# Penneagle crowds out bluegrasses on Butler National's fairways



Triplex fairway mowing at The Butler National Golf Club, Oak Brook, IL

When Oscar Miles, CGCS, of The Butler National Golf Club, introduced Penneagle creeping bentgrass into his Poa annua infested A-20 bluegrass fairways in 1980, he took a dynamic step toward the beautiful fairways praised by the pros during the Western Open.

Utilizing a prescribed program of aggressive, deep core aerification, drop seeding and verticutting, Penneagle was expected to *aggressively compete* with the bluegrasses. With triplex mowing and clipping removal, the unwanted grasses are yielding to Penneagle. Oscar feels that his fairways are now 70-90% Penneagle.

With Butler National's reputation at stake, Oscar Miles couldn't chance anything less than Penneagle for his "immaculate" fairways.

Warren Bidwell is available to talk to your superintendents' group about Butler National Golf Course and the "Penn Pals," Penncross, Penneagle and Pennway Blend, on your golf course. Call or write TEE-2-GREEN Corp. for details. Penneagle blue tags earn cash or prizes.



Penneagle's Oregon certified blue tags qualify for cash awards to qualifying turf organizations for turf research. Call our toll-free number for details. Marketed by **TEE-2-GREEN Corp.,** PO Box 250 Hubbard, OR 97032 1-**800-547-0255** TWX **510-590-0957** Circle No. 148 on Reader Inquiry Card

#### JUNE 1987, VOLUME 26, NUMBER 6

# LANDSCAPE MANAGEMENT Formerly WEEDS TREES & TURF





18

34

#### **18 COVER STORY: SAFETY TO THE MAX**

More and more, athletic turf managers must know how hard their fields are. In this issue, we examine how to accurately measure the safety of fields. This test, though technical, may help avoid a lawsuit.

#### **30 THREE STRIKES, YOU'RE OUT**

A Landscape Management survey paints a bleak picture for athletic field managers. But some innovative managers are changing the scene.

#### **34 AQUATIC WEED CONTROL**

Use of aquatic herbicides is just one of five means of controlling water weeds. But three cooperative extension agents in Florida think it offers advantages the others don't.

#### **44 ATHLETIC FIELD PROFILES**

Those in charge of maintaining athletic fields at the high school level have problems their counterparts at colleges and in the pros don't. Here's how some of those problems are solved.

44 AN OLD MASTER

**49** THE ONLY GAME IN TOWN

**54** RESOURCEFUL RENOVATION

#### **58 TRACKING TRACTORS**

Selecting the appropriate tractor is an important purchasing decision. Here are some things to look for before making the big purchase.

#### **66 BUSINESS MANAGEMENT**

Purchasing . . . for price, performance and profitability . . . is not an easy task. Rudd McGary and Ed Wandtke discuss why.



LANDSCAPE MANAGEMENT, formerly WEEDS TREES & TURF, (ISSN 0043-1753) is published monthly by Harcourt Brace Jovanovich Publications. 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 455 East Praces, Ferry Road, Suite 324, Atlanta, Georgia 30305. Accounting, Advertising Production and Circulation offices: 1 East First Street, Duluth, Minnesota 55802. Subscription rates: \$25 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. Second class postage paid at Duluth, Minnesota 55806 and additional mailing offices. Copyright© 1987 by Harcourt Brace Jovanovich, 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 55806-9898.

ABP ♥BPA



44

#### DEPARTMENTS

- **4** NEWS/TRENDS
- **6** GREEN INDUSTRY NEWS
- **12 SHORT CUTS**
- 62 ON DESIGN
- 72 RESEARCH UPDATE
- 74 JOBTALK
- **76** PROBLEM MANAGEMENT
- 78 PRODUCTS
- 82 CLASSIFIED
- 92 AD INDEX
- 94 OUTLOOK



(HBJ) A HARCOURT BRACE JOVANOVICH PUBLICATION





## It's easy to spot reel quality

Tear off a corner of this page. Now, use a scissors to cut off the other corner. Notice a difference? It's the same difference you'll spot when comparing turf cut by reel versus rotary mowers.

Reel mowers cut grass like a scissors cuts paper. Cleanly. There's less bruising of the grass plant so your turf looks better.

John Deere has four new reel mowers that give your fine turf this lush look. All four are hydraulically driven to deliver better quality cuts in long grass, wet conditions, or over contoured terrain. Places where ground-driven reels fall short.

**The 303 and 305** are 3- and 5-gang pull-behind units. Both feature 30-inch floating cutting heads that mow down to <sup>3</sup>/<sub>8</sub>-inch and are available in 4-, 6-, 8-, and 10blade versions.

The 756 and 856 mount the same 30-inch reels on hydrostatic-drive John Deere traction units. Individual control of left, right and rear reels makes them perfect for areas where mowing around obstacles is a must. And, by simply removing the rear reel, both high-torque traction units can power other implements if needed.

For the name of your nearest dealer, or a free folder on all of John Deere's Golf and Turf Equipment call 800/447-9126 toll free (800/322-6796 in Illinois) or write John Deere, Dept. 956, Moline, IL 61265.

> The 20-hp 756 and 24-hp 856 Turf Mowers deliver a quality 86-inch cut with individually controlled left, right, and rear reels.

Like all John Deere reel mowers, the 305 Gang Mower uses hydraulically-driven reels that work better in long grass, wet conditions, or over contoured terrain.

#### Nothing Runs Like a Deere®



## NEWS/TRENDS by the Editorial Staff

#### PGR market belies product name

Growth in the Plant Growth Regulator (PGR) market recently has been anything but regulated, or slow.

PGRs work by inhibiting seed head development on plants while still encouraging leaf development and growth, a scenario that often keeps turf green well into the hot summer months.

Products such as PBI/Gordon's Embark and Monsanto's Limit have been helping to reduce mowing frequency and cost in many areas of the green industry, especially rights-of-way. "Application of Embark," says PBI/Gordon product manager Earl Tracy, "prevents the need to mow for six to eight weeks.'

And with costs in every area of turf care continuing to rise, a money saver is almost certain to become popular.

#### Survey says landscaping growth will continue

The 12th annual economic survey by the National Landscaping Association indicates that a majority of repondents believe the landscaping industry will continue to grow, most notably in residential landscaping.

For 1986, 70 percent of respondents reported increased sales in residential landscaping; residential renovation was up 61 percent; 65 percent reported increases in new commercial landscaping; just 33 percent reported increases in commercial renovation (53 percent showed no change).

When asked to forecast for 1987, 60 percent anticipated increases in new residential, 45 percent in new commercial. On the whole, respondents' business increased an average of

21.7 percent from 1985 to 1986, well above the 16.8 percent forecasted at the beginning of 1986. Respondents are predicting an increase of 16.5 percent from 1986 to 1987.

#### California a model for other state regulators?

■ It seems that California's enactment of Proposition 65 "toxics initiative" is setting off a string of potential regulations in at least 15 other states nationwide.

Carl Pope, co-author of the proposition and a Sierra Club member, says that he and Environmental Defense Fund leader David Roe are penning a "generic" model of Prop. 65 for use by other states.

"This is not something that is being pushed out of California," Pope notes. "We are getting questions from everywhere." Pope claims he has received inquiries from a number of states concerning pesticide regulation. Washington, D.C. based National Campaign Against Toxic Hazards is working to set up legislation campaigns in 15 states.

Prop. 65 and proposed legislation in other states are similar. But "these new ones will go further," says Toxic Hazards' John O'Conner.



Editor Jerry Roche, Cleveland Managing Editor Heide Aungst, Cleveland Assistant Editor Jeff Sobul, Cleveland Publisher Dick Gore, Atlanta Associate Publisher Ron Kempner, Atlanta Senior Vice President Tom Greney, Chicago Group Vice President Robert Earley, Cleveland Production Manager Carol Young, Duluth **Production Supervisor** Marilyn MacDonald, Duluth Graphic Design Kathy Swingle, Duluth Graphic Coordinator David Komitau, Cleveland **Circulation Supervisor** Gail Mantay, Duluth **Directory Coordinator** Michele Ford, Duluth Reader Service Manager Gail Kessler, Duluth **Promotion Director** Linda Winick, Cleveland

#### OFFICES

ATLANTA 455 East Paces Ferry Road Suite 324 Atlanta, GA 30305 (404) 233-1817

CLEVELAND 7500 Old Oak Boulevard Cleveland, OH 44130 Editorial: (216) 243-8100

CHICAGO 111 East Wacker Drive Chicago, IL 60601 (312) 938-2344

SEATTLE 1333 N.W. Norcross Seattle, WA 98177 (206) 363-2864

DULUTH 120 West Second Street Duluth, MN 55802 (218) 723-9200

#### MARKETING REPRESENTATIVES

**Dick Gore** Atlanta (404) 233-1817 **Ron Kempner** Atlanta (404) 233-1817 Jon Miducki Cleveland (216) 243-8100 **Robert Mierow** Seattle (206) 363-2864

(HBJ) HARCOURT BRACE JOVANOVICH PUBLICATIONS

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

# DEEP DOWN TURF PROTECTION WITH FILT INSECTICIDE

**'urcam 2½G** CAUTIO Turcam NOR AM

Now you have two choices-TURCAM\* WP liquid or new TURCAM\* 21/2G granular. Whatever your choice, TURCAM's advanced carbamate chemistry goes right to work knocking down white grubs, mole crickets, chinch bugs, sod webworms and many other destructive pests. TURCAM's federally-approved nationwide label provides these positive benefits...

- Fast action
- Good residual
- Easy to apply (liquid or granular)
- Cost-effective
- Odorless
- Doesn't tie up in thatch
   Doesn't damage turf or ornamentals

Powerful reasons for assigning TURCAM to your toughest turf pest control problems. For more information on TURCAM, including full labeling and recommendations for use, contact your local distributor or write to...



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

## **GREEN INDUSTRY NEWS**

## Toronto decides to go with artificial turf

Despite a strong push by grass backers, the Toronto Stadium Corp. has chosen to use an artificial surface in its new dome stadium. The Toronto dome will be the first in North America with a retractable roof.

Because of the roof's retractability, turf scientists agree that growing turf inside a dome is possible. Jim Watson, Ph.D., vice president of the Toro Co.; Bill Daniel, Ph.D., inventor of Prescription Athletic Turf (PAT); and Steve Wightman, sports turf manager of Denver's Mile High Stadium, addressed grass supporters and the Toronto Blue Jays' management earlier this year in Toronto.

The Stadium Corp. chose artificial turf despite a strong public support for grass. The *Toronto Star* asked readers to vote on the two surfaces. The results showed 4,515 people in favor of natural grass to 34 in favor of synthetic.

A confidential report by the Stadium Corp. stated that they chose artificial because:

• "To grow grass require a daily minimum of 50 percent of available daylight. This represents approximately, on average, six to eight hours of light per day."

• "The grass may not be able to withstand and recover from a series of back-to-back baseball and football games."

• "The natural grass systems require that the stadium not be used for other purposes immediately following the football season when time is required to remove the turf, and before the baseball season when time is required for resodding. There would be a minimum loss of a potential 25 revenue-generating days/year with a P.A.T.-type natural turf system. This would result in a projected loss over the first 14 years of approximately \$8.7 million."

• "The estimated cost premium of natural vs. artificial turf over the first 14 years of stadium use is approximately \$22 million."

• Plywood or another similar material must be placed over the natural grass to mount most non-sporting events. In the opinion of trade show experts, this would render this project a "second-class trade show facility" and would completely undermine its ability to attract world-class events.

• "There are major operational risks in installing a natural grass system in the Dome stadium. Such an installation would be unprecedented and there are no assurances that the grass would be in a suitable condition for opening baseball games. As no satisfactory warranties or guarantees are available, the Stadium Corporation would be required to assume the full risk for the major liabilities involved."

The testimony of Watson, Daniel and Wightman disputed many of the claims. Lighting depends not only on duration, but intensity of light. PAT marketers say turf would fare well with 35 hours of light per week.

Wightman can convert Mile High from baseball to football in 13½ hours. "We have overnight versatility and yet we have not sacrificed the safety and playability of the field," Wightman said.

Cost is another matter of interpretation. The Stadium Corp. included in its figures a 12-acre nursery at a cost of \$700,000. Sod could be grown at existing sod farms or nurseries and brought into the stadium.

Also, a new study by Robert Baade, a Lake Forest (Ill.) College economics professor, says that new stadiums produce few financial benefits for communities. Instead they "realign" economic growth.



Despite a vote of 4,515 to 34 by *Toronto Star* readers, the Toronto Stadium Corp. will put in artificial turf. SEED

### New bluegrasses replace two old Scotts' varieties

Two new varieties of Kentucky bluegrass developed by O.M. Scott & Sons—Coventry and Abbey—will begin replacing Bristol and Victa varieties, respectively, this year.

Coventry, under development since 1970, is an improved variety made from a cross of Gnome and an unreleased Scotts selection. In Scotts' tests, it has shown good shade tolerance and disease resistance. It will replace Bristol, introduced in 1976.

Abbey, developed at the company's Marysville, Ohio, research site, is adapted for both sun and shade. It can be used in a wide range of geographic locations. Abbey replaces Victa, a patented variety introduced in 1973.

Other recent seed introductions from Scotts include Ovation perennial ryegrass and Chesapeake tall fescue. Ovation, developed by Momersteeg International in Holland, was a top performer in recent national winter overseeding trials. Chesapeake, developed from four clones, three of which originated in Atlanta, has shown excellent heat and drought tolerance in Scotts' tests, lowering irrigation needs.

## A healthy lawn works like a sponge

The thicker the lawn, the more water it absorbs, according to research done by Penn State University turfgrass professor Thomas L. Watschke, Ph.D.

This absorption ability helps chemicals do their job, Watschke says.

"High quality turfgrass sites significantly reduce the total runoff," Watschke says. After more than a year's testing, sodded plots had 15 times less runoff than seeded ones. "This indicates that the surface soil structural effects (on seeded surfaces) do not correct themselves quickly," Watschke notes.

The 1,300-square-foot plots were so sponge-like that even under threeinch-per-hour simulated rainfall, not more than a half-gallon a minute came off the plots.

Watschke added that thatch or a large-pored layer of decaying grass on top of the soil provided a buffer to the "inflitration rate characteristics of the underlying soil," helping to reduce runoff.

## Is chemical lawn care a risk to pets?

It's not uncommon to hear of bird kills from the misapplication of pesticides. But such negligence can also kill larger animals such as dogs and cats.

LAWN CARE

Dennis Blodgett, D.V.M., Ph.D., of Virginia Tech, says it's rare, but possible to kill animals with lawn chemicals. "In reality, if you dilute and apply chemicals correctly, you won't cause a problem," Blodgett says. "Walking through a yard, the animal won't pick up much because of the footpads."

Birds are more frequently poisoned because they mistake chemical granules for seeds, Blodgett says. Eating a grub killed by an insecticide won't cause a problem.

Dogs and cats are hurt by chemicals when the true cholinesterase enzyme in the nervous tissue is deactivated. The enzyme, which is also found in humans, acts on insecticides in the body and the activity drops off. Organophosphates and carbamates can inhibit cholinesterase in the nervous systems.

Cholinesterase will regenerate in the body, but when regeneration is slower than exposure, the animal is in trouble.

Owners often expose their animals continued on page 8



#### **New Musser directors**

New directors of the Musser International Turfgrass Foundation, gathered at the GCSAA show in Phoenix earlier this year, are shown above. Left to right, they are Mike Bavier, CGCS, Illinois; Peter McMaugh, Australian turfgrass specialist; and Tom Burrows, CGCS, Florida.



The first time pesticide users actually come in contact with pesticides is at mixing. Therefore, caution must be exercised right at the outset to ensure caution against possible accident situations.

Four steps to mixing safety are pointed out by Bert L. Bohmont of Colorado State University in his book "The New Pesticide User's Guide." They are:

1. Always read the label and be careful to properly dilute the pesticide. Make sure you're working with the proper equipment, that you're wearing protective clothing, and that first aid equipment is available.

2. When handling hazardous pesticides, never work alone.

**3.** Be sure to mix chemicals in an outdoor or wellventilated location. Do not position your body over the seal or the pouring spout. Never tear open bags; under certain conditions, dusts and powders can billow up in large concentrations.

4. All quantities of the active ingredient should be measured accurately. Measuring containers and weighing scales should be kept where mixing is done. Measuring containers should be thoroughly washed and rinsed after each use.

"The New Pesticide User's Guide" is available through Reston Publishing, 11480 Sunset Hills Rd., Reston, VA, 22090.

"1-2-3" is a monthly department devoted to handling pesticides "by the numbers." to chemicals with flea collars, flea dips and injections. But a lawn care chemical could push the animal over the limit.

"As a lawn care person, you could spray and decrease the animal's cholinesterase level only 10 or 15 percent, but you could be the culprit and you'll get blamed for everything," Blodgett warns.

If this happens, Blodgett says the lawn care worker needs to find out how much the owner exposed the animal to other chemicals.

Cats are more susceptible than dogs to chemicals because of their grooming habits and because the enzymes in the body don't handle insecticides as well as dogs.

Problems rarely occur from a normal lawn treatment. The only real problems happen with an incorrect dilution which causes run-off into puddles that the animal drinks from.

To avoid animal poisoning, Blodgett recommends:

• Never apply pesticides if pets are in the yard. Simply refuse.

• Tell the client to keep pets out of the yard until the application is dry.

• Empty and turn over all feeding bowls, water dishes and bird baths.

• Water in granules thoroughly.

• Avoid the creation of run-off puddles.

• Avoid application of insecticide formulations near bird feeders.

You can tell if a pet is poisoned by symptoms such as vomiting, diarrhea, tearing eyes, constricted pupils, salavation, difficult breathing and uncoordination. Symptoms must occur within 24 hours of a lawn treatment to be related. If a poisoning occurs:

• Call a vet and/or poison control center. An injectable drug may be necessary.

• If the vet is not available, and the pet was exposed through the skin, bathe the animal in soap and water immediately. Rinse thoroughly.Be sure to wear protective gloves and an apron.

If the animal ingested the toxin, give it water or milk mixed with one teaspoon to two tablespoons of three percent hydrogen peroxide. Dosage depends on the animal's size. Do not use this treatment in severely depressed animals. Do not use if ingestion is past two hours.

You can also give a dog activated charcoal which can be bought over the counter. Always go by the children's dose on the bottle.

Blodgett spoke at the Landscape Expo in Chicago, Ill.

#### PARKS

#### Vandalism a problem for park managers

Jeff Bourne, chief of the parks bureau of the Howard County Department of Recreation and Parks, really knew how to get the people attending his vandalism session at the Landscape Exposition worked up. He just asked them what vandalism problems they had. Bourne did not have to say much after that.

The problems included graffiti, widespread trash, missing signs and a number of other annoyances. But what the vandalism caused most was frustration."People won't use the park if it isn't looking good," commented one attendee. "(The vandals') presence inhibits attendance at the park."

One attendee, who's company does landscaping for a housing development, noted that because of vandalism, when he requested funding for more shrubs, he got an answer like "What's the point? They're going to be torn up anyway."

His solution has been to charge rescontinued on page 16



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

F	or fas	test r	espor	nse, u	ise th	e pe	el-off	label	from	the	front	cove	r.				MANAGEMENT MY PRIMARY BUSINESS AT THIS LOCATION I (PLEASE CHECK ONE ONLY IN EITHER
N	AME				4.5			100			-	1					A, B OR C) A. LANDSCAPING/GROUND CARE AT ONE OF THE
T	TLE															1	FOLLOWING TYPES OF FACILITIES:
		12.23		PL/	80	E (	<sup>i</sup> ni	16		AB	101	1.15	-1-1	e		1	0005 Golf courses 0010 Sport complexes
100	RM -							-					-	-	-		0015 Parks
A	DDR	ESS.	P	2413	18	리리	0N	-	AR I	Vile.	14:		-14	0W	122	100	0020 Rights-of-way maintenance for highways, railroads & util 0025 Schools, colleges & universities
	ITY_																0030 Industrial & office parks/plants 0045 Industrial & office parks/plants
1			-					1.25					200	100		_	hotels/resorts 0050 □Cemeteries/memorial gardens
S	STATE ZIP											0060 Military installations & prisons					
T	ELEP	HON	E (		1												0065  Airports 0070 Multiple government/municipal facilities
					-	1000						123					Dother type of facility (please specify)
																	B. CONTRACTORS/SERVICE COMPANIES/CONSULTAN
101	115	129	143	157	171	185	199	213	227	241	255	269	283	297	311	325	0105 CLandscape contractors (installation & maintenance)
												11-11-12-21	1000	100000000		326	U120 LLanuscape architects
														299		100000000000000000000000000000000000000	0135 Extension agents/consultants for horticulture Other contractor or service
	10000															328	(please specify)
								100000				1000		301		329 330	C. SUPPLIERS:
	120					190										330	0205 Sod growers 0210 Dealers, Distributors
10.000	122	1000						1000		1000		1000		100000		331	Other supplier (please specify)
								1000000		10000		100000		1000000		333	
														1000000		334	Approximately how many acres of vegetation do you
111	125	139	153	167	181	195	209	223	237	251	265	279	293	307	321	335	maintain or manage?
112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336	What is your title? (please specify)
	127															337	I would like to receive (continue receiving) LANDSCAPE MANAGEMENT each month; YES  NO
114	128	142	156	170	184	198	212	226	240	254	268	282	296	310	324	338	LANDSCAFE MANAGEMENT Bach Month: TES
																	Your Signature:Date:

IANDSCADE

-----

## **BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 665 DULUTH, MINNESOTA

POSTAGE WILL BE PAID BY ADDRESSEE

## LANDSCAPE MANAGEMENT

POST OFFICE BOX 6049 DULUTH, MINNESOTA 55806-9749

հետեհետեհաներեսեն



NO POSTAGE NECESSARY IF MAILED IN THE

UNITED STATES