

**'The best greens I  
ever putted on'**

Harry Anderson, Greens Chairman  
Wilmington CC, Delaware



David Kroll, CGCS, inspects one of 18 PennLinks greens at Wilmington CC, Delaware

## PennLinks creeping bentgrass – working wonders at Wilmington

**New bentgrass variety provides a truer putting surface at Wilmington CC.**

When David Kroll, CGCS, was dealt the problem of bentgrass

*This Wilmington green was seeded in early '60s with poor quality seed fraudulently labeled Penncross. All the greens deteriorated to the point that they had to be entirely renovated.*



deterioration on the greens of this prestigious country club, he called in the experts to help. The greens could not be salvaged, so they were treated with methyl bromide and completely re-greened.

Dr. Joe Duich, Penn State University, suggested seeding with a bentgrass coded PSU 126.

Two and a half years later, the greens look great and with PennLinks' more upright growth pattern, putt like a dream. That experimental variety is now named PENNLINKS, and is available in limited quantities.

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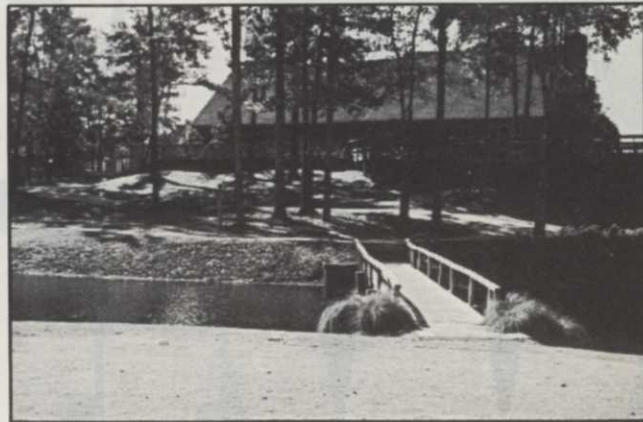
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# WEEDS TREES & TURF

The Magazine of **LANDSCAPE MANAGEMENT**



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**28 COVER STORY: WHERE WERE YOU IN '62?**

WEEDS TREES & TURF turns 25 this year. To celebrate the quarter-century mark, we take a look back and look toward the next 25 years in the turf industry. This month, the subject is chemicals.

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Many golf course superintendents could be uttering that phrase in the not-too-distant future. But it's not water they'll be drinking.

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Fertilizers have a definite impact on root growth, carbohydrate reserves and stress tolerance. The dedicated turf manager closely monitors his fertilizer application timing, rate and method.

**60 ENDOPHYTES: AN UPDATE**

In 1983, WEEDS TREES & TURF first reported on insect-resistant turf containing endophytes. Today, researchers are discovering more about the fungus.

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Rich in tradition, Druid Ridge cemetery in Baltimore is a unique 230 acres. Its unique head landscaper could be the reason.

**80 DIVINE DIVISIONS**

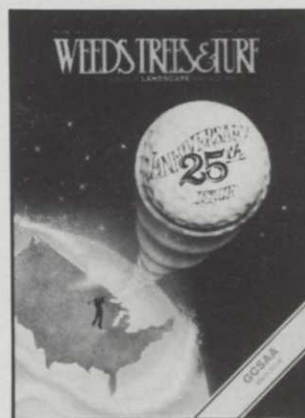
More and more, major companies are moving their division headquarters to country settings. Here's a look at what AT&T and Mobil Oil have done.

**88 PAY AS INCENTIVE**

Good salaries alone are not enough to motivate employees. Special incentives should be required for exceptional performance.

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Cover illustration by Joel Rogers

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 Paces, 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 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. 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 WEEDS TREES & TURF, P.O. Box 6198, Duluth, Minnesota 55806-9898.

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## A new hazard to avoid on the links

■ Real estate and golf course developers are giving new meaning to the phrase: "playing in your own back yard."

It is becoming increasingly common to see private golf courses being designed around housing communities, stirring changes in both the way we play and the way we live.

National Golf Foundation figures show that in 1985, 39 percent of the nation's 13,000 golf courses were private, but this is changing. "Golf courses can convert marginal land into prime land," John Rooney, a professor at Oklahoma State University, said in a *Wall Street Journal* article.

Gerald Barton, CEO of Landmark Land Co., a leading developer of golf communities, echoes the sentiments of many would-be homeowners. "I've never hit a golf ball, and I don't know anything about the game," he says. "But I'd like to live on a golf course."

Golf legend Jack Nicklaus has also gotten in on the act. A 3½-year partnership with Tampa businessman J. Robert Sierra has led to a number of these communities, including six presently in the works. All include high-priced private housing built around a Nicklaus-designed course.

Work began on one of these projects, the Country Club of the South near Atlanta, last year. The 800-acre, 600-family community, built around a 200-acre golf course, will be walled or fenced, with 24-hour security.

Although the golf course is expected to be the loss leader, profits from the land sale will more than make up for it. The total project cost is estimated at \$45 million, with projected property sales of \$78 million. Of the 200 lots in the first-lot phase, 165 have sold. Sierra expects the project to take eight years to sell out.

## The natives are restless and growing

■ Native wildflower gardens are sprouting up around homes across the country. Homeowners are taking advantage of a wide range of American wildflower and shrub species with texture, color, size and shape to match anything from around the world.

"Until recently, nurseries, and garden centers didn't carry many native species; and to landscape architects, using native species was a novel idea," says Leo Collins of the Tennessee Valley Authority (TVA).

This new American revolution is still in its infancy, though. About 80 percent of all nursery and garden material available in the TVA area is still exotic. But, Collins says, wholesalers and retailers are beginning to adjust to consumer changes.

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## LAWN CARE

### Is new protective clothing on the horizon?

Personnel from Dow Chemical Co. will be investigating the possibility of a new protective leg sleeve for liquid pesticide applicators, according to Dow's Dr. Jim Vaccaro.

"The lawn care industry has the greatest exposure to chlorpyrifos (Dursban) than any other industry, mainly on the lower leg," Vaccaro told LCOs who attended the Professional Lawn Care conference in Baltimore. "But a sleeve can be constructed to limit LCOs to practically no exposure. We are going to a clothing manufacturer to see what the possibility is of getting this type of protective clothing made. Then we're coming to the lawn care industry."

Vaccaro said that pants serve as protection. But, he warned, "when they become saturated, they act like a cuff and actually push the material through the skin."

According to Dow research conducted by Dr. Vaccaro and his associates, the average lawn care applicator is exposed to 241 milligrams of material per working day, including about 135 milligrams on the skin. Hand/wrist deposits account for 44.9 per-



**Dr. Jim Vaccaro: "a sleeve can be constructed"**

cent of the exposure and lower leg deposits account for 42.4 percent. However, urinary biomonitoring tests reveal that only two milligrams is absorbed into the body, nearly all of which quickly passes through the

human waste system.

The Threshold Limit Value (TLV) for human exposure to chlorpyrifos is 2,400 milligrams per working day. That is the highest amount of chlorpyrifos a person could be exposed to every working day for a working lifetime without having any adverse effects.

In another development at the PLCAA show, 35 percent of the LCOs responding to a *Lawn Care Industry* magazine survey say that they will copy ChemLawn this season and post signs after applying pesticides to residential lawns.

ChemLawn, the nation's largest lawn care company, said late last year that it would post every home it treats this summer, in the face of continued negative publicity about lawn care services.

The survey also revealed that 28 percent of the LCOs responding to the written questionnaire believe phenoxy herbicide use would decrease in 1987, though 55 thought it would remain the same. The remainder (17 percent) think it will increase.

## PRODUCTS

### Overhead valve new for Briggs & Stratton

Briggs & Stratton will unveil its first overhead valve (OHV) engine, the first in its class, this month at the Phoenix Golf Course Superintendents trade show.

The 12½ hp vertical shaft engine was designed specifically to supply the commercial turf equipment and premium consumer tractor and riding equipment markets, niches that have lacked engine options.

"This new OHV is a result of feedback we got from customers, end product users as well as our original equipment manufacturers," says Douglas W. Anderson, Briggs & Stratton vice president of sales.

The result is that the new engine delivers more power than other engines rated in this power range. "What we are especially pleased with," says Anderson, "are the winning features that our customers told us they wanted—a powerful engine in a compact configuration, quiet, with good sound quality, and just about vibra-



tion-free."

The Briggs & Stratton engine design includes full pressure oil lubrication, a system which can also allow extension of maintenance intervals, and fuel and oil efficiency.

"A major key to this engine, and others planned for the entire line," explains Patrick Reardon, Briggs & Stratton marketing manager, "is in the torque rise. This engine responds

to meet varied cutting conditions without stalling or backing down."

The new engine provides a tapped hole that could be attached to an oil pressure switch, two-quart oil capacity and an optional spin-on oil filter. All user-serviceable parts are accessible from the top to make regular maintenance convenient. A grass-ejecting intake screen prevents the plugging of air cooling passages. The engine's governed idle feature allows blade engagement at idle speeds.

Cooler carburetor temperatures are assured by the ducted intake; the low mounting of the carburetor allows for the use of a larger gravity-fed fuel tank and helps prevent vapor lock.

The engine has an optional fuel pump and can be equipped with either single cable control or separate choke and throttle controls.

The engine, now in field testing and evaluation, will be available on equipment in late 1987.



Kevin Hyland (left) and George Bigham test the Mod Sod practice green at Oakwood Country Club.

#### GOLF

## Artificial surfaces developed as possible alternatives to sand

At least two types of artificial surfaces are available in the golf industry as alternatives to sand greens.

One, Mod Sod, is being used at Oakwood Country Club in Cleveland, Ohio. The other, OmniGreen, is getting good results at Tennis Courts of New Hampshire in Tilton, N.H.

"These (artificial surfaces) are much better than you think," says Rich Labarre, operations manager at Tennis Courts of New Hampshire. "We've installed a dozen or more with complete satisfaction."

George Bigham, club pro at Oakwood, says that Mod Sod greens can be designed for any speed. The practice green at Oakwood stimps at nine. "It's best in high-volume situations when maintaining greens is cost-prohibitive," he notes.

Besides use as a golf green, these artificial surfaces can be used indoors in pro shops, for golf car paths or for driving range tees.

Mod Sod was invented by professional golfer Fred Haas. It consists of 1 $\frac{3}{8}$ -inch polypropylene fiber filled

with sand. The sand, usually dyed green, is then highly compacted to provide whatever speed is desired. The fiber is UV-stabilized and comes with a five-year guarantee.

Mod Sod's base is a patented combination of sand, cork, rubber and other ingredients. Kevin Hyland of Hyland Landscaping in South Euclid, Ohio, says the combination prevents compaction, which is prevalent in sand-only bases.

Mod Sod is sold in the United States by Bigham and Hyland. For more information, call Bigham at (216) 291-0679 or Hyland at (216) 382-4438.

OmniGreen, which is featured at Wee Links Golf Course at Walt Disney World, comes in three sizes and two shapes. It is sold as "a beautiful addition to your backyard." The product is made of a patented Omnifiber surface with a specially formulated sand dressing and is endorsed by the PGA Tour.

OmniGreen is manufactured by Sportec International. For more information, dial (800) 835-0033.

The recent negative attack on chemicals is unfounded, according to Dr. John Kaufmann of the Monsanto Chemical Corp. research and development department.

"We've got to go beyond the idea that we can wow people with statistics as to how safe chemicals are," Kaufmann told the Missouri Lawn and Turf Conference. "All chemicals are toxic. The degree of injury is related to the amount to exposure. All chemicals can be used safely if the exposure is controlled to prevent toxic effects."

Kaufmann says first the applicator needs to be aware of how exposure happens.

Applicator exposure occurs in two ways:

1. Handling and mixing;
2. Application.

Environmental exposure also occurs in two ways:

1. On-site targeting through
  - foliar absorption;
  - thatch absorption;
  - soil absorption.
2. Off-site movement through
  - vaporization;
  - soil penetration;
  - runoff.

Kaufmann gives these helpful hints for avoiding exposure problems:

1. Always read the label.
2. Observe all precautions.
3. Apply the chemical according to label directions.
4. Know the product's benefits and safety features.
5. Share this information with your customers or golf course members.

Kaufmann quotes Bruce Ames, of the University of California at Berkeley, who says that "more than 99 percent of the carcinogens are from naturally occurring substances. Less than one percent are man-made."

"1-2-3," a column describing pesticide safety "by the numbers," is a regular feature of WT&T.

#### HERBICIDES

## Harvard disputes Kansas 2,4-D study

Noted American philosopher and former professional baseball player Yogi Berra once said: "It ain't over 'til it's over." This statement seems to apply well to the 2,4-D controversy.

A recent report in *Agrichemical Briefing* newsletter states that one of four EPA commissioned studies,

this one done by Harvard epidemiologist Brian MacMahon, disputes the conclusions reported in the original Kansas/National Cancer Institute study, which linked the herbicide to cancer. The other three studies have given conflicting

*continued on page 11*



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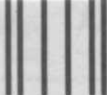
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