

WHY 9 OUT OF 10 LEADING LAWN CARE FIRMS USE DURSBAN

When the top 9 of 10 lawn care firms in America all choose DURSBAN* brand insecticides as their predominate insecticides for surface insect control...there has to be a good reason. Or two.

Well there are two.

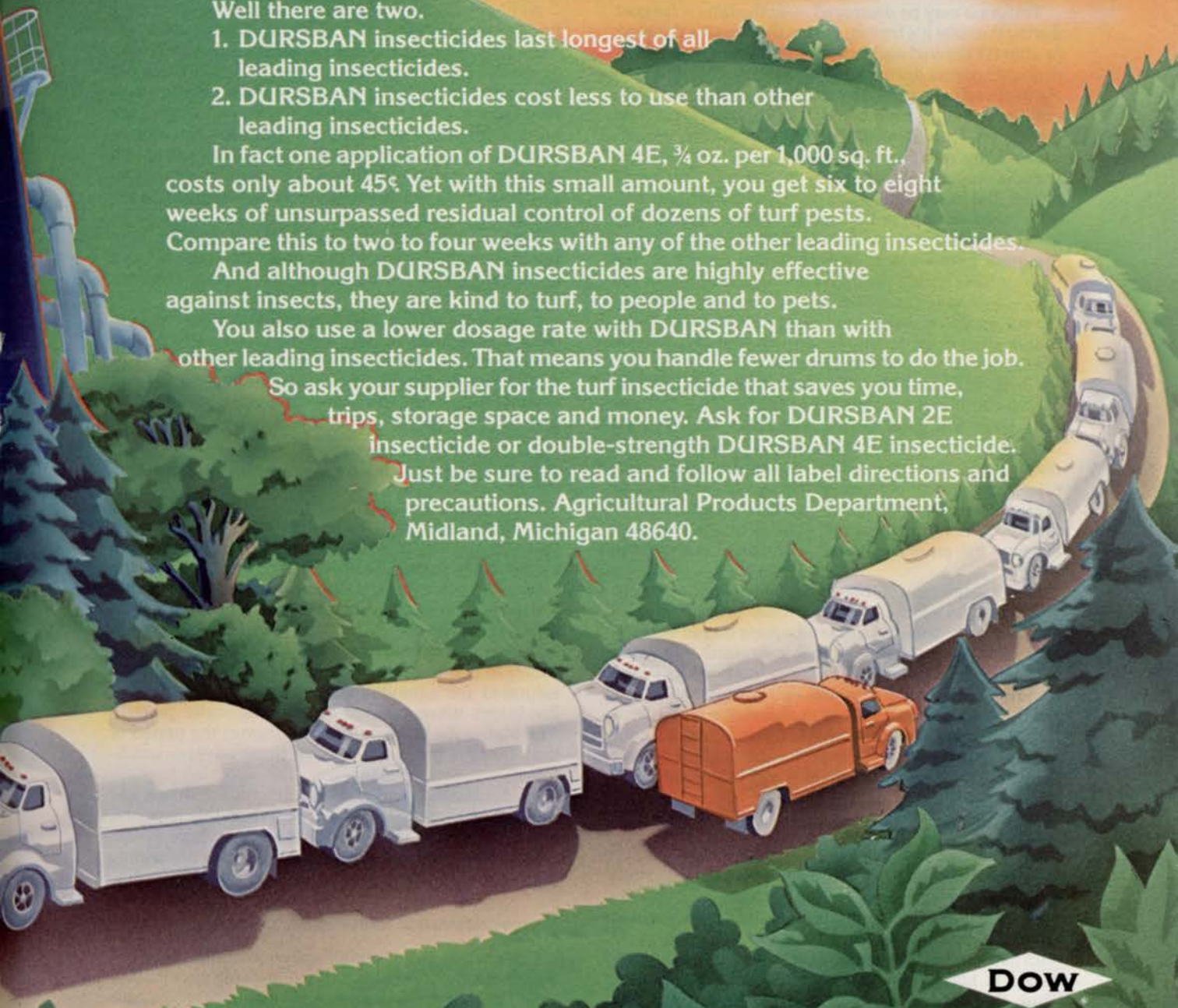
1. DURSBAN insecticides last longest of all leading insecticides.
2. DURSBAN insecticides cost less to use than other leading insecticides.

In fact one application of DURSBAN 4E, $\frac{3}{4}$ oz. per 1,000 sq. ft., costs only about 45¢. Yet with this small amount, you get six to eight weeks of unsurpassed residual control of dozens of turf pests. Compare this to two to four weeks with any of the other leading insecticides.

And although DURSBAN insecticides are highly effective against insects, they are kind to turf, to people and to pets.

You also use a lower dosage rate with DURSBAN than with other leading insecticides. That means you handle fewer drums to do the job.

So ask your supplier for the turf insecticide that saves you time, trips, storage space and money. Ask for DURSBAN 2E insecticide or double-strength DURSBAN 4E insecticide. Just be sure to read and follow all label directions and precautions. Agricultural Products Department, Midland, Michigan 48640.



DOW

DOW CHEMICAL U.S.A.
*Trademark of The Dow Chemical Company

Circle 125 on free information card

CAUSES OF LATE WINTER-EARLY SPRING TURFGRASS DAMAGE

By J.R. Watson, Vice President, The Toro Company

During late winter-early spring, fluctuating temperatures and waterlogged, partially frozen soil produce conditions that cause the loss of turf. This loss may be the direct or indirect result of one or more of these phenomena. Direct damage or kill of the permanent grass may occur at any point of the freeze — frozen — thaw cycle so characteristic of this season. Indirect injury may result from attacks by disease-producing organisms (mostly snowmold and other low temperature fungi) and by traffic on frozen and partially frozen turfgrass areas.

Turfgrass may be destroyed — at the time it freezes, during the time it's frozen, during the time it's thawing, or after it's thawed and growth has begun. Some killing probably occurs during each of these periods. This cycle of freezing, frozen, thawing may be repeated several times during each winter and early spring. When associated with intermittent growth in late winter-early spring, damage may be severe. Death as the plant freezes happens most often in the late fall-early winter, but may occur after a period of growth (particularly rapid growth) in the spring when a sudden drop in temperature occurs. This is most damaging when the grass plants are in non-hardened condition. Ice crystals form within the cells and this disruption of the protoplasm may cause death. Too, repeated cycles in the spring will exhaust food reserves upon which the plants must draw to initiate growth. For this reason, *Poa annua* is especially vulnerable.

Death during the time the plant is frozen is unlikely to occur unless it is subjected to traffic. This will seldom occur if a good snow cover exists, which is the case most often during the winter months. However, play during the time period under discussion may cause mechanical damage either by attrition or from pressure which forces the ice crystals through the cells, thereby puncturing them and causing death. Play during time the grass is covered with frost has the same effect.

Death at the time of thawing depends on the amount and the state of the "bound" water within the cell (intra-cellular water). Unless adequate bound water is present in the protoplasm, death may result if thawing is rapid or if inter-cellular water re-enters the cell too rapidly. In the latter case, the cell wall is permeable but the protoplasm is unable to absorb the water. Prolonged cold may be conducive to death because it contributes to brittleness of the protoplasm and, if contact (from traffic) is made, the plant is highly susceptible to damage.

Causes Relating to Traffic

Grass will initiate growth during the warmer periods of late winter-early spring. If the season is characterized by widely fluctuating temperatures, the grass is vulnerable to the freeze-frozen-thaw growth cycle with its attendant problems. Too, the environment produced is highly conducive to disease development. Thus, this may be the most critical phase of the turf management program facing the golf course superin-

tendent. And, he often finds his turf management programs (and, therefore, himself) in direct conflict with the golfing membership, especially those desirous of playing a few early rounds.

Mechanical injury by traffic on partially frozen or wet soil may be immediately evident (visible) or delayed (invisible). Visible injuries (soil displacement) are the footprints and ruts caused by foot and vehicular traffic — sliding and slipping, walking or rolling — on partially frozen or saturated soil. Invisible injury stems from soil compaction.

Although this type of mechanical damage is not confined to the winter months, soil compaction may be far more damaging during this period than generally recognized. Traffic on partially frozen or wet soil, without the protection of living grass, will exert greater pressure (hence, more compacting force) than during the normal growing season. This results, subsequently, in poor growth and may explain "problem areas" which show up in spring and summer for no apparent reason. Cupping areas are particularly vulnerable in this respect.

Traffic on frosted turf causes the frost crystals to puncture leaf cells and kill the grass. Removal of frost, or preventing play when the grass is frosted, is essential.

Control of traffic during vulnerable periods does not always contribute to harmony between early golfing members and the less enthusiastic golfing and nongolfing members. The responsibility for control rests with the club officials — president, green chairman, superintendent and golf professional.

Causes Relating to Ice Sheets and Ponded Water

Turfgrasses, although essentially dormant during the winter months, nevertheless, carry on metabolic (growth) activity, particularly respiration. During late winter-early spring, as growth activity increases, the grass may suffocate (a) if diffusion of atmospheric and soil gases is reduced or stopped; (b) if excess carbon dioxide accumulates, or (c) if oxygen supplies are reduced to a minimum. Such conditions exist under ice sheets in poorly drained areas where the soil remains saturated for extended periods and, under flooded conditions when ponded or standing water persists. The higher the temperature, the shorter the period of time that the grass can survive these adverse conditions.

Under limited (and rare) conditions, ice sheets and ponded water may act as a lens. When this happens, the sun's rays are magnified to the point where the excessive heat produced may cause a burning or scalding of the turfgrass.

Causes Related to Reduced Water Intake

Desiccation is a "wilting" phenomenon. Like wilt, which occurs during the normal growing season, desiccation occurs when evapotranspiration exceeds

Continues on page 63

water intake. This inability of the roots to absorb water, or for the plant to transport it to or through its system, may result from a shallow, poorly branched root system; diseased vascular system, or, from a reduced or restricted soil water supply. Limited soil moisture may be the result of a "dry" soil (not enough water) or of a frozen or partially frozen soil (water unavailable to the root because of its physical state). Thus, the roots simply cannot take in enough water to offset that being lost by the plant and it "desiccates" or dries up — it wilts. Although more serious during periods when the soil is "on the dry side" or partially frozen, desiccation on high windswept sites may occur at any time. The increased air movement causes excessive transpiration and under limited or reduced soil moisture conditions, the plants may die unless protected.

In late winter-early spring, before the irrigation system has been activated, damage from desiccation may be severe. Water hauled in spray tanks or by other means and applied to critical sites will preclude or minimize loss.

Protective Measures

Techniques and procedures that protect, avoid and correct the damage that occurs in late winter-early spring are well known to and understood by the golf course superintendent. For the most part, protective measures relate to production of a healthy, vigorous grass and to the control, to the extent possible, of the soil-plant environment. When these factors are adversely impacted by anomalous conditions of weather, poor construction, or inadequate equipment and supplies, the responsibility for loss of turfgrass must be shared.

WTT

Herbicides from page 19

is higher than that suggested for use in new grass seedings. DCPA and bromoxynil will be tested more completely next season. We should then know more about their effectiveness for spurge control and safety to various turfgrasses.

Remember

Although herbicides will control weeds, new weeds may appear in turf from seed in the soil. If turf is neglected, retreatment may be necessary after a year or so. If a dense, vigorously growing stand of grass is maintained, weeds should not be a major problem. Remember, weeds are the result of poor turf rather than the cause. A successful program combines good management with the use of herbicides.

The pesticides listed in this article may be classified "for restricted use only" in accordance with regulations. It is unlawful to use any pesticide for other than the registered use. Read and follow the label. The trade names used in this article are for identification purposes and no product endorsement is implied, nor is discrimination intended against similar materials. The information in this article was presented at the New Jersey Turfgrass Expo '80.

WTT



It's Powerful ... Safe ... Versatile!

Princeton's mighty "Piggyback" has solved many of the problems that have always plagued heavy-duty, field quality material handlers. The remarkable "Piggyback" is light...strong...fast...durable...AND completely stable on the job!

The Piggyback will lift and load up to 4500 lbs. at a time ... turn quickly in its own length ... navigate curbs, logs, and other obstacles with ease...trudge through gravel, sand and mud, but float over normal soil...and then load itself onto your truck for a piggyback ride home at the end of the day.

How is it Possible?

The Princeton "Piggyback" provides an extremely low ratio of weight to carrying capacity...with complete stability. Stability is achieved by carrying the load weight between the drive wheels instead of in front, as with other fork lifts, and by special hydraulic stabilizer legs. Load is lifted to truck bed height, then rolled over truck bed by a horizontal carriage. Heavy-duty high torque wheel motors allow the "Piggyback" to operate on steep grades or in adverse ground conditions and to drive easily over normal loading area obstructions while fully loaded.

The Piggyback's 28 h.p. Murphy 2-cylinder diesel provides superior power for all adverse operating conditions.



Loaded for Piggyback ride home.

For additional information or demonstration, write, or call collect:

Rodger Osborne, Sales Manager
955 W. Walnut St., Canal Winchester, Ohio 43110
(614) 837-9096

Dealer/Distributor Inquiries Invited

The "New Concept" People

princeton
mfg. company

Write 154 on reader service card

MARCH 1981/WEEDS TREES & TURF 63

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: Is rolling the best method of leveling earthworm casts?

A: Drag matting, brushing the turf or shallow vertical mowing are much more advisable than rolling, particularly if the soil is wet or contains a high percentage of clay.

Q: My foreman talks constantly about soil amelioration. What does he mean?

A: Soil amelioration simply means improving the soil. The term is sometimes used in connection with soil aeration.

Q: What is a calcifuge plant?

A: A calcifuge plant is a plant which cannot tolerate calcareous (high calcium) soils.

Q: What is the latest on fusarium blight? We have heard so many ways to solve this problem but what is your view?

A: There is still a lot of controversy regarding fusarium blight including whether, in fact, Fusarium species are always involved in causing the blight symptoms on turf. Some researchers feel that other organisms may be causal agents and that perhaps the blight is misnamed.

Regardless of the dominant fungal organism involved, the evidence to date supports the philosophy that fusarium blight occurs primarily on turfgrasses which have been stressed by adverse environmental conditions or cultural practices.

Most of the fusarium blight symptoms which have been reported to our diagnostic lab occurred on exposed slopes and other sunny areas which accumulate heat. Also, the most severe symptoms were on sodded lawns, suggesting that the sod-soil interface may be a factor in increasing the susceptibility of turfgrasses to fusarium blight. We have noted poor rooting in the underlying soil when peat sod is laid directly on clay without proper soil preparation. Local dry spots are another problem area.

At the present time we are recommending a slightly higher mowing height (2½"-3") and proper watering to minimize summer stress. Aeration will help correct both sod-soil interfaces and local dry spots allowing better penetration of air, water, nutrients and pesticides. The latter is particularly important when treating fusarium blight with benzimidazole fungicides which must be drenched into the root zone.

Q: I read about a new material called Amdro for fire ant control. Is it effective and, if so, where can it be purchased? (Florida)

A: Amdro is effective if used within three days after opening the bag. Soybean oil is used as bait and it quickly becomes rancid. Amdro also degrades rapidly in sunlight and should be applied only when ants are actively foraging. Because Amdro contains a slow-

acting poison, results may not be evident for several weeks.

The distributor of Amdro in your area is Asgrow Seed Company.

Q: The horticulturist at the local arboretum is telling my clients not to have their trees fertilized after mid-summer. What is your opinion? (Indiana)

A: The roots of many trees continue growing throughout the fall until the soil temperature approaches freezing. Fertilizer available during this period will help stimulate root growth even though trees with determinate growth have completed their shoot development for the season.

The possibility exists that certain trees, such as southern pines, with indeterminate growth might be stimulated with fertilizer to produce new shoot growth just prior to freezing weather. This has been demonstrated with small trees in containerized and greenhouse culture. However, I am not aware of any reported incidence with established trees in the landscape. In any case, the use of slow-release fertilizers will minimize the potential for growth flushes.

Q: How can you tell if nematodes are causing a problem in turf? (Pennsylvania)

A: Unfortunately it is difficult to decide if nematodes are causing, or are likely to cause, injury to turfgrasses.

Most plant nematodes affect root functions and, therefore, most symptoms associated with them are the result of inadequate water supply or mineral nutrition to the turfgrass shoots. Aboveground symptoms include chlorosis (yellowing), stunted top growth, poor fertilizer response, "melting out" or gradual decline, invasion by weeds, a tendency to wilt more quickly than healthy plants, and slower recovery from wilting. Belowground symptoms include short roots often in a bushy arrangement near the root tip, slight swellings, and distortion of root growth.

Identification of the nematodes to determine whether or not they are parasitic and present in sufficient numbers to warrant treatment will require a laboratory nematode assay.

Contact your local cooperative extension service for the proper procedures in the collection and handling of soil samples for nematode analysis. Many county extension offices have a nematode sample kit available.

Turf managers often identify the presence of nematode injury by applying nematicides to several small plots within the suspect area and comparing turf response to untreated plots.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.

WE'VE GOT THE DRIVE TO KEEP YOU CUTTING.

WITHOUT CLUTCHING.

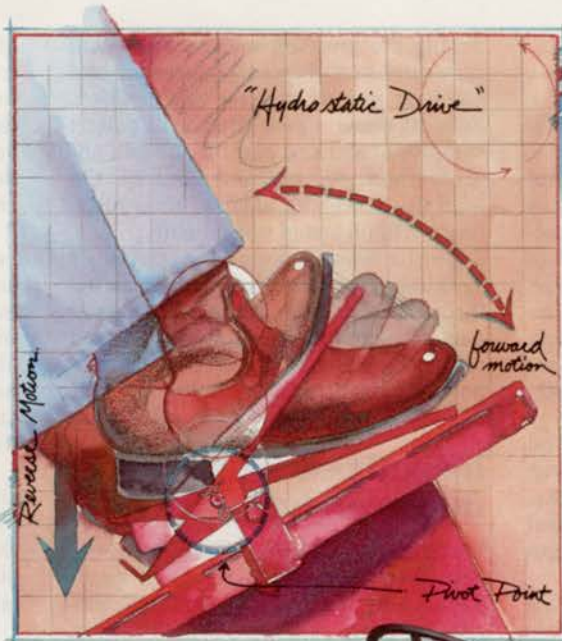
We go all out to give you the kind of riding rotary mower you want most.

A mower that keeps you cutting. Gets the job done.

So we equip our Toro Groundsmaster 72® and Groundsmaster 52® mowers with hydrostatic drive. For greater durability in four ways.

One, it keeps you cutting without clutching. Which means no downtime to replace belt, chain or clutch. Because there are none to replace.

Two, you get easy, one-pedal operation of forward and reverse. No costly gear stripping caused by improper shifting.



Three, our drive is constantly lubricated by hydraulic fluid. Reducing friction and parts wear even more.

Four, unlike other hydrostatic

drives, ours has direct drive coupling. And combines motor and pump in a single housing, without the usual hoses and belts connecting two units.

And we add more durability with other features designed to keep you cutting. Like a Donaldson air cleaner and a unique cone shaped spindle.

Call your Toro® distributor. He'll tell you all you want to know about Toro riding rotary mowers.

Without clutching.



**THE PROFESSIONALS
THAT KEEP YOU CUTTING.**

Toro is an exclusive trademark of The Toro Company
8111 Lyndale Ave. So., Minneapolis, Minnesota 55420.

SOD

PRODUCER NEWS

Turfgrass association plans soil tests

The New York State Turfgrass Association is planning a research project to develop a turfgrass fertilization program based on soil testing results. It will then make specific fertilizer recommendations to help turf managers of golf courses, athletic fields, sod farms, and residential grounds determine their fertilizer needs accurately. Thus, they will be able to eliminate nutrient deficiencies and also avoid the costly waste of over-fertilization.

Numerous sites will be selected across New York State for soil testing, including eight regional golf courses, two athletic fields, five residential areas, three sod farms, and one lime belt located on a general turf area.

The researchers will take turfgrass quality ratings at monthly intervals

during the growing season. They will note disease and insect occurrence and changes in turf species composition. Several times a year, they will collect samples of soil and plant tissue and analyze them for nutrient content. On high use recreational sites, wear resistance will be tested periodically.

The turfgrass association is currently seeking funding for the project throughout the state. The study is expected to run for three to five years, and each cooperator will receive yearly reports.

Insecticide kills ducks on turfgrass

Ward Stone, wildlife pathologist of the New York State Department of Environmental Conservation, has expressed grave concern about the death

of ducks and geese on turfgrass areas treated with Diazinon and other organophosphate insecticides. Although half the cases he reported involved illegal or improper use, he advocates discontinuation of these chemicals.

Dr. Haruo Tashiro of the Geneva Experiment Station in Geneva, New York, says, "Turfgrass managers should make every effort to prevent further bird kill by proper and judicious use of all pesticides, so that cancellation of needed products will not result, if it occurs at all, until safer and more effective substitutes are registered."

Oftanol is likely to replace Diazinon and Dursban for grub control according to Tashiro. However, Diazinon and Dursban are basic to elimination of all other turfgrass insects and their cancellation would create hardships.

SOLO jetpak has the guts for tough spraying jobs

SOLO's JETPAK has proven that it can handle the new powerful agrichemicals, including herbicides. And, it's being used more and more by industry for cleaning, sanitizing, and pest control.

JETPAK has the guts to do the job! Chemicals come in contact only with JETPAK's durable, inert, corrosive-resistant plastic components.

IMPORTANT: To make it easier to conform to tough new no-drift spraying rules, use optional spray drift guard, pressure gauge, or pressure-limiting valve. You can maintain any spray pressure uniformly from 0-90 lb.

JETPAK has human-engineered contour, fatigue-free manual pumping system. Weighs only 9½ lb empty. See-through tank holds 4 gallons. Wide choice of nozzles.

Write for free brochure or ask your dealer for SOLO JETPAK.

SOLO INCORPORATED, 5100 Chestnut Avenue, Newport News, VA 23605
Canada: Box 464, Burlington, Ont. L7R 3Y3

SOLO

Write 162 on reader service card

GET WEEDS OUT OF YOUR HAIR.



**GET MEAN ABOUT
GREEN WITH BROAD
SPECTRUM TOUGH
CONTROLS FROM
MALLINCKRODT.**

Broadleaf weeds? . . . they're fair game for Mallinckrodt's TREX-SAN. It clobbers 35 varieties with 3 way synergistic action.

Yet, it's safe to use.

Grassy weeds get the same treatment, pre-emergence, with PRE-SAN.

It's safe for use on greens, with an application rate that makes it affordable for fairways.

And with Mallinckrodt's PO-SAN method of control, you don't have to choose between Poa and a barren fairway.

Get tough about weeds. Mallinckrodt has been doing it for years.

FROM THE GREEN GROUP AT

Mallinckrodt

MALLINCKRODT, INC.
ST. LOUIS
JERSEY CITY
LOS ANGELES

Write 140 on reader service card

The Land Reclamation Report

Roberts Construction gets \$16.4 contract

The Water and Power Resources Service has awarded a \$16.4 million contract to Roberts Construction Company of Denver to build four pumping plants between Pueblo and Colorado Springs, Colorado. This represents the largest contract ever awarded to a minority-owned firm by the Interior Department.

The four pumping plants are part of the Fountain Valley Conduit System, which will carry water from Pueblo Reservoir to the Colorado Springs area. Other communities to be served by the conduit area are Stratmoor Hills, Security, Widefield, and Fountain. The plants are expected to be completed in November 1982, and water from the conduit is scheduled to be delivered early in 1983.

The Fountain Valley Conduit is part of the Fryingpan-Arkansas Project, which provides water for irrigation,

recreation, power generation, and fish and wildlife, in addition to municipal and industrial purposes.

Environmental impact statement issued

The Water and Power Resources Service has filed with the Environmental Protection Agency a draft environmental impact statement on the administration of the acreage limitation provisions of reclamation law.

The draft statement briefly describes the legislative history of the Reclamation Act of 1902, which established a policy of Federal assistance through irrigation development for farming on land in the arid West. The statement examines the effectiveness of present administrative practices and three alternative methods of administering the law. It also examines two options that would allow individual districts to pay the full cost of the Federally developed water in exchange for program

deregulation.

Individual copies of the draft statement are available at regional offices of the Water and Power Resources Service or: Director, Office of Environmental Affairs, Room 7622, Water and Power Resources Service, 18th and E Streets, NW, Washington, DC 20240, 202/343-4991.

Wyoming to regulate mining on Federal land

Wyoming's Governor Ed Herschler and former Secretary of the Interior Cecil D. Andrus signed a cooperative agreement to regulate surface coal mining on Federal lands within the state's boundaries.

This agreement is in accordance with the permanent regulatory program prescribed by the Surface Mining Control and Reclamation Act of 1977. It means that the state assumes primary responsibility for regulation and reclamation of surface mining on Federal, privately owned, and other lands, and the Interior's Office of Surface Mining will function only in an oversight capacity within Wyoming.

"The new agreement eliminates duplication of regulatory control and allows for uniform application of the permanent regulatory program throughout the state," Andrus said.

The Secretary also approved the Kansas regulatory program for surface coal mining and reclamation. The state has agreed to make changes to correct several minor problems as a condition of the approval.

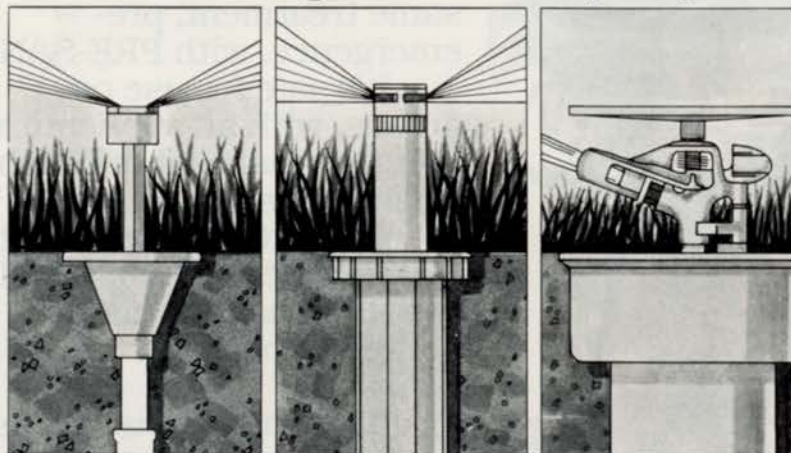
Peer review amendment added to FIFRA

Congress passed the 1980 amendments to the FIFRA bill (H.R. 7018) in December.

The bill itself extended the funding authority for EPA to operate pesticide control programs through September 30, 1981. An amendment directs EPA to set up formal procedures for "peer review" by independent scientists on major scientific studies which are used as the basis of EPA regulatory actions.

Other provisions of the bill are authority for a two-house Congressional veto of future EPA regulations dealing with pesticides, and authority for expedited judicial review of any future attempt to challenge the constitutionality of the Congressional veto provision.

The taller the grass ...the higher we pop!



From residential to light commercial turf installations, Champion has a pop-up to do the job! When you compare the cost, precision construction and performance, you'll buy Champion. The 18HP (2" pop-up), the P180 (2½" pop-up) and the 6178 Impulse pop-up are just three of over one-hundred fifty sprinklers,

valves, controllers and accessories featured in the new Champion, full-color catalog. Ask for your free copy.

 **CHAMPION**
SPRINKLER EQUIPMENT

1460 N. Naud St.
Los Angeles, CA 90012
(213) 221-2108/(213) 223-1545

Write 107 on reader service card



“I wouldn’t do anything to harm this tree. That’s the reason I use Roundup.”

Donald Dusek
Park Superintendent, Victoria, Texas

As Donald Dusek will tell you, controlling tough weeds is just part of his grounds maintenance problem. As a park superintendent, Don is also responsible for protecting his valuable trees, shrubs and plants. So he insists on Roundup® herbicide by Monsanto.

With Roundup, Don can be confident that all of his valuable vegetation—including this beautiful 75-year-old pecan tree—can continue to flourish. He just follows label directions for Roundup. Since Roundup has no residual soil activity, and won’t wash out of treated areas, Roundup helps Don

control weeds in many different situations—even in his most delicate areas.

See your local Monsanto representative or chemical dealer soon for your supply of Roundup. Like Don, you’ll find that Roundup is the solution to many of your toughest weed control problems.

Nothing works like Roundup.



FOR LITERATURE
CALL TOLL-FREE
1-800-621-5800
In Illinois, 1-800-972-5858.

ALWAYS READ AND FOLLOW THE LABEL FOR ROUNDUP.
Roundup® is a registered trademark of Monsanto Co.
RUP-SP1-102D © Monsanto Co. 1981

Write 143 on reader service card

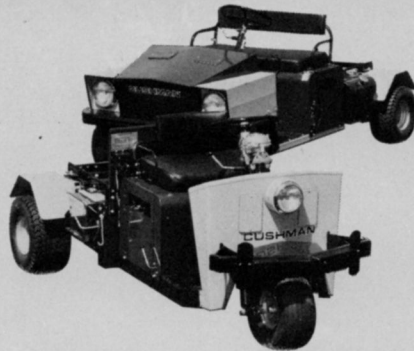
We put a lot into our Turf-Truckster.

One of the most dependable vehicles for moving your crew around is the 3- or 4-wheel Cushman® Turf-Truckster.® But it was also designed for more than just transportation.

Equipped with an optional PTO and hydraulic system, both models accept a wide range of special, add-on turf maintenance equipment. So with just one Turf-Truckster you can haul, dump, grade, seed, spray, spread, top dress, and aerate. Plus, we've increased the payload capacity of the Turf-Truckster to 1,500 pounds.* So you can carry more than ever before.

But there's more to a Turf-Truckster than versatility. There's a rugged 18-hp engine that's built to take on your turf. It comes with a standard 2 to 1 auxiliary transmission. A transmission built to allow a gear driven PTO to be attached directly to it. And common sense engineering makes the Turf-Truckster steer clear of the repair shop, too.

The 3-wheel model gives you the maneuverability of a tight 17' turning circle, while the 4-wheeler has seating



room for two. And it just takes minutes to add any of the Turf-Truckster's accessory pieces, thanks to Cushman's pin-disconnect system. No bolting, no hitching. Just snap two or three pull pins in place and you're ready to hit the turf.

If a good transportation/hauling vehicle is all you need, though, look at the Cushman Runabouts. There's an 18-hp two-seater, and a fuel-stingy 12-hp one-seater model. Both Runabouts are economical to own. And like any Cushman vehicle, they're built tough.

There's nothing like a Turf-Truckster or Runabout to get more work done, in less time and with less manpower. For a closer look at what goes into, or behind, a Cushman vehicle, return this coupon today.

81-CUT-4

*Rating for vehicle equipped with 9.50-8 rear tires.

Show me what you put into a vehicle, Cushman.

- I'd like a demonstration of the Turf-Truckster (3-wheel or 4-wheel). (Circle One)
 - I'd like a demonstration of the Runabout (12-hp or 18-hp). (Circle One)
- I'm interested in seeing these Turf-Truckster attachments: Aerator; Sprayer; Top Dresser; Grader/Scarifier; Flatbed/Dump Box; Cyclone Seeder/Spreaders.
- Send me your new 1981 catalog.

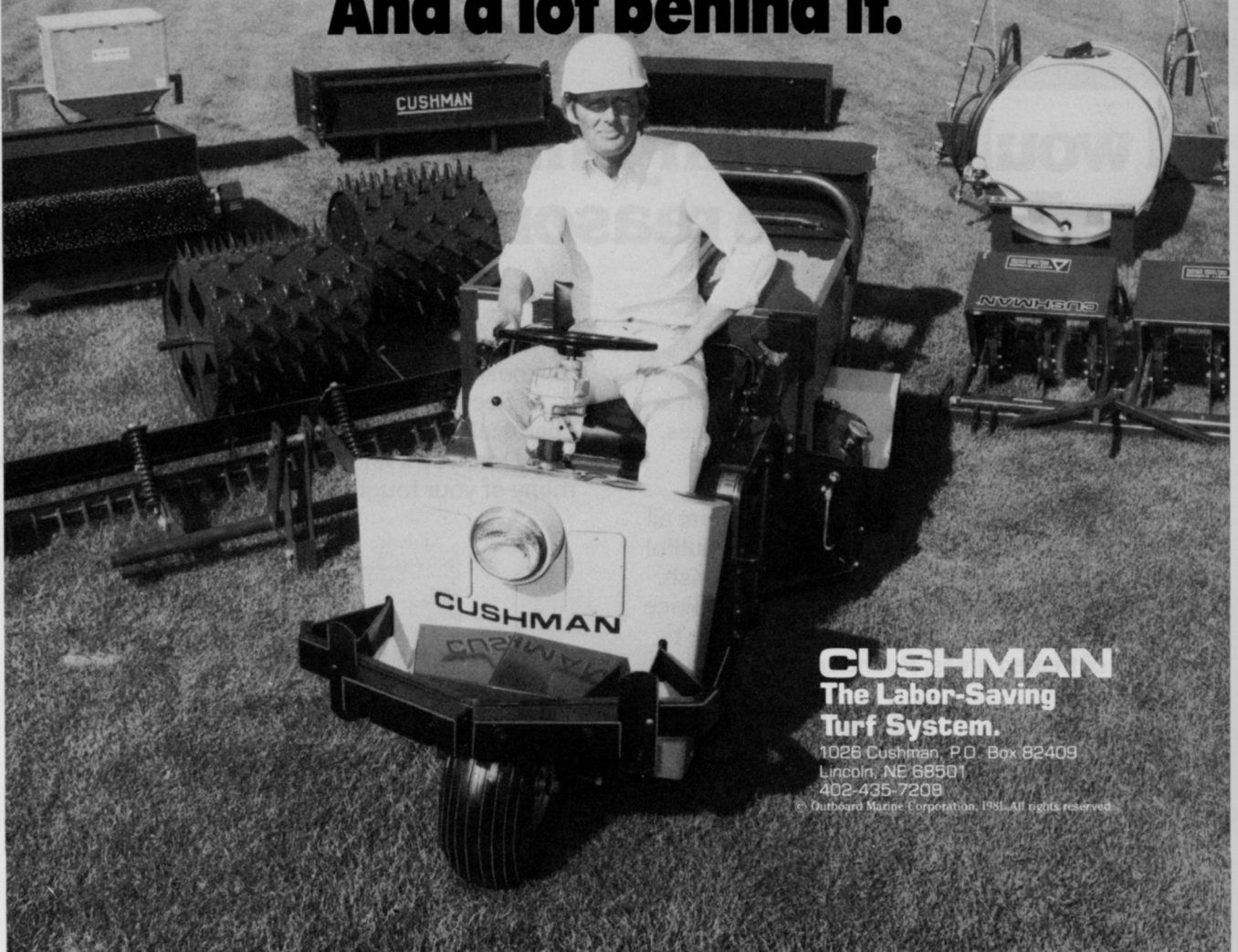
Name _____

Title _____

Address _____

City _____ State _____ Zip _____

And a lot behind it.



CUSHMAN The Labor-Saving Turf System.

1028 Cushman, P.O. Box 82409
Lincoln, NE 68501
402-435-7208

© Outboard Marine Corporation, 1981. All rights reserved.