

# "PennLinks survives 126° heat and below freezing temperatures here in the desert"

"Here at The Vintage Club, we pride ourselves on our 36 flawless Penncross greens, so when Dr. Joe Duich at Penn State University asked me to test his experimental bentgrass PSU 126, now PennLinks, I jumped at the chance. After three years of extreme desert temperatures, this chipping green looks absolutely perfect, and I get raves from the membership.

I have found that PennLinks has a more upright growth habit and more uniform color than Penncross and that fast, true putts are the standard.

While I'm not given to praising products loosely, here I am plugging Penn-Links ... and what better place than on our perfect pitching green!"

akhele

PennLinks PVP 8700030



Warren Bidwell is available to speak to your superintendents' group about the Penn bentgrasses. Call our toll free number for details.

TEE-2-GREEN Corp., PO Box 250 Hubbard, OR 97/32 1-800-547-0255 FAX 503/981-5626 TWX 510-590-0957

When good shots end up in bad lies on dollar spotted fairways, it can spot your course's reputation.

spot your course's reputation.
That's good reason to put
Rubigan\* in play. Dollar for dollar,
nothing controls dollar spot better.

Just one Rubigan application controls even resistant strains of dollar spot for up to 28 days. And one case of Rubigan will treat up to 8 acres of greens and fairways.

Rubigan is the only fungicide labeled to treat and prevent all these other turf spoilers, too: Fusarium leaf spot, necrotic ring spot, summer patch, take-all patch and spring dead spot—plus large brown patch with a Daconil 2787° tank mix.

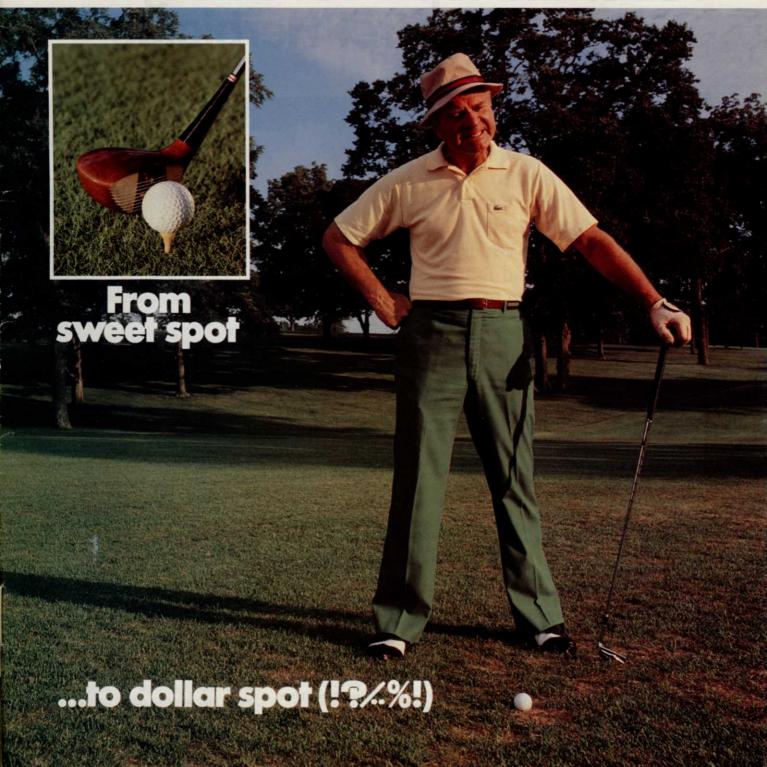
Keep your fairways, tees and greens dollar spotless — looking clean and beautiful all season long. Get Rubigan from your Elanco distributor. Or call toll-free: 1-800-352-6776.

Elanco Products Company A Division of Eli Lilly and Company

Lilly Corporate Center
Dept. E-455, Indianapolis, IN 46285, U.S.A.
Rubigan®— (fenarimol, Elanco)
Daconil 27878— (chlorothalonil, SDS Biotech)



Circle No. 117 on Reader Inquiry Card



# Special Introductory Offer ORNAMEC®

# Over-the-top Post-emergent Grass Control Herbicide

At last there is an efficient way to control grasses in nurseries, ornamentals and landscaping . . . and to introduce you to Ornamec, we are making a special double-feature offer which we hope you can't refuse. Let us give you all the facts.

Everett Mealman, President PBI/Gordon Corporation



Shrink-wrapped with the quart size Ornamec is four ounces of Gordon's Aqua-Zorb® Non-ionic Surfactant. Pint and gallon sizes also come with appropriate amounts of this superior surfactant piggy-backed to the herbicide.

"Ornamec is the most important single chemical tool that has been placed in the hands of the landscaper in recent years."

Do you know who said that?

Virtually every landscaper who has ever participated in one of our hands-on Ornamec demonstration plots. Perhaps they didn't use those precise words, but certainly that was the gist of what they had to say.

Indeed Ornamec is a remarkable innovation in landscaping chemistry. You can spray it over the top of the vast majority of nearly 500 different varieties of ornamentals and flowers listed on the label, and control more than 35 species of grass that invade ornamental beds and totally ruin the appearance of your most meticulous handiwork.

We're not just talking about controlling grass. We're talking about controlling tough grasses like quackgrass, johnsongrass, etc. The tough grasses with deep horizontal roots that come back bigger and stronger when you try to eliminate them with cultivation.

And we're talking about controlling those tough grasses that put out runners, like bermudagrass, and literally take

over a landscaping area.

Of course, what Ornamec can do for the landscaper it can also do for the nurseryman who is producing fieldgrown and container-grown ornamentals.

# What is Ornamec?

Ornamec is PBI/Gordon's unique formulation of Fluazifop-butyl (Fusilade) especially designed and labeled for the nurseryman and the landscaper. There's nothing else like it on the market.

The first thing that is special about Ornamec is that it is designed to be mixed with a non-ionic surfactant rather than with a crop oil.

The trouble with a crop oil in this kind of situation is that its purpose is to dis-

solve the cuticle of a plant so the herbicide can penetrate the grass it is intended to control. Of course, the rub is that crop oil can also dissolve the cuticle of the ornamental you're spraying over, and thus endanger its life.

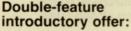
A non-ionic surfactant, which is used with Ornamec, does not dissolve cuticle. It simply acts as a spreader-sticker and wetting agent to get more Ornamec on the grass and keep it in solution in the sprayer.

The next thing you'll like about Ornamec is its unusual power to penetrate into the circulatory system of a grass and translocate to every growing point including the shoots, roots, rhizomes, nodes and stolons.

Please take an extra minute to study the schematic diagram on this page, which indicates how Ornamec penetrates into the circulatory system of a grass and translocates throughout the horizontal root system to prevent regrowth from nodes.



PICTORIAL QUIZ... for landscapers and nurserymen: How are you going to get the unsightly, nutrient-robbing grasses out of the problem areas shown on this page? The answer is to spray over the top with Ornamec. It makes landscaping handiwork and nursery husbandry look good.



We know that, once you use Ornamec, you'll never again be without it. Consequently, we are willing to go the extra mile to help you get started. A double feature, so to speak.

Number one, we're going to give you, free of extra cost, the correct amount of non-ionic surfactant to mix with whatever size Ornamec you buy. But notice. It's not just any non-ionic surfactant. It's our very own PBI/Gordon Aqua-Zorb® Organic Wetting Agent, which we assure you is the best quality we know how to make.

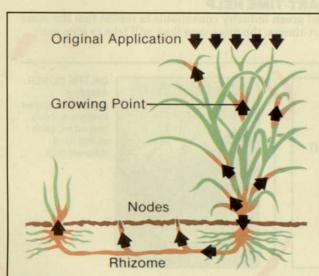
And, number two, when you buy a gallon of Ornamec (or four quarts or 16 pints), we will give you an opportunity to order a \$100-value SP-1 Sprayer for only \$25.

## Call for information

If you have any questions about how, or where, or when to use Ornamec, call us toll-free.

Toll-free 1-800-821-7925 In Missouri, 1-800-892-7281 Ask for Sales Service.

Fusilade® is a registered trademark of ICI Americas, Inc.
Ornamec® and Aqua-Zorb® are registered trademarks of PBI/
Gordon Corporation.



# The Fusilade® Mode of Action now available in ORNAMEC® for ornamental uses.

When applied to actively growing grass, ORNAMEC (Fusilade) moves quickly to all growing points and destroys the entire plant — shoots, roots, rhizomes and stolons.



1217 WEST 12th STREET P.O. BOX 4090 KANSAS CITY, MISSOURI 64101







# This \$100-Value Sprayer Is Yours for Only \$25 When You Buy Ornamec.



- Totally sealed diaphragm (up to 70 PSI pressure).
- Four-gallon capacity.
- · Large 6-in. fill opening.
- Built-in carrying handle.
- · Check valve in lid.
- Brass wand and nozzle (variable cone).

To get this \$100-Value SP-1 Back-Pack Sprayer for only \$25, buy one gallon (or four quarts or 16 pints) of ORNAMEC from your distributor between now and October 1, 1988 and send us proof of purchase (a sales receipt). Limit one offer per customer. Delivered via UPS. No requests honored after October 31, 1988. Please include your name, address and your check for \$25. Mail to PBI/Gordon Corporation, P.O. Box 4090, Kansas City, MO 64101.

# Formerly WEEDS TREES & TURF





49

## **18 COVER STORY: AERATION**

Equipment improvements and greater awareness have aeration service penetrating deeper into the residential market.

# **WARM-SEASON TURF DISEASES**

It can be very difficult to tell one turf disease from another. But proper identification is a necessity before treating with a fungicide.

## 32 LEGISLATION AND AQUATIC WEED CONTROL

Just because it's been delayed doesn't mean that the Endangered Species Act—and others—won't have an eventual effect on the aquatic site manager who applies chemicals.

# **SOIL-APPLIED SYSTEMIC INSECTICIDES**

These insecticides are a viable alternative to foliar applications, which sometimes raise concerns in the areas of drift and effects on non-target organisms.

# **IRRIGATION ECONOMICS**

Efficient irrigation pump use and precise cycle scheduling cut power costs in half for Singing Hills Country Club and Lodge.

# **CAVOTTA'S CLEVELAND**

In the competitive Cleveland market, one name means landscaping: Phil Cavotta tells how he keeps his business successful.

#### **56 'SCAPING ARIZONA**

In the arid parts of this country, there is a recent trend toward more native plants and less forced use of turfgrass. The practice is called 'desert landscaping,' and here's what you should know about it.

# **MEASURING WATER STRESS OF URBAN TREES**

Because water is becoming scarce, landscape personnel must be aware of plant moisture needs and of appropriate methods for measuring plant water stress.

#### 72 DEALING WITH PART-TIME HELP

Past experience has led green industry consultants to realize that the more care you take with part-timers, the more care they will take to give you your money's worth.

# **DEPARTMENTS**

6 NEWS/TRENDS **78** JOBTALK

8 GREEN INDUSTRY NEWS 80 PROBLEM MANAGEMENT

11 SHORT CUTS **82 PRODUCTS** 

14 ATHLETIC TURF **86** CLASSIFIED

**60** ON DESIGN 94 AD INDEX

77 RESEARCH UPDATE 96 OUTLOOK

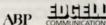


ON THE COVER: Aeration equipment comes in many shapes and sizes, each suited for a different task.

LANDSCAPE MANAGEMENT (ISSN 0894-1254) is published monthly by Edgell Communications, Inc. Corporate and Editorial offices: 7500 Old Oak Boulevard, Cleveland, Ohio 44130, Advertising Offices: 7500 Old Oak Boulevard, Cleveland, Ohio 44130, 111 East Wacker Drive, Chicago, Illinois 60601 and 3091 Maple Drive, Atlanta, Georgia 30305. Accounting Advertising Production and Circulation offices: 1 East First Street, Duluth, Minnesota 55802. Subscription rates: \$25 per year in the United States: \$35 per year in Canada. All other countries: \$70 per year. Single copies (pre-paid only): \$2.50 in the U.S.; \$4.50 in Canada: elsewhere \$8.00; add \$3.00 for shipping and handling per order. Office of publication: Edgell Communications, Inc., 1 East First Street, Duluth, Minnesota 55802. Second class postage paid at Duluth, Minnesota 55806 and additional mailing offices. Copyright® 1988 by Edgell Communications, Inc., All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher.

POSTMASTER: Send address changes to LANDSCAPE MANAGEMENT, P.O. Box 6198, Duluth, Minnesota 55806.

**₩BPA** 



# BEHIND EVERY GREAT PERFORMER IS A GREAT COACH



That's why so many winning equipment manufacturers sign Onan to their team. For almost half a century, Onan engines have been the first round choice of leading manufacturers.

Onan engines perform. Hundreds of thousands proving themselves every day. Performing under adverse conditions. Performing with power. Performing for years of trouble-free operation.

Onan builds winners by building winning relationships with equipment manufacturers.

Partnerships based on common goals and dedication to customer service.

Great performance, great teamwork.
An unbeatable combination.

Built in the U.S.A.

Onan Corporation Engine Division 1406 73rd Ave. N.E. Minneapolis, MN 55432

Circle No 271 on Reader Inquiry Card

# More on 'Variety Not Stated'

■ The discussion of seed labelling continues.

Bob Oliger of Oliger Seed Co., Akron, Ohio, took exception to an article appearing in LANDSCAPE MANAGEMENT last November. It stated that purchasers of seed should be wary of "Variety Not Stated" (VNS) labelling.

"Half of the seed on the market is VNS," Oliger says. "That article casts quite a shadow on the common varieties. And any of the common-use grasses—if they're not premium—have to be labelled VNS."

Eliot Roberts, Ph.D., executive director of the Lawn Institute, finds himself partially agreeing with Oliger.

"If the seed is not a proprietary variety but it's grown with the standards of a proprietary, it's equivalent to a proprietary," says Roberts. "If Oliger puts high-quality VNS in his bag, he can do that. But another seedsman might put junk in the bag."

"We try," counters Oliger, "to handle all good quality seed. And I think all regional wholesale distributors carry similar lines. We kind of pride ourselves on our reputations."

Observes Roberts, "Although proprietaries are bred for better tolerances, there's always going to be a place for the common variety. Not everybody is interested in buying a Cadillac.

"But I really have to agree with your article: if you buy VNS,

you really don't know what you're getting."

The bottom line? It's best to buy proprietary varieties. If you must buy VNS grass seed, make sure you're dealing with a reputable wholesale distributor.

# Biotechnology to boom

■ Biotechnology will have a significant impact on agricultural markets during the next 10 years, say consultants at C.H. Kline & Co. Sales of biotechnology products are projected to reach more than \$2 billion by 1995 (compared to \$14 million currently). These products are also expected to eventually have an impact on the lawn and landscape market.

According to Kline's report, agricultural biotechnology will initially help evolve agricultural products, but holds the longterm potential to alter or revolutionize the animal health care,

crop protection and seed improvement industries.

Current biotech sales include products in animal health therapeutics, disease diagnostics and micropropagated crop plants. By 1990, biotechnology-derived products will include geneticallyengineered microbial insecticides.

American Cyanamid, Ciba-Geigy, ICI and Monsanto are active in these areas. Lubrizol, Sandoz, Hoechst, Merck and several other companies are also developing such products.

# **LM Editorial Staff**







# **EDITORIAL STAFF**

Jerry Roche, Editor Will Perry, Managing Editor Jeff Sobul, Associate Editor Office: 7500 Old Oak Blvd. Cleveland, OH 44130 (216) 243-8100

### MARKETING STAFF

Dick Gore, Publisher Office: 455 E. Paces Ferry Rd. Suite 324 Atlanta, GA 30305 (404) 233-1817

Jon Miducki, National Sales Manager Marsha Dover, Midwest Sales Manager Gloria Cosby, Eastern Sales Manager Bob Earley, Group Vice President Office: 7500 Old Oak Blvd. Cleveland, OH 44130 (216) 243-8100

Robert Mierow, W. Coast Representative Office: 1515 NW 51st Street Seattle, WA 98107 (206) 783-0549

Tom Greney, Senior Vice-President Office: 111 East Wacker Drive Chicago, IL 60601 (312) 938-2344

#### SUPPORT STAFF

Carol Peterson, Production Mgr. Marilyn MacDonald, Prod. Supervisor Deb Georges, Graphic Design Becky Gothner, Circulation Super. Bonnie DeFoe, Directory Coordinator Gail Kessler, Reader Service Manager Office: 120 West Second St. Duluth, MN 55802 (218) 723-9200

David Komitau, Graphics Coordinator Ted Matthews, Promotion Director Office: 7500 Old Oak Blvd. Cleveland, OH 44130 (216) 243-8100

# ヨリロヨバ

Robert L. Edgell, Chairman; Richard Moeller, President; Lars Fladmark, Executive Vice President; Arland Hirman, Vice President/Treasurer; Thomas Greney, Senior Vice President; Ezra Pin-cus, Senior Vice President; Joe Bilderbach, Vice President; James Gherna, Vice President; George Glenn, Vice President; Harry Ramaley, Vice President.

**When Surface Pests** are at their worst, PROXOL® works best

Surface-feeding sod webworms, armyworms and cutworms don't stand a chance when PROXOL® 80SP is on the job. It's as easy to apply as a spray and has no unpleasant odor.

Fast-working PROXOL readily penetrates thatch to control grubs. Yet it has no long-term residual build-up in the soil.

For a complete information kit on nourishing and protecting your turf, including a comprehensive guide on turf insect control, join the NOR-AM Turf Management Program. Write to the Communications Department, NOR-AM Chemical Company, 3509 Silverside Road, P.O. Box 7495, Wilmington, DE 19803.

IMPORTANT: Please remember always to read and follow carefully all label directions when applying any chemical.

3509 Silverside Road, P.O. Box 7495 Wilmington, DE 19803



# Green industry news



Landscape architects, left to right: Bill Cathcart, Rob Sawyer, Walt Young, Bob Cardoza and Keith French, opened lines of communication with landscape contractors at the Landscape Industry Show in Long Beach, Calif.

# Architects want open communication lines

A panel of five certified landscape architects from Southern California emphasizes the need for good communication between themselves and the contractor installing a de-

A concern of all the panel members involved cutting small portions of the design, most often to save money and without the knowledge or consultation of the architect.

"If necessary," says Rob Sawyer of Land Concern, Santa Ana, "let the landscape architect make the cut in the plans." Each architect emphasizes that consultation on the plan is only a phone call away.

"Time is of the essence," adds

Keith French, of the Keith French Group, San Clemente. If problems arise during installation, "fix the problem first and then find out who's to blame.

Panelists also stressed the need for some understanding from contractors when a new architect is sent out to a job. Often the principal architect is not the one at the site. "I was scared to death the first time I went to a job," Sawyer recalls.

"There should be an education from the principal architect on down to the new people who they're sending out on a job," says Walt Young, Walt Young Assoc., Northridge. "They've got to know what to

expect."

Bill Cathcart, Cathcart/Begin Assoc., Orange, "looks for an experienced contractor to 'break in' a new person." Sometimes, though, "even if they have the right answer, they get trampled on by the contractor," Cathcart says. "That gets me angry. You have to have that common

"This is a committment," French calls his business and the contractor's business. "Everything I do is related to my business. You have to understand all aspects of the business, not to replace people with yourself, but to understand their functions."

Good advice for contractors, too.

LEGISLATION

# LCOs', contractors' driving laws change

Drivers of vehicles carrying designated materials will soon need commercial drivers' licenses under regulations proposed by the Department of Transportation.

The DOT, under the Commercial Motor Vehicle Safety Act of 1986, will release guidelines July 15. They will include basic information for license exams, which will be administered by the states.

The list includes some 4,000 designated materials. Some used by lawn care companies and landscape contractors are chlorpyrifos, diazinon, 2,4-D, carbaryl, malathion and ammonium nitrate. They are listed in the 1987 Code of Federal Regulations, Title 49, Section 172.101.

States will have until 1992 to enact their licensing programs.

LAWN CARE

# Lawn care operators head off potentially damaging TV report

The Professional Lawn Care Association of Mid-America has headed off a potentially damaging television report. In the face of the report, by Stan Cramer of Channel 5 News in Kansas City, association president David Murphy presented the group's policies and provided explanations for practices, all resulting in an objective report by Cramer.

Cramer's original intent was to give a "burning condemnation" of continuous service and negative option agreements, said the PLCAMA newsletter. Cramer had information that some lawn service customers had called the Kansas Attorney General's office to complain about continued service without permission and heavy-handed collection techniques. Cramer's attempts at interviews with local companies apparantly were frustrated because his reputation for damaging reports preceeded him.

Murphy stepped in with two days of interviews in which he explained that companies had continuous service agreements with customers. He said that the "lawn service will take care of the lawn from season to season and year to year automatically" though the customer could cancel the service any time by prior notice.

"It is also the policy of our associcontinued on page 11

Circle the Reader Service numbers of those items of interest to you.

For fastest response, use the peel-off label from the front cover.

NAME														-			
TITLE																19	
E	FIRM PLACE COVER LABEL HERE															20	10
-																	1
A	DDRE	ess.	84	111	15	nd a l	alk:		(figil	AII		S-1:	4170	PAYY			- 8
C	TY_						128				33	300					1
STATE ZIP														100	10		
SINIE																	
T	ELEP	HON	E(		)_		3/1	316							100		1
-			-					_	-	-	_				-	_	
1050	115	1000000	-	300,000													1
	116																- 9
1000	117	100000	100.000	(65530)	25/2/27	100000	1220	100000	CALL.		255		100.00				1
104	118	6000000	DIMES.	0.000		000000	177	100000									
105	10000																
106	120	134	148	162	176	190	204	218	232	246	260	274	288	302	316	330	
107	121	135	149	163	177	191	205	219	233	247	261	275	289	303	317	331	1
108	122	136	150	164	178	192	206	220	234	248	262	276	290	304	318	332	
109	123	137	151	165	179	193	207	221	235	249	263	277	291	305	319	333	
110	124	138	152	166	180	194	208	222	236	250	264	278	292	306	320	334	
111	125	139	153	167	181	195	209	223	237	251	265	279	293	307	321	335	
112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336	
113	127	141	155	169	183	197	211	225	239	253	267	281	295	309	323	337	
114	128	142	156	170	184	198	212	226	240	254	268	282	296	310	324	338	



#### JUNE 1988

This card void after August 15, 1988

MY PRIMARY BUSINESS AT THIS LOCATION IS: (PLEASE CHECK ONE ONLY IN EITHER A. B OR C)

#### A. LANDSCAPING/GROUND CARE AT ONE OF THE **FOLLOWING TYPES OF FACILITIES:**

005 Golf courses □Sport complexes

☐Rights-of-way maintenance for highways, railroads & utilities ☐Schools, colleges & universities ☐Industrial & office parks/plants

0045 Condominiums/apartments/housing developments/

hotels/resorts

0050 Cemeteries/memorial gardens 0060 Military installations & prisons

0065 DAirports

0070 Multiple government/municipal facilities
Other type of facility (please specify)

#### B. CONTRACTORS/SERVICE COMPANIES/CONSULTANTS:

110 Lawn care service companies

0125 CLandscape architects

0135 Extension agents/consultants for horticulture Other contractor or service (please specify).

#### C. SUPPLIERS:

205 Sod growers 0210 Dealers, Distributors Other supplier (please specify)

Approximately how many acres of vegetation do you maintain or manage? What is your title? (please specify).

I would like to receive (continue receiving) LANDSCAPE MANAGEMENT each month: YES

Date: Your Signature:

# **BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 665 DULUTH, MINNESOTA

POSTAGE WILL BE PAID BY ADDRESSEE

READER SERVICE DEPARTMENT

# LANDSCAPE MANAGEMENT

POST OFFICE BOX 6049 DULUTH, MINNESOTA 55806-9749

Idaladadadadaaadladadadadadadadadada

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

> GET MORE FACTS