

Four of the world's best turf care products. The Hahn Tournament Triplex.

The Hahn Tournament Triplex® is more than just a pretty face. Underneath her beauty lies the hardest working greensmower on the course.

She's first of all an excellent greensmower. She manicures greens with the precision demanded by the fussiest golfer. But that's expected from a Hahn greensmower.

What makes the Tournament Triplex different are the three other systems you get when you use her interchangeable cutting heads.

1. The patented *Verti-Cut® Units* for removing thatch and grain before they form. 2. The *Vibra-Spiker® Heads* that eliminate the back-breaking ordeal of "summer aerification." 3. The Utility Units for approach and tee mowing . . . or greensmowing after top-dressing.

Ask your Hahn distributor for a demonstration ride on our beautiful "Greens Management System." She's in a class all by themselves.

Hahn

TURF PRODUCTS

Turf Products • Outdoor Products
Agricultural Products
The 3 growing divisions of HAHN, INC.
1625 N. Garvin St., Evansville, Indiana 47717
world-wide distribution



Photographed at Oak Meadow Golf and Tennis Club, Evansville, Indiana.

The 56th PGA National
Championship was played on
PENNCROSS greens!

PENNCROSS BENTGRASS
the greens that made beautiful
TANGLEWOOD
Playable and Professional

- Today's most popular, widely adapted variety
- More genetically uniform and poa-free seed
- Germinates fast, establishes quicker, thicker
- Superbly consistent, less grain for true putts
- Greens up earlier, holds summer color better
- Proven poa annua and disease competitor with vigor to withstand heavy play
- Best bentgrass for year around putting in the south
- Upgrade greens by overseeding



**PENNCROSS
BENT GRASS**

THE GRASS
DESIGNED
FOR GOLFING!

world wide distributor

TEE-2-GREEN CORP.

1212 WEST EIGHTH STREET
KANSAS CITY, MISSOURI 64101

WEEDS TREES and TURF®

January 1975, Vol. 14, No. 1

THE COVER—The finishing touches are completed on the All Seasons Country Club golf course at the Lake of the Ozarks. The new \$1 million "dream course" was financed by Harold Kopljar, owner of Kopljar Enterprises, Inc., of St. Louis.

One Million-Dollar Challenge—Carving a 71-par golf course from solid rock is an economic challenge as well as a physical one. But four years and one million dollars later, a Robert Trent Jones dream course becomes a reality **10**

Protection from the Unpredictable—Drying winter winds and ocean salt sprays take their toll among landscape plantings. Antidesiccants, which have primarily been considered transplant protection chemicals, are now being incorporated into a four-season customer spraying service **12**

Slow Release IBDU—Promising New Tests—Turf Specialist, Dr. William Daniel, relates seven years of research data on Swift's new slow releasing fertilizer **14**

Quarter Century for Irrigation Association—A report on Sprinkler Irrigation Association's 25th annual meeting in Lake Buena Vista, Florida **18**

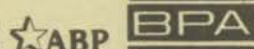
Systemic Fungicides—their role in turf disease control—How do systemics control diseases? When is the best time to apply? The somewhat vague field of systemic fungicides is explored in depth by Richard W. Smiley **30**

Motivating the Turned-Off Employee—part two of a series of employee management articles. Dr. John L. McKeever continues his discussion of the basic needs of man and introduces goal achievement as a means of satisfying these needs **44**

Editorial	6	People on the Move	40
Government News/Business	8	Meeting Dates	52
Guest Editorial.....	23	New Products	70
Industry News and Newsmakers	24	Classifieds	73
Letters to the Editor.....	28	Advertisers	73
Commercial Sod Industry	30	Trimming	74

Copyright© 1975 by The Harvest Publishing Company

Member, American Business Press,
Business Publications Audit



Single Copy Price: \$1.00 for current and all back issues. Foreign \$1.50. Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. and Canada are \$10.00 per year; other countries, \$12.00 per year. Controlled circulation postage paid at Cleveland, Ohio 44101.

Editorial Director
Donald D. Miller

Assistant Editor
Roger E. Yount

Assistant Editor
Jean A. Rohrer

President
Hugh Chronister

Publisher
Arthur V. Edwards

Director of Circulation
D.D. Langley

PRODUCTION SERVICES

Advertising Production
Darrell Gilbert
9800 Detroit Avenue
Cleveland, Ohio 44102
216+651-5500

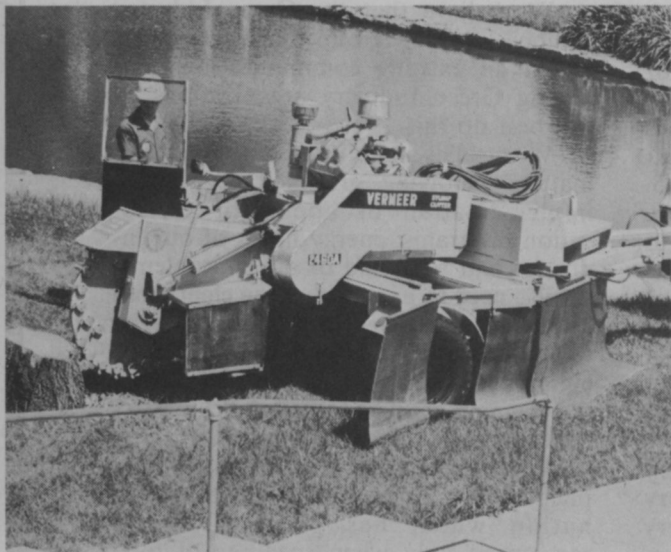
ADVERTISING SALES OFFICES

HEADQUARTERS
Cleveland, Ohio 44102
9800 Detroit Avenue
216-651-5500
Jean Neuendorf
Executive Assistant
Richard H. Swank

New York, N.Y. 10017
757 Third Avenue
212-421-1350
Russell B. Bandy

WEEDS TREES and TURF is published monthly by The Harvest Publishing Company, a subsidiary of Harcourt Brace Jovanovich, Inc. Executive, editorial offices, 9800 Detroit Ave., Cleveland, Ohio 44102. Phone 216-651-5500.

chew out stumps without eating up budgets with Vermeer Stump Cutters



Reduce the cost of labor on your stump removal projects and you minimize the single, most expensive item in your budget. That's why "The Diggin' Dutchman"

built a complete line of labor-saving Vermeer Stump Cutters. With just a single operator and one Vermeer Stump Cutter, you can chew large stumps to chips in minutes. Its big hydraulically-controlled cutting wheel handles the entire job . . . much faster, easier and more economically

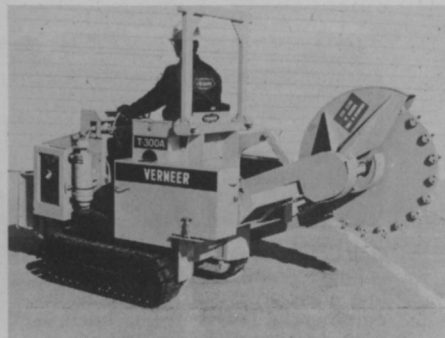
than a whole crew. You save thousands of dollars annually, because a Vermeer Stump Cutter runs on a tankful of gas, not a handful of costly paychecks.

"The Diggin' Dutchman" has a machine to fit your operation . . . and your budget. Write, or better yet, call him today (515/628-3141) for a free demonstration.



VERMEER THE DIGGIN' DUTCHMAN

VERMEER TREE EQUIPMENT DIVISION
7201 NEW SHARON ROAD • PELLA, IOWA 50219



A great preventative maintenance machine! Vermeer T-300A with Root Cutter severs tree roots down to 18 in. deep to prevent sidewalk/roadway buckling.



Here's instant log disposal. Vermeer 671 Log Chipper takes lumber, railroad ties, telephone poles and chews 'em to chips in minutes. All hydraulically operated.



Vermeer Log Splitter . . . dependable, portable, hydraulically-operated unit splits logs up to 30 in. high in seconds. Great for parks, tree firms and firewood companies.

For More Details Circle (106) on Reply Card

'75 may be the year we mature as an industry. We have problems which — once solved — will be convincing proof we've been tried by fire.

We have the energy problem — contributing to inflation. Summed up, this means we will face the same critical parts shortage for equipment we faced early last year. We will pay more for parts and for all inputs.

Yet, despite this situation business is good. Most suppliers and manufacturers we deal with are projecting a good '75. These projections when backed by more care directed toward efficiency promise to hold up.

Quite frankly, we believe the major problems during '75 will continue to be the battle of communications — a fight which pervades the political and governmental areas affecting the industry.

When we speak of communications — we have to consider the need to get every entity within our industry — every national and state organization, every regional group, every commercial enterprise — to speak as one to those who, for example, criticize the use of chemical fertilizers for green areas without con-

sidering the fact that much of the Green Industry technical compound tonnage is not economically feasible for agricultural production of food products. We have to continue the fight for labels to fill the specific needs of the business.

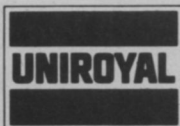
We believe that the Green Industry Council — a new group which seeks only to fill an existing communications gap among Green Industry organizations — can best do this.

We need as an industry to give voice to matters involving greenbelt legislation, implementation of applicator certification programs, energy needs of our industry, and a myriad of other problems.

We need to back with some clout those people in government and those in legislative bodies who understand the contribution our industry makes to society and to the common good — including the massive number of jobs this green industry provides.

We are a little agriculture phenomenon; an economic bulwark to the nation which has previously been recognized only when speaking of food and fiber production.

We firmly believe that '75 can be our year both politically and economically.



SLO-GRO®...now more than ever the key to lower mowing and pruning costs.

If rising labor costs are keeping you from doing the kind of mowing and pruning job you know should be done, maybe the answer you're looking for is Slo-Gro.

Slo-Gro is a unique chemical growth retardant that economically controls the growth of trees, grass, shrubs and ivy. In tough-to-control areas, Slo-Gro can usually do the job

better, and at less expense than mechanical methods.

It's fast, systemic, safe, and produces no persistent residue. For complete details write: Uniroyal Chemical, Division of Uniroyal, Inc., Naugatuck, CT 06770.

As with any growth regulant, always follow instructions on the label.



Roadside Grass Control. Slo-Gro is recommended for use on all "commercial" turf areas that require regular maintenance, but are difficult to mow. Maintenance situations like highway medians, airfields, steep embankments, ditches, and grassed areas around fences and guard rails.



Growth Control on Trees. Slo-Gro inhibits tree growth by stopping the terminal growth of woody plants. Primary applications include control of tree size under power lines, along streets, or wherever excessive foliage is a problem.



Golf Course Maintenance. While Slo-Gro is not recommended for general use on fine grass areas such as residential or commercial lawns, it has been used extensively on golf course roughs. It can also be used in conjunction with herbicides wherever weed control is required.

The head that runs circles around everybody else's.



TORO[®]

THE SERIES 300 STREAM ROTOR

COVERAGE . . .

- Low precipitation rate provides easy soil absorption . . . prevents wasteful wet spots and run off.
- Covers areas up to 60' in diameter accurately, efficiently.
- Rotating streams counteracts windy conditions.
- 3" spring-loaded pop-up nozzle . . . means efficiency even in high grass.

DURABILITY . . .

- Sealed, gear-driven assembly of Du Pont Delrin[®] and hydraulic operation mean less wear and tear.
- Smaller, lighter than competitive heads . . . made of tough non-corrosive Cyclocac[®], the football helmet plastic.
- Pop-up nozzle pops down below grass level, minimizing accidents and vandalism.

- Large easily-serviced basket screen prevents plugged nozzles.

SAVINGS . . .

- Fewer heads required with up to 37' triangular spacing.
- Fewer valves needed with wide spacing and low precipitation rate.
- Reduced installation costs.
- Improved efficiency conserves water.

The 300 Stream Rotor is offered in three sizes, with a variety of arcs. **Now also available as a shrub head.**

Write for a FREE descriptive booklet today:

Stream Rotor
The Toro Company, Irrigation Division
Dept. W-175, P. O. Box 489, Riverside, CA 92502



Government News / Business

Diamond Shamrock has established a fifth regional sales office for its Agricultural Chemicals Division in Houston, Texas. The new office will handle all sales and service requests for those customers located in: New Mexico, Texas, Oklahoma, Louisiana, Mississippi, Arkansas and Western Tennessee. The new address is: 1006 Main St., Houston, Texas.

Department of Labor's 15-member Standards Advisory Committee on Agriculture has added eight new members. Labor Secretary, Peter J. Brennan, said the reconstituted committee will continue to develop and recommend to OSHA standards to protect agriculture workers from on-the-job injury and illness. The committee includes four representatives each of employees and employers, two representatives of the federal and state governments and three representatives of the general public. The eight replace former members whose terms have expired.

International Harvester recently established a Service Maintenance Agreement covering its Outdoor Power Products. The agreement is for sale with new consumer machines covering a period of one year and may be renewed for a second and third year period. The coverage becomes effective on the date of delivery as established by the company's CH 223 Warranty and Delivery Registration Form.

All pesticide producers must register with EPA regardless of where they intend to market their products. Makers and importers of pesticides for interstate commerce had to register last year under the law which set the deadline of October 21, 1974 for registering makers of products for local sale only. EPA expects 3,000 to 4,000 registrations from firms in the local category, although exact figures are not known. The purpose of the regulation is to make local pesticide standards more uniform across the country and to enable EPA to gauge what pesticides are being sold within state borders. Producers failing to comply will be subject to civil or criminal penalties.

New noise level legislation has been proposed by the Department of Labor for protection of workers against occupational noise. The new proposal would retain the present limit of 90 decibels over an eight-hour period but would initiate audiometric testing for workers exposed to 85 decibels or higher. OSHA boss, John H. Stender, said the added requirement "recognizes that comparatively more employees would be at a lower risk level if eight-hour exposures were limited to 85 decibels, but we would take into account technical feasibility and economic problems associated with the lower level." Stender proposed to retain the 90 decibel level until more data can be accumulated that clearly dictates the necessity of a change.

USDA has opened a new office to assist in registration of minor-use pesticides. EPA cooperated by assigning a man to the new office to assist in the registration program.

EPA is also increasing their pesticide labeling program for minor-use crops. Indications are that pesticides will be classified under group labeling by pest or by grouping of plants.

A burst of brilliance... Fylking for the World's Fair!

Fylking Kentucky bluegrass is a superior, elite bluegrass that burst like a star on the scene in the sixties!

Since then Fylking has established records making it the perfect choice for the official grass at the environmental World's Fair, Expo '74.

Fylking has proven to have superior resistance to disease and drought; withstands traffic. Its thickly woven rhizome root system develops dense sod so quickly Fylking can be lifted in 90 days. Fylking can be mowed at 3/4 inch (even 1/2 inch) and thrive. It absorbs carbon dioxide pollutants, gives off oxygen, cools air by releasing water vapor.

A superior mixer, Fylking greens up earlier in spring, stays greener in summer heat, remains green longer into fall.

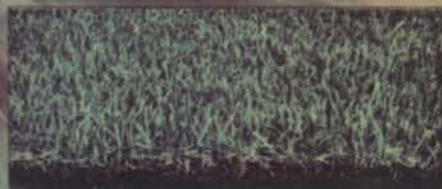
Choose Fylking and your customers are getting a grass good enough for a World's Fair!



FYLKING KENTUCKY BLUEGRASS

U. S. Plant Patent 2887

Another fine product of Jacklin Seed Company



Fylking's rhizome root system develops so thickly, under ideal conditions sod can be lifted in 90 DAYS.



Low growth, short leaf sheaths and abundant tillering of Fylking (right) compared with another elite bluegrass plant.



Cross section displays thick, luxuriant turf, fine leaf texture and brilliant green color of Fylking.

ONE MILLION-DOLLAR CHALLENGE

By GARY T. GRIGG
Course Superintendent
All Seasons Country Club

BEFORE THE FIRST golfer pitted his skills against the 6,607-yard-long All Seasons Country Club Golf Course, the Robert Trent Jones-designed complex already had proven itself a solid adversary.

The championship course did so almost daily throughout the 3½ years it took to sculpt it out of 100 acres of shale and flint rock along the shore of the Lake of the Ozarks in mountainous southern Missouri. Construction of the \$1-million project reads like a page from Ripley's "Believe It Or Not."

Although carving the 71-par course from solid rock was the greatest challenge, our first obstacle was to clear away 150 acres of timber. However, we salvaged trees that framed or separated the 18 holes along the course's ridges, inlets and bays.

It took a year to clear the wooded land. Trees were bulldozed down and hauled away after being cut into small pieces with chain saws. Tree stumps were burned and the debris also was hauled away.

Once the land had been cleared a crew of 50 men began shaping it into the golf course Robert Trent Jones had envisioned. The first step was to level or deepen the land by blasting with dynamite. We did so because the course had been designed so every green would be visible from its tee-box.

It took almost seven months to reshape the topography and almost every hole was altered by blasting. On the 17th fairway, for example, workers blasted away almost 14 feet of solid rock.

The next task was to dig ten miles of trenches to install our Binar automatic irrigation system. We used a trenching machine and bulldozer to dig the trench in shale, but needed dynamite to rip through flint rock. A crawler-type drill punched holes in the fairways for the charge and the explosions produced a jagged trench. After cleaning the trench, we laid underground irrigation lines and packed them with sand and pea gravel so expansion of the pipe would not shaft it against the rocks.

We purchased and hauled in more than 120,000-cubic-yards of soil for the fairways. We purchased the dirt from a catfish farmer seven

miles away who wanted his pond cleaned. We drained the pond, let the bed dry out in the sun and then cut a foot of silty, acidic clay soil from the bottom.

Because soil in the Ozarks has a high clay content and is acidic (4 to 4.8 pH), we put down six to eight tons of agricultural lime per acre. We added the lime by discing it into the soil, mixed it well and harrowed it. Incidentally, soil samples taken in mid-August ranged from 5.8 to 6.5 pH so the lime apparently has buffered our soil.

It cost \$250,000 to acquire and haul the soil. Six trucks hauled earth around-the-clock in two ten-hour shifts from May through November 1973. Dirt was spread just prior to seeding to prevent unnecessary top soil erosion.

The greens construction was more conventional, because they were designed to conform to United State Golf Association specifications. Greens were under-drained with plastic corrugated drain on top of which we had 4 inches of gravel. Then we applied 12 inches of mix and followed the rough contours laid out by Jones and his men. The next step was to board-float the greens behind a sandtrap rake.

Jones suggested that we not use soil in our mix. The mix we used was 80 percent sand and 20 per cent peat and the greens are beautiful. In my opinion, a sand and peat mix gives great drainage and aids in deep roots. For example, our root depths ranged from eight to ten inches this year. In constructing the greens, we had to haul in 8,000-cubic-yards of sand and 1,600-cubic-yards of peat. We purchased peat from Northern Indiana.

We mixed seed with wood-fiber mulch and put plastic binder into the mulch to make it more water-resistant by binding the mulch together. We initially applied an agricultural fertilizer (12-24-12) on fairways, greens and tee-boxes to aid growth.

The mixture was blended into a water slurry in a 3,000-gallon tank mounted on a truck. The mixture was pumped onto the fairways with a high-pressure gun. Then we watered 15 minutes every two hours. Because the seed had to germinate in mulch, we continued the watering program two weeks. Incidentally, thanks to rye and the bluegrass varieties, we obtained a ground cover within a week.

(continued on page 54)