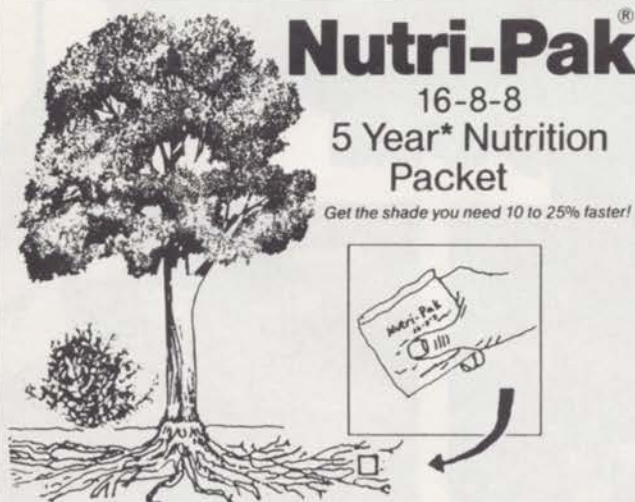
Designed for tractors of up to 72 PTO horsepower, the new mower fits either Category I or II 3-point hitch, and can be centered behind the tractor or offset to mow close to walls or other obstructions.

The mower has lateral float for more accurate work on uneven ground. Available for either forward or reverse rotation, the "918H" is designed for large scale lawn and orchard mowing with durability to handle rough cutting. The mower shreds and spreads clippings. Forward rotation maximizes acreage mowing capacity.

Circle 128 on reader service card

The Charles Machine Works has added subsite discovery systems, a line of advanced electronic locators for detecting buried pipe and cable and tracking guided boring tools. Subsite locators allow users to customize locator settings and methods

(continued on page 68)



Nutri-Pak[®]
16-8-8
5 Year* Nutrition
Packet
Get the shade you need 10 to 25% faster!

- Feeds trees, shrubs, roses, plants
- Environmentally safe—no runoff or leaching into groundwater
- No mixing, measuring, burning, waste
- Nutri-Pak is easily applied to new or established plantings. Next to roots, nutrients are slowly released through unique patented micropore delivery system.

*Lasts 3 years in areas with year-round growing season



P.O. Box 1472, Fond du Lac, WI 54935
414-922-6717 FAX 414-922-0148

Call for free information!
1-800-383-8059

National Partners with the
American Forestry Association for



P.O. Box 2000, Washington, DC 20013

reader service **49**



PROVEN ORGANIC PROGRAM LIQUID COMPOST

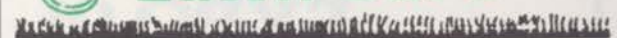
SAVE \$830.00!!!

LUXURIATE 1.16 MILLION SQ. FT.
FOR \$1.00 PER 1,000 SQ. FT.!!!
REGULAR PRICE=\$1,990.00

***LEASE FINANCING FOR
SPRAY EQUIPMENT***

FOR INFORMATION AND A
COPY OF OUR CATALOG CALL

800/798-1069
**Organic
Lawn Care**



reader service **80**

***“ALCA is the best
landscape business
resource in the
country.”***

“When I started my business seven years ago I needed expert advice,” says Joe Skelton, president of Lifescapes, Inc., Canton, Georgia. “That’s when I joined ALCA.

“By attending marketing and technical seminars, using the *Operating Cost Study* to estimate projects, enrolling in ALCA’s business insurance program and simply working hard, I have been able to build my business to over four million dollars.

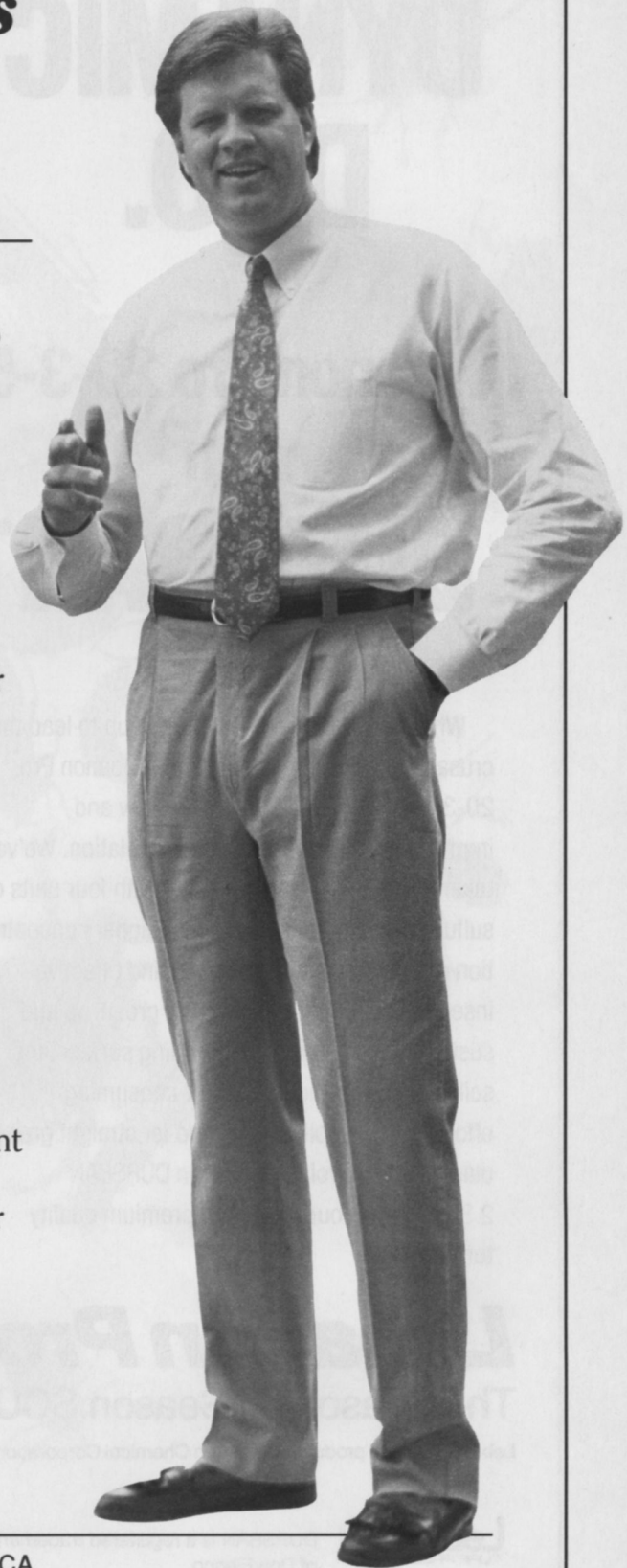
“ALCA is a great resource. Through their meetings, videos and publications, you can find out how to increase sales and profits, reduce costs, and learn about the latest products and technology developments.”

Join ALCA today and meet people like Joe Skelton.

If you are an exterior, interior or management landscape contractor or simply want to see the landscape industry grow, call (703) 241-4004 for more information or write to: ALCA, 405 N. Washington St., #104, Falls Church, VA 22046. Fax (703) 532-0463.

ALCA

ASSOCIATED LANDSCAPE CONTRACTORS OF AMERICA



DYNAMIC DUO.

Lebanon Pro 20-3-5 with DURSBAN*

What two products have teamed up to lead the crusade against insect pests? It's Lebanon Pro 20-3-5 with 1% DURSBAN — a new and improved fertilizer/insecticide formulation. We've taken our 20-3-5 fertilizer base, with four units of sulfur-coated urea, and added a higher concentration of DURSBAN, a time-tested and effective insecticide. So you can get early green-up and sustained feeding while controlling surface and soil insects — without the time-consuming efforts of two applications. And for straight granular insect control, try Lebanon DURSBAN 2.32%. From your source for premium quality turf products.

Lebanon Pro The Season-To-Season SCU

Lebanon Pro is a product of Lebanon Chemical Corporation.

Lebanon
TURF PRODUCTS
800-233-0628

*DURSBAN is a registered trademark of DowElanco.

© 1991 Lebanon Chemical Corporation

Products

(continued from page 66)

to their own requirements.

The five locating systems in the line range from simple systems designed to locate plumbing blockages to powerful systems for tracking the guided boring tools. Microprocessor and micro-filtering technology process information into any easy-to-read digital display and audible tone.

Circle 129 on reader service card

Grasshopper offers a new double capacity grasscatcher hopper for its compact 11-h.p. Model 411R zero turning radius mower.

A new 8-cubic-foot hopper with twin slide-in mesh bags and a reinforced fabric top provides twice the capacity for picking up clippings, leaves and detached debris. A convenient swing-away feature on the rear-mounted hopper permits easy access to the gas tank and for maintenance.



A metal hopper with a 4-cubic-foot polyethylene container is also available for the 411R mini-hopper.

The deck-driven quik-d-tach vac grass-catcher provides powerful vacuuming pick-up and attaches to either the 35- or 41-inch deck. It can be removed in seconds for non-catcher operation by simply pulling a pin.

Circle 130 on reader service card

The Flex-Trak 75 from **Vermeer** is a hydrostatic track-drive machine.

It's completely hydrostatic from the ground drive to a complete assortment of modular-design job attachments, including backhoe-blade, reel carrier, trencher, vibratory plow and trencher-plow combination.

The low-profile, high-flotation tractor unit measures less than 69 inches in width and features a reinforced undercarriage offering nearly a foot of ground clearance to the front axle. Ground pressure (tractor only) measures 3.6 psi.

The automotive-type steering system features dual ground drive pumps enabling the operator to counter-rotate the flex-trak through a full range of infinitely variable speeds on each track.

The 13,500-pound unit is powered by a John Deere 3179T, liquid-cooled diesel engine rated at 79-h.p. at 2,500 rpm Turbo.

Circle 131 on reader service card

Becker-Underwood has released new water soluble packets of Turf Mark WSP blue spray indicator.

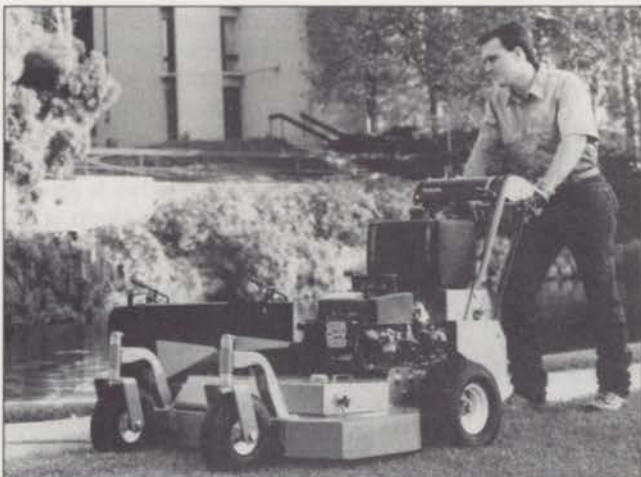
The newly reformulated product is now available in a water soluble packet that treats 50 gallons of spray solution. (The original turf mark WSP was packaged to treat 100 gallons of solution.) The smaller-size packets are easier to handle, ship and store, and allow the product to enter the solution faster.

Also, the new WSPs provide improved humidity resistance.

Turf Mark is also available in the original liquid formulation and in a recently developed tablet for backpack applications.

Circle 132 on reader service card

Kubota Tractor recently added the heavy-duty, 12.5-h.p. CW1336 walk-behind mower with a 36-inch cutting width to its line of turf maintenance equipment. The mid-sized CW1336 is designed to offer the commercial user durability, performance and ease of operation.

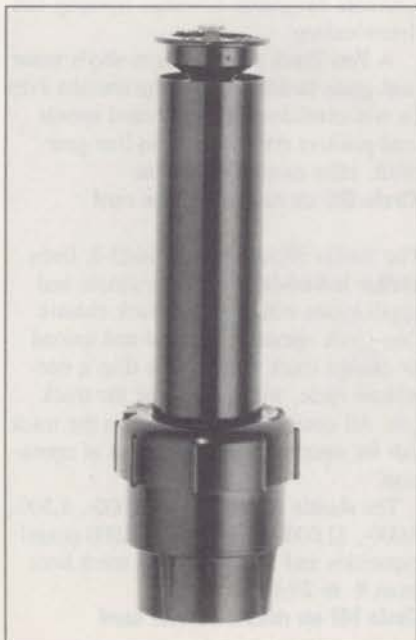


With a 4-cycle, air-cooled, over-head valve engine, the CW1336 offers improved fuel and oil consumption with less vibration. A 5.5-gallon fuel tank capacity and fuel gauge provide hours of sustained performance. Smooth operation at one of five forward speeds and one reverse traveling speed is enhanced by double idler belt tensioners for the least belt slippage under all conditions.

A step-down blade and an adjustable cutting height, in 1/4-inch increments, ensure precision performance. The long-lasting, welded heavy gauge steel deck is beveled to avoid obstacles.

Circle 133 on reader service card

Hunter Industries has added PS-00, a new fixed spray shrub head, to its S-type spray sprinklers. The sprinkler has a built-in nozzle and is available with adjustable arcs from one to 335 degrees. It is also available as a fixed, full-circle, 360-degree spray head and as a side strip spray head.



An integral nozzle allows the user to vary the discharge rate and the radius with a simple tool adjustment. Depending on the S-Type models specified, discharge rates can be adjusted from 0.2 to 5.3 GPM, and the radii can be adjusted to range from 10 to 19 feet.

Circle 134 on reader service card

WORK THE BUGS OUT OF THE SYSTEM.

Greenskeeper 20-4-10

with

DURSBAN®

Control your most costly pests—and give your turf the premium, homogeneous feeding it hungers for—in one easy application! Introducing Greenskeeper 20-4-10 with Dursban. This new, premium balanced fertilizer with 4.8 units of WIN is combined with one of the most effective, time-tested insecticides around! From the source for premium quality turf products—your local Lebanon distributor.

greenskeeper

Greenskeeper is a product of Lebanon Chemical Corporation.

Lebanon
TURF PRODUCTS
800-233-0628

*DURSBAN is a registered trademark of DowElanco.

© 1991 Lebanon Chemical Corporation

The Tip Off dump box for pickup trucks is now available from the **Hein Co.**

The standard 8-foot and short bed tip off units fit standard U.S. pickups. The box is also offered for mid-sized pickups — Dodge Dakota, Ford Ranger and GMC or Chevy 'S' series.

The tip off does not void truck manufacturers' warranties on new and light duty pickups. Optional extension kits and vacuum blower mounting brackets are available.

Circle 135 on reader service card

Reusing or recycling the plastic film used to prevent weed growth and to warm garden soil is made easier with the Poly-reas PLR, from **Simac**. Pulled by a standard 65-hp farm tractor, the machine cleans and winds plastic film onto rolls eight times faster than manual methods. It recovers films up to 55-inches wide, either from flat ground or from mounted beds as high as sixteen inches; films should be at least 17 microns thick and in good condition to prevent tearing during removal.

A simple, four-step process leaves film

clean and ready for recycling or reuse: 1) a brush sweeps dirt and plant material off the plastic; 2) two adjustable plowshares and a crossbar at the front gently lift the film out of the soil as the tractor moves ahead; 3) circular brushes and scrapers sweep remaining dirt, leaves and roots off the film; 4) the film is wound tightly onto 130 pound rolls for easy transport.

Circle 136 on reader service card

The Mighty Bandit II chipper is now available from **Bandit Industries**. The simple, gravity-feed drop spout chipper features a dual wheel, hydraulic feed system.

The product is designed for chipping limbs and brush up to 6 inches in diameter and for chipping short blocks of wood and prunings.



The feed wheels are closely coupled to the chipper disc to help eliminate hang-ups in the feed system. The chipper is available with both diesel and gas power options ranging from 20 h.p. to 30 h.p.

Circle 137 on reader service card

The Turf Tracer, from **Exmark Mfg. Co.** features a floating cutting deck that eliminates scalping, while a Constant Control drive system, with double idlers, prevents dangerous downhill runaway and freewheeling.

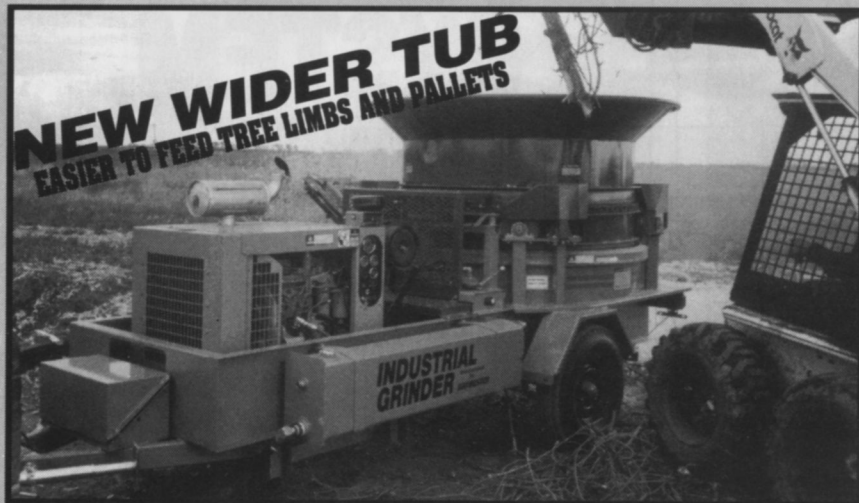
A Posi-Track pulley system sheds water and grass buildup, providing traction even in wet conditions. Five forward speeds and positive reverse, with in-line gear shift, offer ease of operation.

Circle 138 on reader service card

The Stellar Shuttle Model 84-12-8, from **Stellar Industries**, enables multiple bed applications with a single truck chassis. One truck operator can load and unload or change truck beds in less than a one-minute cycle, without leaving the truck cab. All controls are mounted in the truck cab for operator safety and ease of operation.

The shuttle is available in 3,000-, 4,500-, 8,000-, 12,000-, 20,000 and 40,000-pound capacities and accommodates truck beds from 8- to 24-ft. in length.

Circle 141 on reader service card



IG8 Industrial Grinder

Manufactured by Haybuster

Grinds Tree Limbs Into Compost

- The new Haybuster I.G.8 is especially suited to grinding tree limbs six inches in diameter and smaller into valuable compost, landscape mulch, wood fuel or a variety of organic products.
- The I.G.8 features a variety of screen sizes to provide the desired size of end product. A heavy-duty 26" long cylinder with half-inch A.B. hardened hammers easily processes yard waste, pallets, wood chips, bark and other demolition lumber into a compact, consistently-sized end product.
- The tub can be loaded with any skid steer loader and the end product is delivered on a conveyor which is 8' 2" long and 24" wide.

- An electro-hydraulic sensing governor maximizes grinding efficiency and prevents clogging. The I.G. 8 is powered by a diesel engine and is completely self-contained and portable. It is easily pulled with a half-ton pickup.
- The I.G. 8 has clearance and directional lights to make it road legal.

Ideal size to grind tree limbs up to 6" in diameter into valuable compost, landscape mulch, wood fuel or a variety of organic products. Larger sizes are available.

HAYBUSTER
Manufacturing, Inc.

P.O. Box 1940 • Jamestown, ND 58402-1940
Phone: 701-252-4601 • Fax: 701-252-0502

Calendar

MAY 15

North Carolina Turf and Landscape Field Day, North Carolina State University Turf Field Center and Arboretum, Raleigh, N.C. Contact: Charles Peacock, P.O. Box 7620, North Carolina State University, Raleigh, N.C. 27695-7620; 919/737-3666.

MAY 18-21

The 58th Annual Conference and Trade Show sponsored by the Western Chapter of the International Arboriculture, Red Lion Hotel, Modesto, Calif. Contact: Derald Weaver, 209/529-3177.

JUNE 6-9

Florida Nurserymen and Growers Association Annual Meeting, Buena Vista Palace, Orlando, Fla. Contact: Earl Wells, executive vice president, Florida Nurserymen and Growers Association, 5401 Kirkman Road, Suite 650, Orlando, Fla. 32819; 407/345-8137.

JULY 12-16

American Association of Nurserymen Annual Convention and Nursery Industry Trade Show, The Dolphin, Orlando, Fla. Contact: Kevin Morales, AAN, 1250 I Street NW, Suite 500, Washington, D.C. 20005; 202/789-2900.

JULY 18

Annual Nursery Field Day, Virginia Polytechnic Institute and Virginia Tech research station, Virginia Beach, Va. Contact: Hampton Roads Agricultural Experiment Station, 1444 Diamond Springs Road, Virginia Beach, Va. 23455; 804/363-3900.

JULY 31 to AUG. 2

American Sod Producers Association Summer Convention and Field Days, The Red Lion Lloyd Center, Portland, Ore. Contact: Thomas Ford, Meetings Administrator, 1855-A Hicks Rd., Rolling Meadows, Ill. 60008; 708/705-9898.

JULY 30

Midwest Regional Turf Field Day, Purdue University, West Lafayette, Ind. Contact: Clark Throssell, 316/494-4785.

JULY 31

The University of Georgia Turfgrass Field Day, Griffin, Ga. Contact: Gil Landry, The University of Georgia Experiment Station, Griffin, Ga. 30224; 404/228-7300.

AUG. 2-4

Southern Nurserymen Association Trade Show and Convention, Atlanta, Ga. Contact: SNA, 1511 Johnson Ferry Road, Suite 115, Marietta, Ga. 30062; 404/973-9026.

AUG. 16-18

Texas Association of Nurserymen Annual Convention and Trade Show, Dallas Convention Center. Contact: Patti Willey, TAN, 7730 South IH35, Austin, Texas 78745-6621; 512/280-5182. ■

HOW DO YOU CARRY YOUR SPREADER?

When your truck is full of supplies...



We carry ours the safe, secure, and professional looking...
...EXTERNAL WAY!

Get Your
**EXTERNAL
SPREADER CARRIER**
Today!

- ✓ The ESC mounts quickly to all bumpers and flatbeds of trucks, vans, and utility vehicles, (Detaches in seconds).
- ✓ Designed to carry LESCO, Scott's, Spyker, EV-N-SPREAD spreaders. (Please specify - adaptor needed).
- ✓ Eliminates spills and dump-overs.
- ✓ Saves space, time and back-strain.

(Patent Pending)
A **MUST** for granular applicators.

\$129.⁹⁵ plus adaptor

ESC Inc.

201 Cherokee Circle Phone (501) 227-6143
Little Rock, AR 72205 Fax (501) 224-7826

reader service **56**

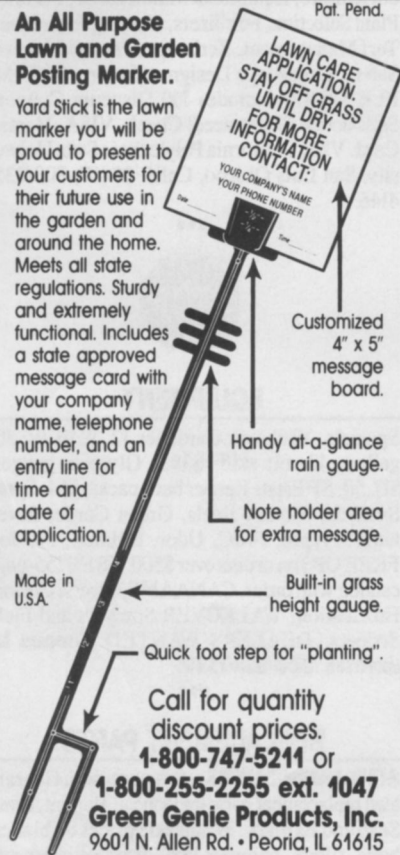
Yard Stick

Pat. Pend.

An All Purpose Lawn and Garden Posting Marker.

Yard Stick is the lawn marker you will be proud to present to your customers for their future use in the garden and around the home. Meets all state regulations. Sturdy and extremely functional. Includes a state approved message card with your company name, telephone number, and an entry line for time and date of application.

Made in U.S.A.



LAWN CARE APPLICATION. STAY OFF GRASS UNTIL DRY. FOR MORE INFORMATION CONTACT: YOUR COMPANY'S NAME YOUR PHONE NUMBER

Customized 4" x 5" message board.

Handy at-a-glance rain gauge.

Note holder area for extra message.

Built-in grass height gauge.

Quick foot step for "planting".

Call for quantity discount prices.
1-800-747-5211 or
1-800-255-2255 ext. 1047
Green Genie Products, Inc.
9601 N. Allen Rd. • Peoria, IL 61615

reader service **57**

Comprehensive Insurance Programs for Lawn Care Operations

We currently have three Property and Casualty Programs for Lawn Care Operators underwritten by A+ rated insurance companies. Coverage is available in all states except Hawaii and Alaska. Herbicide/Pesticide Applicators coverages, General Liability, Property, Inland Marine, Commercial Fleet, Workers Compensation and Umbrellas are available.

These programs offer competitive rates for LCO's with an excellent loss history. Self insured retentions and retrospective alternatives are available for larger risks.

M.F.P. Insurance Agency, Inc.
42 E. Gay Street, Suite 904
Columbus, OH 43215
614-221-2398
Attn: Richard P. Bersnak,
President

reader service **58**

Classifieds

RATES

All classified advertising is 75 cents per word. For box numbers, add \$1 plus six words. All classified ads must be received by the publisher before the 1st of the month preceding publication and be accompanied by cash or money order covering full payment. Submit ads to: Lawn and Landscape Maintenance magazine, 4012 Bridge Avenue, Cleveland, Ohio 44113. Fax: 216/961-0364.

BUSINESSES FOR SALE

ILLINOIS BUSINESS

After 35 years and an illness we are forced to sell our pride and joy, our well established and profitable landscape business. We are located in the fastest commercial growth area in the nation. Our business caters to commercial, industrial and corporate headquarters only.

Our location is in the Northern Illinois area and we have a well established clientele of some 225 accounts. We specialize in landscape design, construction, maintenance, service to tropical plants, irrigation systems, tree service and other general related services.

All inventory, equipment, land and building will be sold. We will stay on to assist incoming ownership. We can arrange for easy terms.

Our office personnel, crews, foremen and sales staff will stay on with the new owner. Asking price is approximately \$1.5 million. Only interested parties should respond. Send all inquiries to: *Lawn & Landscape Maintenance*, Box 344, 4012 Bridge Ave., Cleveland, Ohio 44113.

...

CONNECTICUT BUSINESS

Garden center and landscape business. Restored, turn-of-the-century farmhouse, barn, greenhouses, waterfront with beach on 75-acre, state-owned pond. Frontage on two roads, good traffic. All nicely situated on 1.6-acre lot. Excellent opportunity in Niantic, Conn. \$650,000. Send inquiries to: Clauson's Nursery, 2 Society Road, Niantic, Conn. 06357; 203/739-6881.

...

FOR SALE

LAWN CARE EQUIPMENT

Hannay reels new in-the-box, EI526s, EI530s, \$359; lawn spray hose, 275 psi and 600 psi, all sizes; original Imler measuring wheels, \$49.95; glycerin-filled gauges, 0-60 psi to 0-1,000 psi, \$19.95; ChemLawn guns, \$78.95; lawn spray boots, \$16.95; lawn spray gloves, \$1.75/pair.

Call Hersch's Chemical Inc.

800/843-LAWN — outside of Michigan
313/543-2200

...

PIPE LOCATOR

INEXPENSIVE. Locates, traces underground drain, water pipelines of clay, PVC, ABS, steel and cement. Bloch, Box 18058, Cleveland, Ohio 44118. 216/371-0979.

...

HYDROSEEDER

1988 Bowie, 1,100-gallon Gooseneck, \$12,000. Low hours. Call, 713/468-1818 or write: Illi Witte, Houston, Texas 77055. Can deliver.

...

IRRIGATION

Drip and Micro Irrigation

Free
1991 Catalog!



Order by Mail

SUBMATIC
IRRIGATION
SYSTEMS

3916 Woodbury Dr #L • Austin, TX 78704 • 800-299-DRIP

...

LANDSCAPE TRAINING VIDEOS

FREE CATALOG of training videotapes including Irrigation, Pesticide Use & Safety, Arboriculture, Equipment Maintenance, Pruning, Plant Selection, Fertilizers, Planting Techniques, Turf Management, Xeriscape, Tractor & Mower Safety, Landscape Design and more. \$5 SAMPLE VIDEO includes \$10 Discount Coupon. Satisfaction Guaranteed! Check, VISA, MasterCard. VEP, California Polytechnic State University, San Luis Obispo, Calif. 93407; 800/235-4146.

...



EQUIPMENT

Specials: Walkover Gardener 12, \$149.40; 30-gallon, 12-volt skid, \$393; Glycerin gauges, \$12.50; SP Estate Keeper back packs, \$64. Spray Systems, Hannay Reels, Green Garde, Raven tanks, Hypro, FMC, Udor, Delavan, Flo-Jet. FREE UPS on orders over \$500. FREE 155-page catalog with order. CANAAN Sprayers, Custom Fabrication, WALKOVER Sprayers and Field Strippers. DEALERS WANTED. **Canaan Industries, 800/633-7560.**

...

REPLACEMENT PARTS

ATTN. LANDSCAPERS — Free catalog. Guaranteed replacement parts for Bobcat, Bunton, Kees, Scag and Exmark. Wholesale prices on blades, belts, filters, trimmer line, grass catchers and gears. If you're tired of paying big money for

parts, call: **800/343-4333.** Lawn Care Parts Unlimited delivers savings coast to coast!

...

COMPUTER SOFTWARE

An integrated business management system for \$495. A single dBASE Compiled EXE with A/P, A/R, G/L, payroll, job costing, laser labels and much more. Ideal for Serv. Business. Demos available. Dealers wanted. New Serv, 1615 Gelhot Dr. #34, Fairfield, Ohio 45014; 513/829-1585.

...

ASPHALT SEALING

Expert training, new Jevco machinery; color, direct mail commercial and residential brochures — with mailing lists for both markets in your town. \$10,000/100 percent R.O.I. in just 10 days! 404/518-0730.

...

HYDROSEEDER

1989 Finn hydroseeder, diesel, 96 hours, 500-gallon — All accessories, \$10,500. Great Oaks Country Club, Rochester Hills, Mich. Contact John at 313/651-9140.

...

THE DRI-BOX



ARROWHEAD PLASTIC ENGINEERING, INC.

2909 S. Hoyt Avenue, Muncie, IN 47302
Tel. 317-286-0533, ext. 40

...

HELP WANTED

MAINTENANCE FOREMAN

Top firm needs foreman. Quality conscious Texas-based landscape management firm has immediate opening for detail-oriented landscape maintenance foreman. If you have outstanding professional and horticultural skills and are not afraid of hard and healthy teamwork, then you could qualify for a top position with the finest landscape firm in the Southwest. Outstanding compensation and opportunity. Reply to: *Lawn & Landscape Maintenance*, Box 325, 4012 Bridge Ave., Cleveland, Ohio 44113.

...

Viewpoint

(continued from page 2)

before they take place, problems that directly relate to your industry and your livelihood.

The perceived leaf blower noise and

the success in working with opponents to quell their concerns will not continue to work with only several manufacturers and a select group of distributors at the helm. The response to these and other issues needs to be collectively implemented and endorsed by all levels of industry.

There just isn't room for any ostriches. We have too much at stake. — Robin Pendergrast ■

The author is a partner of International Marketing Exchange, McHenry, Ill., and an expert on the power blower noise issue.

Products

(continued from page 70)

Lawn-Boy's 21-inch staggered wheel commercial mowers now feature an optional Mulch-N-Mow plate attachment that quickly and easily converts from side-discharge to mulching capabilities. The mulch plate finely cuts the clippings and returns them to the soil, leaving behind an attractively manicured lawn.

Other mower features include a two-cycle, 4-hp commercial engine; cast aluminum staggered wheel housing for quality cut and lightweight maneuverability; an extra large five-quart capacity fuel tank

for up to 5-1/2 hours of continuous operation; and an engine guard that protects vital engine areas and incorporates a hand grip to assist in loading and unloading. Optional accessories quickly convert these models for side bag, rear bag, or leaf shredding. The mowers are available in a push model, C21ZPN or a self-propelled model, C21ZSN.

Circle 142 on reader service card

Cushman has introduced a new 240-gallon turf sprayer designed for 5th-wheel attachment to its Turf-Truckster vehicle. The sprayer provides increased capacity for all turf spraying applications, along with im-

proved maneuverability and a ground pressure of 11 psi. The sprayer attaches to any turf-truckster with a two-inch ball hitch.

Spray operation of one, two or all three booms is controlled from the vehicle seat, as is spray application pressure. The spray boom is self-leveling for accurate application over uneven ground surfaces; boom height adjusts from 6 to 24 inches.

The turf-truckster ground speed governor control also helps ensure accurate spray application over all types of terrain; an optional 440 Raven computerized controller permits fully automated spraying. ■

Circle 143 on reader service card

Cover Story

(continued from page 27)

to be the leaders, he added, those who combine business courses with horticulture.

"There are so many small businesses that love the profession, but they have to know how to make a career of it to make money," he said. "Our in-house CPA has really taught us to make it a profitable business instead of just buying a job. That's one of the biggest differences in our industry; most are just buying themselves a job instead of making it a career."

Smaller firms can increase their profits by raising their prices — a job easier said than done.

As ILCA president, Bill tried to promote prices comparable to the work contractors were doing. "I wrote numerous times that we degrade our own profession by being scavengers — cutting the prices to get the work. My appeal was to be more like colleagues. Instead of starting your own companies, get a job with a quality company."

Instead of getting discouraged, however, both Clarence and Bill have a lot to be motivated by.

Clarence hopes to open several branch offices, all in the Chicago area, in the next five years. "There's enough work here we don't need to go anywhere else."

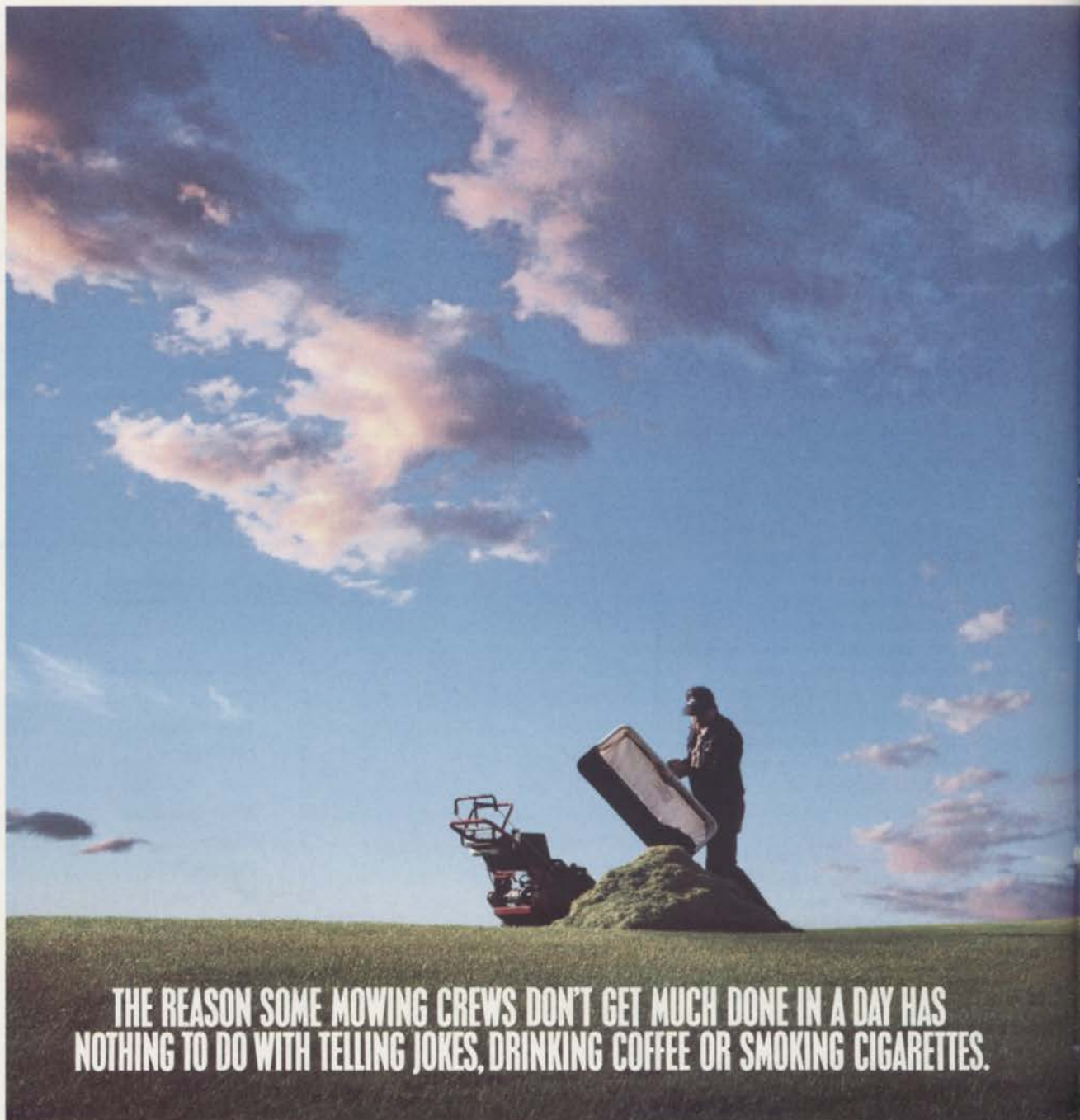
Within the Chicago service area, Bill said, he wants to continue to bring a quality product to the firm's clients and potential clients, be the leaders in the industry and continue to develop key people. *The author is Editor of Lawn & Landscape Maintenance magazine.* ■

Lawn & Landscape MAINTENANCE

Advertiser's Index

ALCA	67	JRP International	66
Accuspray	62	Knox	23
Andersons*	60	Lawn-Wright	10,48
Arcadian	12	Lebanon	68,69
Bush & Cook	18	Line Ward	44
Chevy	38,39,61	MFP Insurance	71
Ciba-Geigy*	9	Mobay	4,5,45
Classen	15	Monsanto	37
Crary	58	NK Medalist	41
Cushman	16,17	Neptune Research	36
Deere & Co.	21	Oldham	22
Dilloware	52	Olson	36
DowElanco	76	Oly-Ola	20
Duerr	11	Pepco	35
ESC	71	Prentiss	49
Encap	22	Pro Tree & Turf	15
Farber	58	Putting Greens	44
Glen-Hilton	42,43	Regal	30
Glenmac	19	Rhone-Poulenc	31
Green Geenie	71	Toro	74,75
Green Industry Expo	7	Trebor	18
Haybuster	70	Tuflex	59
EXPO '91	65	Turfseed	2
J.J. Mauget	53	Walker	62

*Denotes regional advertising.



THE REASON SOME MOWING CREWS DON'T GET MUCH DONE IN A DAY HAS NOTHING TO DO WITH TELLING JOKES, DRINKING COFFEE OR SMOKING CIGARETTES.

When you use ordinary bagging mowers, up to 38% of your employees' time is spent handling grass clippings.

The way we see it, that's just time going to waste.

Because with the new 48" Toro Recycler™ cutting deck, you don't have



The new 48" Toro Recycler deck.

to bag at all. Yet you'll still be giving your customers the kind of clean, well-groomed lawn you'd be proud to stake your reputation on.

Instead of bagging clippings, the Recycler deck cuts and re-cuts them into fine slivers. Then its tested airflow design



injects them below the surface of the grass. No other mower has this unique vertical discharge system. And, since it returns clippings back to the lawn, you won't have the hassle of taking care of clippings disposal.

The 48" Recycler deck is available on a variety of Toro commercial mowers. And our

Recycler technology is available throughout our mower line. So stop into your Toro ProLine dealer and ask how the Recycler deck can make your operation more productive.

And, as long as you're there, have a cup of coffee.



ProLine
The Professionals
that keep you cutting.

When Jim Gourley moved up to TURFLON, callbacks in Kenosha went down, way down.



"Our resprays have decreased by almost 50%." —

**Jim Gourley, owner
Lawn Masters,
Kenosha, WI**

If you're like most LCOs using standard three-way herbicides, there are days when you wish the phone wouldn't ring again. Callbacks and cancellations can really get you down. Well, maybe it's time you moved up to Turflon® herbicide.

One good reason to switch.
"We switched to Turflon because we were having too many resprays," explains Jim Gourley. And after 22 years in the business, he's happy with the results: "Our records show that we do have much better weed control and many fewer resprays this year than we've ever had."

You'll save money in the long run.

"Yes, we pay more for Turflon," Jim says. "But when I figure how much it costs us per respray, it's saving us lots of money. And that justifies the extra cost."

Jim adds that there's another reason he can't afford to make too many callbacks. "When you have to go out and do a respray, you're taking a chance on losing that customer."

Isn't it time you moved up to a better herbicide for better weed control? For technical information, call toll-free: 1-800-352-6776.

Move up to Turflon.

 **DowElanco**

Trademark of DowElanco

reader service 45