



DERBY

Turf-Type Perennial Ryegrass

Setting a New Standard of Excellence

Derby is the dark green beauty which joined Manhattan and Pennfine on the "highly preferred list of ryegrasses." That was last year. Now Derby is setting a new standard of excellence.

In the eyes of many Golf Superintendents it reigns supreme among the turf-type ryegrasses today. Why? Because it performs! And a Superintendent knows that claims are great, but performance counts.

- Consistently performs better than other leading varieties from California to Florida
- Durable, dark green and has excellent mowing qualities
- Tolerates a variety of soils & responds rapidly to fertilization
- Germinates in a week (or even less) under ideal conditions
- Better-than-average heat and drought tolerance
- An adaptable and disease resistant cool-season turf grass
- An excellent record as a Southern winter grass
- Thrives when close-cut



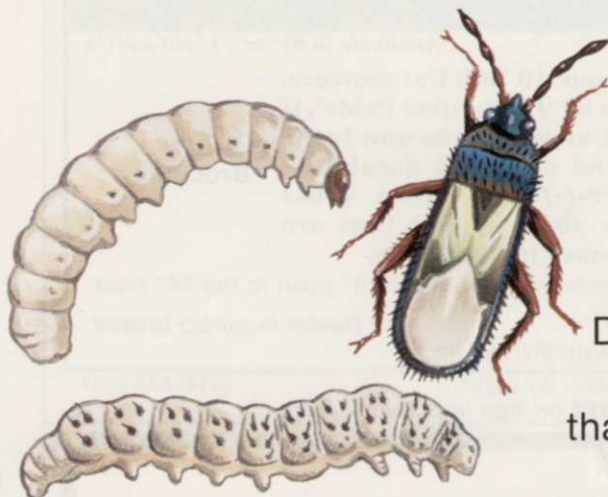
INTERNATIONAL SEEDS, INC.

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HIRE THE INSECTICIDE THAT LIKES TO WORK OVERTIME.



DURSBAN* brand insecticides provide unsurpassed residual control of cutworms, chinch bugs, sod webworms, and a dozen other turf pests. Both DURSBAN 2E Insecticide and double-strength DURSBAN 4E Insecticide keep working a lot longer than other turf insecticides. This residual action saves you time, trips, and labor. It also saves you money. In fact,



DURSBAN insecticides cost less than most other turf insecticides.

Ask your supplier for the turf insecticide that works over-

time for you. Get 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.

*Trademark of The Dow Chemical Company



DOW CHEMICAL U.S.A.

Professionals Use Bob Cats with Purr-r-fect Pride!



Available in 61" or 74" cut widths

If you are using one of our 10 Bob Cat mowers, you know what we mean by 'Purr-r-fect Pride'. If you haven't tried a Bob Cat yet, maybe now is the time to do it. You'll find out what durability, dependability and *purr-r-fectly* mown grass really are. Let us show you why Bob Cats are becoming the biggest names in lawn care.

Free
Brochures



The 10 models range from the 18" push to the 74" rider

Dealer Inquiries Invited

BOB CAT Wisconsin Marine, Inc.

Lake Mills, WI 53551

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(414) 648-2331

Hardiness

a thornfree form. Neither are yet used to the extent we believe they will when better known.

Flowering crabapples are a top-ranking group all across northern areas. To our benefit most of the newer flowering crabapple varieties are improvements over previously introduced selections. These better varieties have greater resistance to disease and most bear smaller sized fruit, two of the very best reasons to consider switching to some of them. Nurserymen in Region 5 are uniquely well situated to use the flowering crabapple performance data published annually by Professors Nichols (Plant Pathology) and Brewer (Horticulture) of The Pennsylvania State University. Their 1978 report "Flowering Crabapples in Central Pennsylvania" was released earlier this year. It's easy to see the landscaping advantages of small fruit, so why not select the best from among them, those that give you greater mileage in beauty because the fruit persists attractively on the trees for months longer. Malus 'Red Jewel' was rated in this report — "Excellent, showy red fruit by 11/21". Fruit size was as small or smaller (1/4-3/8 inch) than any of the 10 kinds whose fruit did persist as late as November 21, 1978. No apple scab reported on Red Jewel for 1978 at the Rock Springs Research Center.

European Mountain Ash is especially colorful in northern areas, including all the Great Lakes region. Fruit appears to color brighter and the foliage is freer of the shabby look the leaves take on in areas having warmer and drier growing seasons.

Japanese Tree Lilac with cherry-like bark on older trunks is at least a three season beauty — creamy-white, cone-shaped flower clusters, heavy textured leaves all season and the cherry bark winter color. Where grown and planted on sites requiring 5 feet or more of clearance, they are customarily "spec-ed" single-stem, tree form, but specimens with 2 to 5 trunks limbed up to a corresponding height are just as useful and much more attractive. One other advantage. If one trunk is lost by injury, the top in several years will still "round-out".

The Sheridan selection 'Ivory Silk' introduced through the Canadian Ornamental Plant Foundation is described as a sturdy, compact tree-form selection flowering at an early age. This is exactly the type needed.

ALMOST MAINTENANCE FREE Tallhedge™

Here is the ideal solution for hedges and screens. TALLHEDGE™ grows fast and thick with minimum care. It matures into upright four-foot wide columns, twelve feet high with lustrous dark green leaves. If desired it can be shaped into a formal hedge. During the summer months attractive berries add color.

Ask for the true "cutting-grown" TALLHEDGE™. Excellent for all types of landscape screening, property line separations and backgrounds. There is only one TALLHEDGE™... from the Originators, American Garden Cole.



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GARDEN
cole**

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Phone 614-477-1671

Where great new plant ideas take root.

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In larger trees, we can never seemingly over plant the sugar and red maple. Both mature into large specimen trees. When we crowd either the roots or tops, but especially the root area, the trees may show stress symptoms — leaf scorching at first, then slowed annual growth, then twig die-back starting on the extremities of the top and outer branches. When either of these trees are to be planted in some kind of man-made root area, pit or above ground, argue persuasively for the largest soil volume possible with square footage of surface area predominately important. The upright, columnar to narrow pyramidal forms are best where space between trees or other features is minimal.

Among exotic (introduced) trees that we feel quite comfortable with are European Beech, Norway Maple and Little Leaf Linden. Natives we continue to plant are Pin and Red Oak, White and Green Ash, Honeylocust, and the several birches. A number of nurseries and governmental institutions are working to determine which of the so-called white barked, borer-resistant birch species from Asia are best. Seedling populations of several kinds are just now becoming available in the trade and more will be soon.

Back to the smaller trees, Japanese maple properly sited gets more beautiful and more valuable each year it ages. The species and its selections in large sizes seem to be continually in short supply. Redbud is a perennial favorite. It is unfortunate more growers are not propagating the white and pink forms, but especially the pink. An eight to ten foot specimen of Wither's Pink Charm is breath taking.

With promising new Magnolias coming from the efforts of The National Arboretum and dedicated Magnolia breeders both here and abroad, it could easily be worth your while to try some of them even if available only in small sizes. Do what many nurserymen do. They plant them in their own landscape plantings until large enough to move B&B to a permanent site where they can be further observed and photographed.

We presume that Golden Rain-tree, Yellow-wood and Japanese Pagoda still head the list of summer flowering trees if there is evidence in your area that flowering age trees are doing just that.

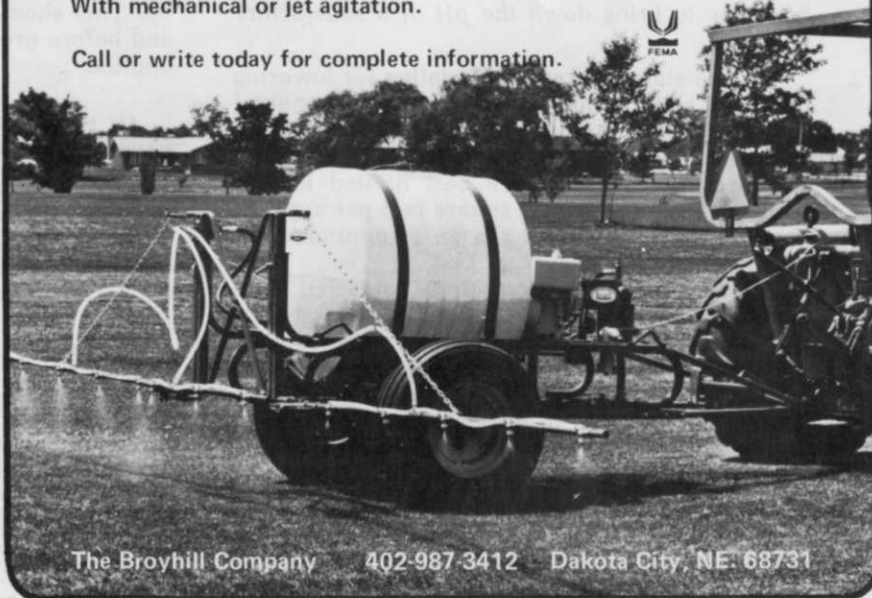
WTT



1950 Turf Sprayer

Broyhill's outstanding value in an all-purpose sprayer. The 1950 Turf Sprayer is available as a skid or trailer unit with 100, 150 or 200 gallon polyethylene and stainless steel tanks. Choose the pressure and gallonage performance you need from three pumping systems. With mechanical or jet agitation.

Call or write today for complete information.



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451/452



When the row gets narrow its a spot for SOLO

SOLO's modern PTO-powered 451/452 high-concentrate Mist Blowers were designed to move easily through narrow crop and tree rows, yet have enough capacity to do a professional job of applying insecticides, fungicides, and herbicides. The fruit, vegetable, berry, flower, and ornamental tree growers appreciate SOLO's fine engineering, which combines great performance with a most compact package. And, its cost is low!

- Provides ideal coverage and saves through high-concentration, low-volume application



TRAC-419

Model 456 self-propelled Mist Blower; 32-gal. formula tank; 12.5-hp high-performance engine; standard cleat or ATV tires.

TRAC-419 Mist Blower; self-contained module, mountable on truck bed, trailer, jeep, small tractor; 12.5-hp engine; adaptable to any size formula tank



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- Hundreds of pounds lighter than air-blast sprayers
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VEGETATION MANAGEMENT

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

Q. On lawns with a pH of over 8.0, what is the best way to bring down the pH of a satisfactory level?

A. The standard recommendation for lowering the pH of soil solution is applications of elemental sulfur or sulfur-containing compounds such as iron sulfate and aluminum sulfate. Applications of sulfur to established turf are best limited to five pounds of sulfur per 1000 square feet per application during the dormant season to minimize the potential for "burn."

Although we have successfully corrected alkaline conditions in sandy soils, fine textured soils that are inherently calcareous may resist acidifying treatments because of their tremendous buffering capacity. It is often more feasible to modify the fertilizer treatments to compensate for alkaline-induced deficiencies rather than to attempt to correct the pH.

Q. I have been told that I can scalp turf in the spring to help eliminate thatch, but I thought that scalping injures the grass.

A. Turfgrasses can be scalped in early spring before greenup since most of the existing leaf tissue will be replaced with new spring growth. However, after growth has occurred, scalping will upset the equilibrium between the root and shoot systems and cause a stress condition. Also, as the temperature gets warmer, scalping can expose the turfgrass crown to excess heat and drying, which could seriously injure or kill the turfgrass plants.

Q. Is it true that liquid fertilizers are absorbed by turfgrass leaves and do not promote root growth?

A. Some of the liquid fertilizers will be absorbed by turfgrass leaves, but it is not true that liquid fertilizers promote foliage growth without a supporting root system. In fact, granular fertilizers must dissolve in soil solution to form the same nutrient ions that are in liquid fertilizers before the plant root can absorb them. The major difference between a liquid and a granular fertilizer is the rate at which these nutrient ions are released and, therefore, available for root absorption.

Q. Last year many of the lawns we serviced had snow mold and it left bare spots. If the same thing happens this year, should I put down a fungicide?

A. Applications of fungicide for the control of snow molds must be made in late fall before snow cover. Chemical treatments in the spring — after the damage has been done — are not effective.

Since snow molds usually kill only the turfgrass leaves, the crown area of the plants will produce

new leaf tissue if the dead, matted grass is raked up. This should be done before spring green-up and before pre-emergent crabgrass herbicides are applied.

Q. What should be done for ornamentals that have been injured by the cold, winter weather.

A. Prune out the dead wood, lightly fertilize and keep the plants well watered (don't overdo it) during the summer months. Mulch applied over the root system in the fall will help keep freezing temperatures from penetrating into the root zone.

Q. I need current information on options for control of poison oak, also remedies for skin contamination from poison oak.

A. Compounds such as Amitrol-T and Weeda-zol, which contain aminotriazole, are labeled for the control of poison oak. Be sure to read the label to determine if these products can be applied under your conditions.

The potential for skin contamination with poison oak can be minimized if protective clothing is worn and laundered immediately after application. A number of non-prescription creams and lotions which contain drying agents and relieve itching are available at drug stores. Among the most common products are Ziradryl, IVarest, and calamine and caladryl lotions. Severe allergic reactions should be referred to a physician.

A. What type of agitation — mechanical or Venturi — is more effective for wettable powders, and why?

A. Mechanical agitation is usually more effective in suspending wettable powders. Hydraulic agitation will provide adequate suspension if the pump has sufficient capacity. Placing jets on the end of a separate pressure line for recirculation of 10% of the tank capacity per minute is usually recommended.

Q. What green dye product can be mixed with Trimec weedkiller to give the lawn a better appearance?

A. There are at least a dozen dyes or pigments on the market that will safely color turfgrasses. The dye formulations have a shorter residual than the plastic or latex pigments because they fade in the sun and wash off with water.

Among the products we have tested are Green-zit (W. A. Cleary Corporation), Winterlawn (Virginia Chemicals), and Ever-Bright (Davis Paint Company). All of these materials will stain pavement, etc., unless precautions are taken; and if applied during the growing season, they will be mowed off as the turfgrass grows.



ARBOTECH® 20-S

The strongest Dutch elm disease protection you can give a tree.

ARBOTECH 20-S fungicide helps make it possible to save many elm trees that otherwise would be lost.

Injected into the trunk of the tree, ARBOTECH builds a barrier against Dutch elm disease inside the tree itself. It helps prevent the disease in healthy elms, and can often save infected trees if they are treated early enough.

Used along with sanitation, insect control, and root graft elimination, ARBOTECH can significantly improve the effectiveness of a Dutch elm disease control program.

ARBOTECH differs from other elm fungicides in several important ways:

- It is registered at rates high enough to be effective.
- It is concentrated, requiring much less water for injection, so trees can be treated much faster.
- Thiabendazole, the unique active ingredient in ARBOTECH, is highly effective against

Ceratocystis ulmi, the fungus that causes Dutch elm disease.

- Even though it is more effective and convenient, ARBOTECH costs about the same to use as other elm fungicides.

This year, put ARBOTECH to work in your disease control program. It's the strongest protection you can give an elm against Dutch elm disease.



Arbotect

Strong protection for elms.



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free information card

PRODUCTS



Kawasaki Motors Corp. is now marketing their small air-cooled engines in North America. The small two-cycle engines are from .8 through 4.3 horsepower; four-cycle engines range from 2.3 through 20 horsepower, and larger two-cycle engines are available through 70 horsepower.

All Kawasaki four-cycle engine models are suitable for industrial and commercial use. They include such standard features as: ball bearings on both ends of the crankshaft and camshaft, mechanical governor, stellite-faced exhaust valve, cast-iron cylinder or cylinder liner, and high quality air and fuel filtration systems. All help to increase engine life. The 8 through 20 horsepower models also include counter balance shafts and the 14 and 20 h.p. models have an internal trochoid oil pump.

All two-cycle engines are equipped with ball or needle bearings on each end of the crankshaft, chrome-plated or cast-iron cylinder liner and forged steel connecting rod with bushing or needle bearings on each end. All engines are quiet and smooth running.

Circle 701 on free information card



A new model, featuring a liquid-

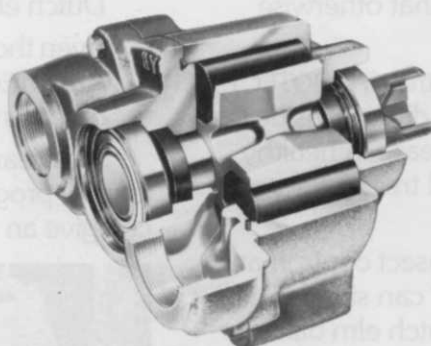
cooled industrial engine has been added to Excel Hustler line of commercial mowers built by Excel Industries, Inc.

The significant difference between the new model 295 and the acre-proven 285 is its engine. Unlike automotive type engines commonly installed on mowers, this 2-cylinder, long stroke Continental engine develops high torque at lower RPM, which adds to engine life and delivers superior performance. Its manufacturer claims easier servicing, lower upkeep, and less downtime; Excel engineers are enthusiastic, viewing it as the ideal choice to meet market demands by groundskeepers whose specs require a liquid-cooled engine.

Dual hydrostats move each drive wheel independently, with twin hand levers that control both the speed and direction of movement, including the start and stop as well as reverse. The big 72" mower can perform intricate turns without time-consuming antics that mark ordinary mower operation; this also relieves operator fatigue, a claim based on input from present Excel Hustler owners.

The line is built with a full safety package, and attachments that permit year-round use of the tractor are available. Excel Hustler mowers qualify for GSA and HUD purchases.

Circle 702 on free information card



A large capacity roller pump capable of delivering up to 80 gpm at speeds to 600 rpm and pressures to 150 psi is being manufactured by Hypro Division of Lear Siegler, Inc.

The Series 1100 pump is designed for operation at 540 rpm tractor power take-off speeds and combines the performance range of multi-stage centrifugals with pressure advantages of positive displacement pumps. It is available with 6-spline

Embark® Plant Growth Regulator

is available at these locations:

Wilbur-Ellis Co.
696 Naplus Street
P.O. Box 935
Chula Vista, CA 92012
Attn: Ralph Cramer

Wilbur-Ellis Co.
P.O. Box 1286
Fresno, CA 93715
Attn: Don Niboli

VanWaters & Rogers
1363 South Bonnie Beach Place
Los Angeles, CA 90023
Attn: Paul Sanders

Moyer Chemical Co.
1310 Bayshore Highway
P.O. Box 945
San Jose, CA 95112
Attn: Donald Meyer

VanWaters & Rogers
2256 Junction Avenue
San Jose, CA 95131
Attn: Bevan Cates

Moyer Chemical
230 East Dyer Road Unit
Santa Ana, CA 92707
Attn: Pat Sano

Wilbur-Ellis Co.
14111 Freeway Drive
Santa Fe Springs, CA 90670
Attn: Mike Bell

Walter W. Fuchs
Turf Products Limited
2N255 County Farm Road
West Chicago, IL 60185

Riley Lawn & Golf Equip. Corp.
6810 Guion Road
Indianapolis, IN 46268
Attn: Robert Scobee

The Dalton's Incorporated
U.S. 30 East
P.O. Box 246
Warsaw, IN 46580
Attn: Don Dalton

W. F. Miller Co.
1593 South Woodward
Birmingham, MI 48011
Attn: Russ Hancock

R. L. Gould Company
3711 Lexington Avenue North
St. Paul, MN 55112
Attn: Gordon Miller

Turf Supply Company
2970 Dodd Road
St. Paul, MN 55121
Attn: John Kolb

VanWaters & Rogers
3950 Northwest Yeon Avenue
Portland, OR 97210
Attn: Romeyn Kruiswyk

Wilbur-Ellis Co.
P.O. Box 8838
Portland, OR 97208
Attn: Gordon Hidman

VanWaters & Rogers
8201 South 212th
Kent, WA 98031
Attn: John W. Barber

Wilbur-Ellis Co.
1200 Westlake Avenue North
Suite 10000
Seattle, WA 98109
Attn: Jack Fisher

Reinders Brothers, Inc.
13400 Waterwon Plank Road
Elm Grove, WI 53122
Attn: Ed Devinger

3M

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Is Turfgrass Managing You?

Embark® Plant Growth Regulator Puts You In Command—



*Read label instructions carefully
before application.

"Embark" is a registered trademark of
the 3M Company.

Slows Turf Growth When and Where You Need It.

This spring and summer, you decide when to send your mowers into action!

"Embark" Plant Growth Regulator reduces turf growth without injuring grass or inhibiting root development. That means less mowing and more time for other jobs.

A spray application of "Embark" Plant Growth Regulator on actively growing turf lasts up to eight weeks.

For hard-to-mow areas—roughs, along fences, highway embankments—"Embark" Plant Growth Regulator keeps most commonly-grown species* of grass on hold. Saves equipment and labor. Plus takes the pressure off a busy season.

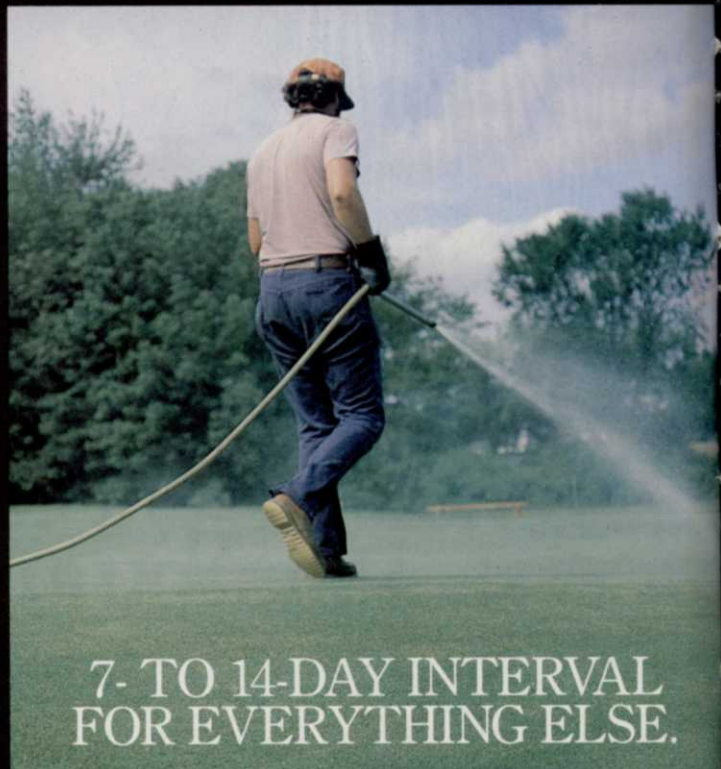
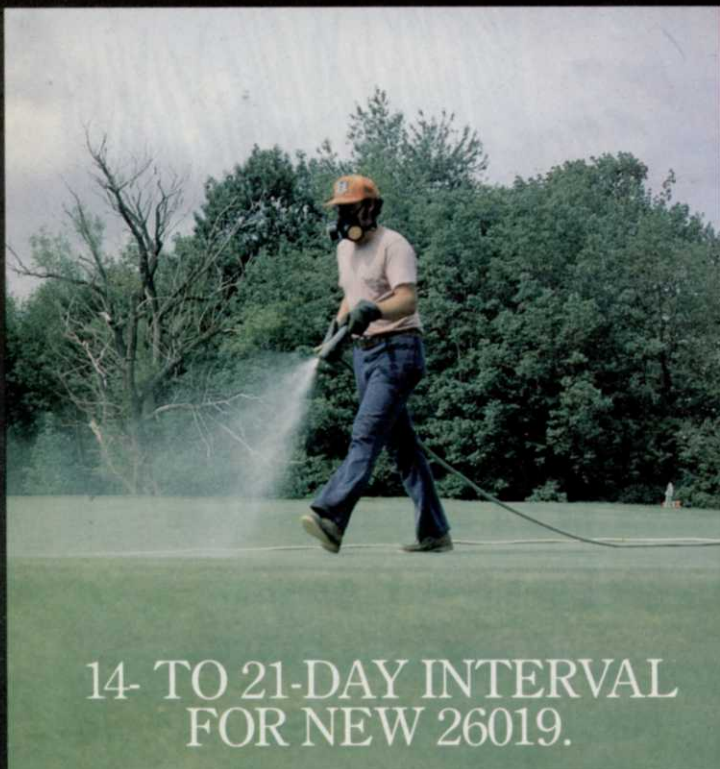
This year make "Embark" Plant Growth Regulator part of your turf management. It's the common sense way to cut mowing and trimming costs.

Distribution of "Embark" Plant Growth Regulator for commercial turf is planned for many areas of the country this season. For a listing of "Embark" Plant Growth Regulator distributors in your area,

write: Agrichemicals/3M
223-6SE, 3M Center
St. Paul, MN 55101

3M

INTRODUCING CHIPCO® THAT WILL OUTPERFORM WITH ABOUT HALF THE



Here's a new fungicide that could change your whole way of thinking about broad-spectrum fungus control *and* spray intervals. Because new Chipco 26019 gives more control with fewer sprays than any of the old fungicides you've had to use.

It stops the major turf diseases—dollar spot (including benomyl-resistant dollar spot), brown patch and *Helminthosporium* (leaf spot). And it does it for up to three weeks, at low, economical rates.

It's a nice material to handle, too. It mixes well, with no residual left in the tank. It also presents no problems of phytotoxicity to turf.

Last year was a wet one, with unusually high disease pressure in most areas. Yet, Chipco 26019 performed beautifully in wide-spread tests. This year, you'll have the chance to see how well it can perform for you. So ask your chemicals distributor for this welcome addition to the popular Chipco