

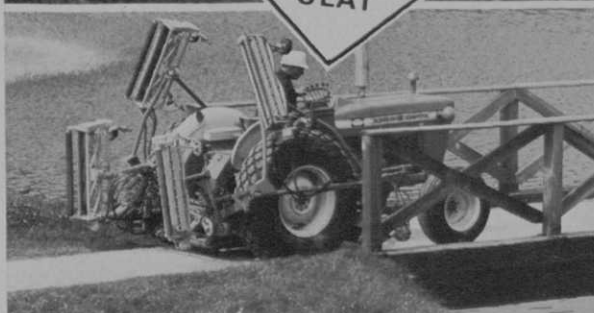
ROSEMAN INTRODUCES

New 7-Gang Hydraulic Power Driven Reel Mower

*Beginning
a New Era in
Turf Mowing!*



**RAISED WITH
FINGER-TIP
CONTROL
FROM
TRACTOR
SEAT**



From operators position all mowers are quickly raised to 8' transport width.

The Roseman 7 unit Hydra-Gang Mower utilizes the tractor power take-off system to power the cutting reels and the tractor hydraulic system to provide hydraulic lift for each mower unit. The Hydra-Gang mounts on Ford 2000 and 3000 All Purpose model tractors.

Drive power for reels taken directly from the tractor engine eliminates need for excessive draw bar pull and minimum weight for traction. Hills and banks can be mowed easily regardless of soft or wet turf conditions. Individual mower units follow ground contour with unlimited flexibility without scalping. Cutting height is gauged by ground reference to provide even cut over undulations.

30" per unit. Cutting swath varies for 3, 4, 5 and 6 mowers with maximum of 15' for 7 gang.

Mowing time is greatly reduced with a minimum of repair maintenance. All hydraulic components are manufactured to ASAE standards. The complete mower and linkage assembly can be removed from the tractor permitting general use of the 3-point utility features of the tractor.

ROSEMAN MOWER
CORP.

Nation-Wide Sales and Service

2300 CHESTNUT • GLENVIEW, ILLINOIS 60025

GCSAA

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Smithco, Inc., features the *Red Rider* line of loading and operating work carts.

MOWERS

Excel Industries, Inc., makes the *XL-272 Hydrostatic Hustler Multi-Mower*, which features as standard, an 18hp Kohler, two-cycle air-cooled engine, hydrostatic transmission for each drive wheel, attachment hitch, electric clutch and locking attachment for parking, among others.

Flymo is exhibiting multi-use air cushioned mowers for greens, bunkers, sand traps and generally hard to reach places.

Ford Tractor Operations has a complete line of grounds maintenance tractors. Introduces the heavy-duty *Flail Mower* and the *340 Compact Loader*.

Hahn, Inc., features the *Tournament Triplex Greens Management System*, used for greens cutting, tee and collar mowing, spiking and verti-cutting. Unit is self propelled.

Hahn is also the exclusive distributor for **Ransomes Sims & Jeffries, Ltd.**, of Great Britain. Ransomes' hydraulic *Versa Cut* gang mower for large area mowing is featured. Has instant height of cut, variable reel speed, hydraulic powered reels, instant back lapping from operator's seat. Also showing *Quick Release Reels* for easy maintenance.

International Harvester Company will show five industrial tractors and allied equipment, featuring the low-profile *2400A Lo-Boy* with three-point hitch.

Locke Mfg. Div. will exhibit its riding greens mower, *Tri-Plex*, with fully articulated cutting heads for maximum ground contour tracking; *Locke Maxi*, 87-inch cut with hydrostatic drive.

Mott Corp. features hammer knife safety flail mowers in either self-propelled or powered trail-behind for small tractors. The flail mowers are for mowing lawns, shredding weeds, mulching leaves or renovating turf. Also *Simplicity 4040* tractor.

National Mower Company features 84- and 68-inch triplex green mowers with Briggs & Stratton engines, full pneumatic tires and power driven free floating cutting units.

Ransomes Sims & Jeffries, Ltd., See **Hahn, Inc.**

Roof Mfg. Company makes a complete line of walk-behind mowers in cut sizes from 21 to 30 inches, and 60-inch commercial riding mowers.

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Why Use Oregon FINE FESCUES for Overseeding?

FESCUES Fare Well During Dry Spells
OREGON FESCUES Grow Well in Shade
FAST GERMINATION - Blends With Other Grasses



THE FAIRWAY GRASS . . .

WHEN
WATER'S
SHORT . . .
FESCUES
KEEP ON
GROWING

FREE OVERSEEDING BROCHURE

FILL OUT COUPON, CLIP and MAIL TO:

OREGON CHEWINGS AND
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OREGON CHEWINGS AND CREEPING RED FESCUE COMMISSION

1349 Capitol St. N.E., Salem, Oregon 97303



THE HAHN TOURNAMENT GREENSMOWER

A GREAT PERFORMER COSTS LESS IN 1973!

Two full years of proven acceptance for the Hahn Tournament "Management System" approach to greensmowing have resulted in development of an additional vehicle called the Tournament II. It gives you the same outstanding performance as our Deluxe model.

For a substantially reduced price. Here's how:

1. Individual reel lifts are optional on the Tournament II—not every golf course requires them.
2. "Rate of clip" instrumentation (speedometer and tachometer)—not needed by every course—are now offered only on the 1973 Deluxe model. However, "clip" is still independent of ground speed.
3. Deluxe styling—not desired by every course—is reserved for the Tournament Deluxe vehicle.

The new Tournament II vehicle retains most Tournament Deluxe performance features—mechanical cable drive, variable reel to ground speed, superb hill-climbing ability

and easily changed accessories. With *even better* reel visibility and less compaction than the Deluxe model. Either Tournament will cut equal to or better than any other greensmower, even on the toughest-to-mow bent greens. Replacing a host of single-purpose equipment

with Hahn greens management system components—greensmowers, Verti-Cuts,[®] spikers and new six-bladed belt-drive tee reels.

Call a very *uncommon* man, your Hahn Turf Products distributor, for a spec-to-spec comparison of either Tournament against competition. Then ask for a demonstration on your course. You'll see why a Tournament is the most versatile unit you can buy.

Or write for Bulletin No. 15 describing Tournament vehicles and their implements. Distributor inquiries are invited and will be promptly answered. Hahn, Inc., Turf Products Division—manufacturer of Hahn and Hahn-West Point equipment and exclusive U.S. distributor of Hahn-Ransomes equipment.

Hahn Tournament Deluxe vehicle, featuring individual reel lifts as standard equipment, is better than ever for 1973 with numerous "owner suggested" improvements and added operator conveniences.



Hahn

Hahn, Inc., Turf Products Division • 1625 N. Garvin • Evansville, Indiana 47717
Dept. G-173, Second Floor, Island "O" at GCSAA Show, Boston

For more information circle number 144 on card

GCSAA

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8. DIAMOND SHAMROCK
9. MILWAUKEE SEWERAGE
10. APPLIED BIOCHEMISTS
11. MALLINCKRODT
12. CUSHMAN
13. INTERNATIONAL HARVESTER
14. RYAN
15. HOWARD ROTAVATOR
16. F.E. MYERS
17. JOHN BEAN



Roseman Mower Corp. introduces the Roseman hydraulically-driven reel mower in a seven-gang tractor mounted model. Also 11-gang hydraulic lift-type mowers with a cutting width of 24 feet.

Ryan Equipment Company, marketed by Outboard Marine Corp. New to the line is the *Commercial Mower*, a 21-inch rotary mower with two-cycle engine. Made of die-cast aluminum, has fully protected blade and rear shield, vinyl covered front bumper and crash bar. Standard features include: 1 1/2-gallon fuel tank with gauge, eight-inch ball bearing steel wheels, seven cutting heights.

The Toro Company introduces the *Series 6 Parkmaster and General Tractor* with six cylinder, 250-cubic inch Chevrolet engine. Available 5, 7, or 9 reel unit gang mowers, can mow 80 to 90 acres a day. Other units are the 70-inch and 76-inch *Professional* mower unit; *Super-Pro*, 12hp three cutting units; *Trojan II* with 50-inch Whirlwind rotary; *Greensmaster 3*.

Yazoo Mfg. Company, Inc., makes a complete line of mowers, which includes front-cutting industrial tractors, the *Big-Wheel* hand mowers and an edger.

TURF PRODUCTS

Agrico Chemical Company introduces new package designs for its *Country Club* line of fertilizers, which feature new formulations that fit into programs designed to make effective turfgrass management as simple as possible.

Agway, Inc., makes pesticides, fertilizers and seeds. Also manufactures the *Porta-Bin* bulk storage unit, which eliminates handling fertilizer bags.

American Bio-Turf, Inc., features the pro-biotic soil conditioner, *Bio-Turf*, which increases soil porosity through flocculation.

American Research Corp. distributes fungicides, insecticides, fertilizers, weed killers.

Applied Biochemists, Inc., features *Citrine*, an algaeicide to control filamentous, planktonic and chara algae. Citrine is registered by the Environmental Protection Agency. Also *Swimtrine* algicide for swimming pools.

Aquashade, Inc., introduces *Aquashade* liquid for controlling aquatic growth.

Aquatrols Corp. of America features soil wetting agents, including *Aqua-Gro*, a non-ionic wetting agent that relieves compaction and moves water into hard-to-wet areas. Coverage is 16,000 square feet per gallon. *Aqua-T* is a low cost blend, non-ionic organic wetting agent. Wilt control agent, *Stoma-Seal*, chemically controls wilt on greens, tees and fairways and other turfgrass areas.

BASF Wyandotte Corp. features *Turface* arcillite soil amendment for constructing and conditioning golf greens.

Certified Laboratories. *Certifen*, a soil sterilizer. The *Centurion* portable sprayer. *Turf Edge*, a chemical edger and *L.T.F.*, a liquid turf fungicide.

Chemagro, Div. of Baychem Corp. Features *Baygon 70% Wettable Powder* insecticide for control of flies and mosquitoes. *Dasanit 15% Granular* ornamental and turf nematocide for nematode control, up to nine months. *Dexon 35% Wettable Powder* is a non-mercurial fungicide for ornamentals, lawns and turf. Controls Phytophthora and Pythium organisms. *Dyrene 50% Wettable Powder* is a broad spectrum turf fungicide for major turf diseases.

Ciba-Geigy Corp. features *Diazinon* granular insecticide for control of cinch bugs, sod webworms, billbugs, fruit flies, chiggers, fleas, ticks.

W.A. Cleary Corp. introduces *Cleary's 3336* and *Bromosan* system turf fungicides. These fungicides are non-mercurial.

Cloro-Spray Corp. makes *No-Wilt* vinyl-acrylic copolymer that forms a clear film on trees, shrubs and other plants, preventing excessive moisture loss during dry periods. *Ferro-Spray Plus* is a water-soluble liquid fertilizer combined with an iron chelate solution, a non-ionic organic wetting agent and chlorophyll.

Diamond Shamrock Chemical Company features *Dacthal G-5* herbicide for controlling crabgrass, *Poa annua* and other weed pests; *Dacamine* turf herbicide knocks out dandelion, Canada thistle; *Daconate* post-emergent herbicide for crabgrass and chickweed and is a premium arsonate liquid mixed with surfactants; *Daconil 2787* is a fungicide for controlling diseases, such as leaf spot, crown rot and brown patch. *Dacthal W-75* for preemer-

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**Cushman introduces
an incredibly quick
and simple way to
make one vehicle do
five turf care jobs.**



Simply move a few pins. Put on new Cushman Turf-Truckster is

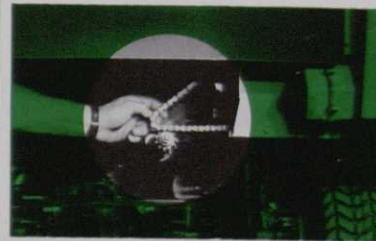
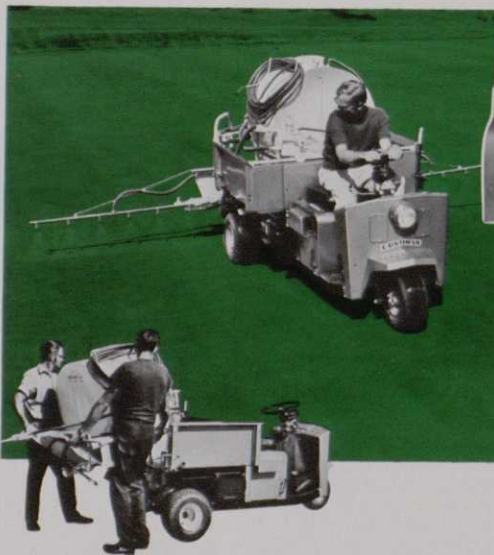
HAULING

Converting the Turf-Truckster for hauling and dumping is simple. Pull out three pins, mount the pickup box or the long box, and replace the pins. That's it. No tools. No trouble.



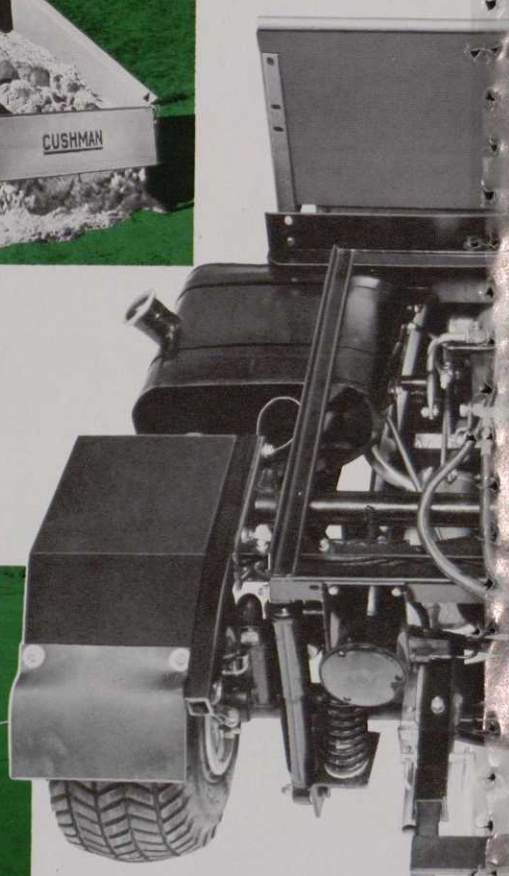
SPRAYING

Add a power take-off and the Fairway Sprayer to your Cushman 18 HP Turf-Truckster and presto, you have a self-propelled, self-powered spray rig. Sprayer unit comes equipped with 103 gallon epoxy tank, retractable boom, hand gun assembly, and 50 feet of hose.



TOP DRESSING

Cushman introduces its new Single Unit Top Dresser. The only top dresser that mounts right onto the chassis in minutes. Eliminates the need for a dump box to carry the spreader and a separate engine to power it. New top dresser unit works off the Turf-Truckster power take-off accessory.*

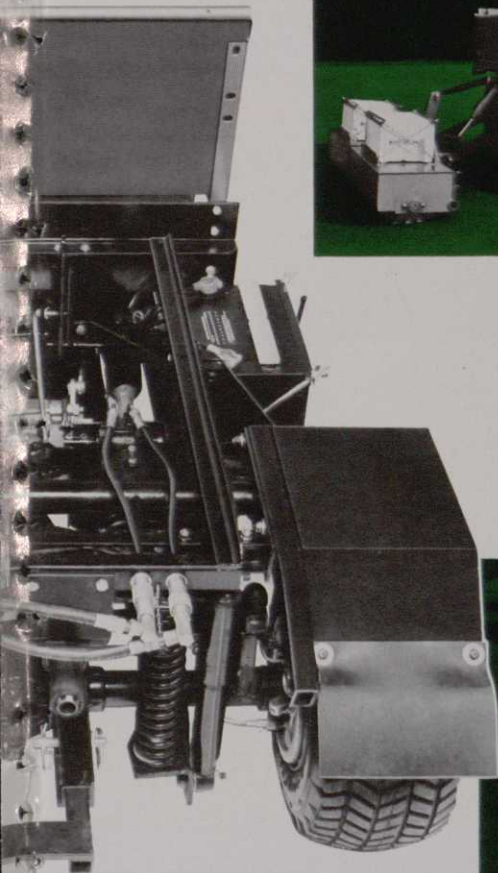


the right accessory. And the ready for any job you throw at it.



SPIKING

The new hydraulically* operated spiker attaches in seconds when you slide in three pins and cotter hair pins to special hitch. Quick male to female hose connections are impossible to mismatch. Spiker covers a wide 57 inch path. You'll be able to spike 18 greens before the morning coffee break. (Trailing type also available).



SPREADING

Designed especially for the Cushman Turf-Truckster, the Cyclone Spreader is operated by the power take-off accessory.* It provides a smooth, even application over broad areas for most any material. The unit can be mounted or dismounted in seconds on either the small or large dump box.

Buy only the accessories you need. Then watch them do more work in less time. Think of the money you'll save.

The new Cushman Turf Care System is engineered to be more flexible than any other turf equipment in the industry. It's designed to offer you savings, convenience, and superior performance. The new Cushman Turf Care System can cut your time and labor costs as much as 50%, initial equipment investments as much as 35%, and save undeterminable amounts on maintenance and upkeep.

The concept is simple. First purchase one of the basic Cushman Turf-Truckster vehicles. They're available in 3 or 4 wheel models with 12 or 18 hp.

Then add as many of the new modular accessories as you need for the work you have to be done. The more accessories you add, the more jobs your Turf-Truckster can accomplish.

You can tow, mow, drag, haul, top dress, spray, and spike with the Cushman Turf Care System. You can increase capacities by adding a long box. Add a power take-off to spray, top dress, spread, and dump hydraulically.*

You'll be able to change accessories in a matter of minutes because the new Cushman Turf-Truckster limits the need of tools for equipment changes. Pins hold most accessories in place. You'll be able to add new equipment when it becomes available without purchasing another expensive vehicle.

In every way, you're time and money ahead with the built-in flexibility of the new Cushman Turf Care System.

*Hydraulic and PTO accessories available only on 18 HP models.

**3 or 4 wheels.
12 or 18 h.p.
Plus a time-saving
Minute-Miser.**



Sturdy rugged 4-wheel 18 HP Turf-Truckster can comfortably take driver and passenger to and from jobs. Shown here with large capacity dump box. Built for a number of turf care jobs.



Same rear chassis, same powerful engine, same versatility as the 4-wheel model, the 3-wheel Cushman Turf-Truckster is ideal where one-man turf jobs are called for.



The Cushman Minute-Miser for fast job-to-job supervisory transportation. An economical, 8 HP vehicle that gets you places three times as fast as walking, and without tying up other working equipment.



The combination of low cost, utility and minimum maintenance make the Cushman 12 HP Turf-Truckster the ideal vehicle wherever cost and load factor are the prime considerations.

There's a great deal more to the new Cushman Turf Care System story. If you're interested in superior turf maintenance...economy...time savings... fewer pieces of high-ticket equipment and simplicity, you'll appreciate getting the complete,

detailed facts about setting up your own system. It's all spelled out in the Cushman Turf Care brochure. Fill in the coupon below and mail today. See how a new streamlined concept can simplify your turf care problems.

CUSHMAN®

Outboard Marine Corporation
1502 Cushman Drive
Lincoln, Nebraska 68501

Please send the booklet on the complete Cushman Turf Care System.

Name _____

Title _____

Club / Firm _____

Address _____

City _____

State _____ ZIP _____



gence control of annual grasses and broadleaf weeds.

Dow Chemical Company offers *Dursban 2E* insecticide for control of chinch bugs and sod webworms; *Zectran 2E* emulsifiable concentrate multi-purpose insecticide for control of snails and slugs.

E.I. DuPont de Nemours & Company, Inc., features color photographs of major turf diseases and turf disease control in the *Tersan 1-2-3* Disease Control Program. A large table showing the common infection periods, recommended products and application schedules round out the exhibit.

Elanco Products makes *Balan Granular* for control of crabgrass, *Poa annua*. *Treflan Granular* for control of weeds and *Pipron* and *Parnon* for control of powdery mildew in ornamental crops.

Enzyme Industries, Inc., features *Grozyme* soil conditioner. It is a bio-catalytic liquid with surfactants to relieve soil compaction.

Fer-Mel Corp. distributes golf course fertilizers in water soluble and granular blends.

Miles W. Fry and Son grow hybrid poplar trees for golf courses and nurseries. Also showing Crown-vetch.

J.M. Huber Corp. features peat and peat moss for greens construction and maintenance.

Hercules, Inc., makes *Nitroform 38-0-0* nitrogen ureaform fertilizer in two forms: *Blue Chip* granular for mechanical spreaders and *Powder Blue*, a sprayable ureaform.

Kaiser Agricultural Chemicals offers five turf fertilizer programs that use its *Tee & Green Fertilizer 101*, *Fairway Fertilizer 102*, *Professional Ureaform Nitrogen 103*, *Professional Turf Fertilizer & Weedkiller 104* or *Kaiser 5-10-15*.

Lofts Pedigreed Seed, Inc., features *Baron* Kentucky bluegrass, which is Certified Blue Tag and *Poa* and bentgrass free. Other varieties available from Lofts include *James-town* red fescue, *Exeter Colonial* bentgrass and *Kingstown* velvet bent.

3M Company adds to the *Mariner* line of aquatic herbicides several new algicides as well as broad base weed control product.

S & D Products, Inc., features patented controlled release fertilizer packets for trees, shrubs and roses. *Eesy-Grow-Rootcontact Paket* fertilizer packet is for long term feeding of trees and shrubs.

Stanford Seed Company carries varieties of turfgrasses.

Stauffer Chemical Company is showing a regional breakdown of its insecticide lines, including *Aspon* for turf and general use; *Betasan* herbicide for turf (can be nationally used); *Imidan* insecticide for trees (most appropriate in the Northeast), and *Dyfonate* turf insecticide (Southeast).

Tuco, Div. of The Upjohn Company, introduces an insecticide, *Proxol 80SP*, recommended for preventing and controlling sod webworms, cutworms, chinch bugs and other damage causing insects. *Acti-dione TGF* broad-spectrum fungicide.

Turf-Terra Div., Koos, Inc., fea-

tures *Premium* turf foods, including *Super Green & Tee Food*, which provides a new source of potash and sulfur and contains natural organic nitrogen.

Union Carbide Corp. manufactures *Sebin* insecticide for controlling of chinch bug, sod webworm control, ants, and other ground insects.

USS Agri-Chemicals, Div. of U.S. Steel Corp., features *Vertagreen* fertilizers for tees, greens and fairways. Also *Vertagard* turf protection chemicals and herbicides. *Vertagard Betasan 4EC* is a preemergence for crabgrass and *Poa annua*.

Velsicol Chemical Corp. features *Heptachlor* and *Chlordane* soil insecticides. *Banvel +2,4-D* turf herbicide for control of broadleaf weeds on fairways, aprons, tees and roughs. *Banvel 4S* herbicide, also for broadleaf weeds on fairways, aprons, tees and bentgrass greens. *Bandane 15G* for pre-emergence crabgrass control, in granular formulation.

Warren's Turf Nursery. Dealers and makers of *A-20* and *A-34* bluegrasses. The former is a highly-resistant strain with good density, dark color and the ability to perform well under low mowing heights. Adaptable to tees, fairways, approaches and collars. *A-34* is shade tolerant and disease-resistant.

Whitney-Dickinson Seeds, Inc., world-wide marketers of Manhattan perennial ryegrass. Also showing Pennfine ryegrass, Pennstar and Galaxy Kentucky bluegrass.

Mallinckrodt Chemical Works features *Calo-Clor* brand turf fungicides and other turf products including *Auragreen* fungicide; *Cad-*

continued on page 71



The Milwaukee Sewerage Commission
Salutes Its
**MILORGANITE
DISTRIBUTORS**

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**O. J. NOER
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These Milorganite distributors return part of their livelihood each year into a foundation dedicated to financial support of scientific research in turfgrasses. We thank you — research stations, educators and students thank you — and your turfgrass customers thank you!



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Milwaukee, Wisconsin

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Tulsa, Oklahoma

Kosters, V. K. Company
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Magovern Co., Inc., The
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Midland Implement Co., Inc.
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Page, Earl M. — Distributor
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Philadelphia, Pennsylvania

Regan Company, Steve
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Boise, Idaho

**Richmond Power Equip. Co.,
Inc.**
Richmond, Virginia

Riley Lawn & Golf Equipment
Indianapolis, Indiana

Robinson Fertilizer Company
Orange, California

Sentell Supply Company
Miami, Florida

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Charlotte, North Carolina

**Southern Specialty Sales Co.,
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**Tropical Milorganite Brokers,
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**Winnipeg Supply & Fuel Co.,
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Wisconsin Turf Equipment
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Zaun Equipment, Inc.
Jacksonville and St. Peters-
burg, Florida

Some Accomplishments Of The
**O. J. NOER
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Iowa State

Winter Injury: Thatch Control: Turfgrass Bibliography.
Noer Memorial Library . . . Michigan State

Thatch Control in Warm-Season Grasses . . . Texas A & M

Nutrient Deficiency Symptoms in Turfgrasses: Height of Cut,
Nitrogen level and Seasonal effects on chemical composition
and Rooting of Merion Bluegrass . . . Wisconsin.