

Skilsaw® 1602 electric chain saw. The electric saw with centrifugal clutch.

Push-button oiler helps reduce friction between bar and chain, extends service life.

Safety switch helps prevent accidental starts. Operator must unlock trigger before saw will operate.

AC/DC motor operates on house current, generator or alternator. Burnout-protected motor withstands periodic overloads, sustained use.

Double-insulated for extra safety.

Ten foot cord gives good range without need for extension cord.

14" reversible cutting bar.

Centrifugal clutch— a special feature of the Skil electric chain saw:
—Helps reduce bucking & kick-back so saw cuts smoothly.
—Protects motor, reduces wear on bearings and gears.

Oil level indicator shows when to refill.

SKIL®

"I like to send trees into winter in good, healthy condition. That's why I feed in the fall with Jobe's Spikes."

Frank Lamphier, Superintendent Aspetuck Valley Country Club, Weston, Connecticut

"Last winter, we had three weeks when the temperature was never above 10 degrees. Weather like that is rough on trees, so I believe in sending them into winter in the best possible condition. We use Jobe's Spikes on everything in the fall...willows, evergreens, maples, all our trees and shrubs."

Jobe's makes good fall or winter fill-in work.

When work slacks off, it's time to get busy with Jobe's® Tree and Shrub Spikes. It helps eliminate one chore from the busy spring-summer months, and it's good for the trees.



Roots grow in the fall, so feed them in the fall.

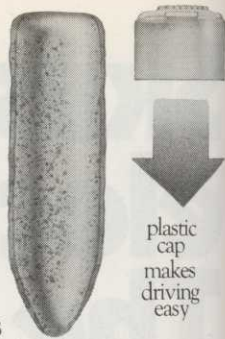
Feeding with Jobe's Spikes in the fall while roots are growing helps overcome weakness brought on by summer heat, lack of moisture and ravages of insects. Helps trees get through winter in shape for a strong start in the spring. Just pound Jobe's Spikes into moist ground at the dripline at the rate of 1 per inch of trunk diameter.

Frank Lamphier says, "Jobe's Spikes are long lasting. When we use them in the fall, the trees get nourishment for the winter. Then, when spring rains start, the

balance of the fertilizer is released to shoot them off for spring. We think one Spike does more good than one to two pounds of ordinary fertilizer."

"Jobe's Spikes work!"

"We started 12-inch pine seedlings 4 years ago, and now they're 6 to 8 feet tall. We fed them at transplanting with Jobe's



Spikes and have fed them ever since with Jobe's. Growth like that really sold me." University leaching studies have shown that Jobe's Spikes are as effective as drilled fertilizer. Rainwater carries nutrients from the Spike to the root zone to a depth of at least 24 inches.

Jobe's Spikes are better than surface-applied fertilizer. You don't worry about run-off losses

or about burning turf or causing excessive turf growth around trees.

"You can just tap them in with a hammer in moist ground."

A hammer is all the equipment you need with Jobe's Spikes. No bulky auger to carry from job to job. Nothing to break. No maintenance costs. No fertilizer bags to tear or spill.

Jobe's Spikes are a pre-measured amount of 16-8-8 fertilizer formed into a rigid, easy-to-drive spike.

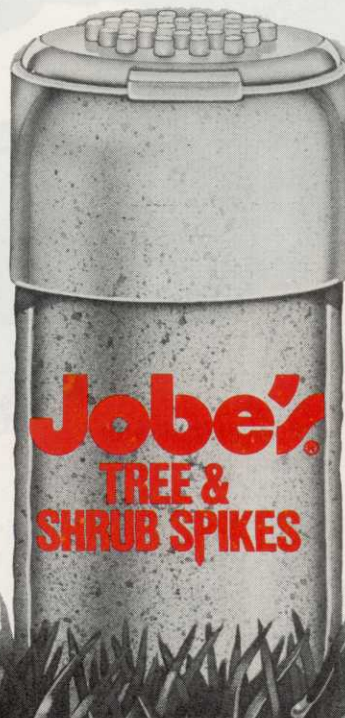
"Jobe's Spikes don't take much space, or time."

"I can send a man out on a 3-wheel cart with enough Spikes to last all day.

"Working fast is important because I have just 7 men, and only 4 year-round. We're working on a major landscape program with trees and shrubs to improve the looks of the course. Jobe's Spikes really save us time."

Jobe's Evergreen Spikes 12-6-8 and Fruit Tree Spikes 5-15-15 are now available in bulk packs. They can be combined for shipping with Tree and Shrub Spikes.

Call your local Jobe's distributor or order direct. \$30 per case (105 Spikes) prepaid, 5 case minimum. 15 or more cases, \$25 per case.



The easy method for professional tree care. International Spike, Inc., 462 East High Street, Lexington, Kentucky 40508.

Industry News

Glyphosate, Paraquat Effects On Seed Germination Studied

Effects of glyphosate and paraquat on turfgrass seed germination were evaluated recently in research conducted at Beltsville, Md., Agricultural Research Center carried out by Dayton L. Klingman and J. J. Murray.

Tests showed that glyphosate caused little effect on germination of Kentucky bluegrass, red fescue and tall fescue when applied directly over the seed on the soil surface.

Paraquat sprayed directly over the seed on the soil surface prevented germination of most of the seeds on the three grass species. Covering seeds on the soil surface with clippings from grass turf sprayed with paraquat greatly reduced germination. About half of those that germinated either died later or were severely chlorotic, it was reported in *Weed Science*. Covering seeds on the surface of the soil with clippings from turf that had been sprayed with glyphosate did not significantly reduce the number of seedlings established.

Artificial Turf Makes Gains In Expanding Sales Market

"Plastic grass," artificial turf, may take its lumps from NFL owners, football players and stadium owners but it is finding plenty of running room in other markets.

The turf manufacturers are shifting the market from football stadium into other sales areas and finding it greener there. American Biltrite now sells a covering for tennis courts, gymnasiums and in other indoor and outdoor uses while Monsanto Co.'s Astroturf is enjoying a new market in automobile floors and thresholds, patios, pool decks, putting greens and grave coverings. Highway medians and landscaping are the recent domains of 3M's Tartan product. Its Tartan

Turf rated highest for safety trials on football fields it covers.

Although players complain of skin burns, injuries and poor performances caused by artificial turf, and have had some bad experiences as in the case of Miami, Fla., which threw out \$250,000 worth of two year old, treacherous, slippery, and fading turf, the future isn't closed. Since natural grass can't withstand punishment by play, research will likely try to develop a safe and easy playing material.

Trees Provide Varied Uses As Insulatory Energy Savers

The use of trees as shade devices extends for centuries but now a Cleveland, Ohio contractor is suggesting their use as insulatory and energy saving helps for the home.

As part of his check list to cut energy needs for heating homes he builds as much as 45 percent, Robert F. Schmitt suggests planting evergreen material on the building's north side with extensive use of deciduous trees to the south. This is beneficial, he says, since the evergreens help shield out the winter wind and chill as the deciduous trees allow direct sunshine. In summer, the deciduous provide shade for the house so less air conditioning is needed.

Gypsy Moths Controlled With New Market Chemical

Thompson-Howard Chemical Company has introduced a new chemical product, Dimilin chitin inhibitor, for control of gypsy moths.

When applied by air at low levels, the chemical reported nearly 100 percent control, based upon larval kill and egg mass counts. It kills the pests within two or three days when they reach a new molt and continues control for two years by preventing egg masses from being deposited.

The chemical has EPA granting registration, causes very low incidence of environmental effects and breaks down in soil with 50 percent degradation in several days.

Supers Get News Update On Hyperodes Weevil

Golf managers can arm themselves with new knowledge about the hyperodes weevil, according to the Metropolitan Golf Course Superintendents Association.

Dr. H. Tashino, Cornell University, addressed an audience of the MGCSA concerning his research of the weevil since 1972.

Dr. Tashino's research in the weevil's life cycle points to their overwintering as mature adults in the bases of fescue tufts. They generally spend this time beneath trees or other protected areas. With the advent of warm weather, the adults travel into areas infested with *Poa Annua* and feed eat the leaves. At this time, damage is not very serious.

During April and May, the insects leave their eggs on leaf sheaths and the larva devour stem tissue following their five stage metamorphosis. After eating the stem tissue, the pests eat the crown at the plant's base causing greater, more visible damage. The larva then progress into a pupa and adult. They are visible at night in the beams of a flashlight.

Dr. Tashino is now studying the life span of the *Hyperodes* to see if they have more than one generation and more than one species. He is also studying the activity of the weevil in comparison with the flowering period of dogwood and other common plants.

Seven Washington Area Firms Get Landscape Awards

The Landscape Contractors of Metropolitan Washington recently announced their 1976 Environ-

mental Landscape Awards Program awards winners. Seven Washington area firms were honored.

The entries were judged in residential, commercial or industrial, and institutional or municipal cate-

gories based upon quality of design, workmanship, materials and maintenance on site visitation.

The grand prize for institutional or municipal landscaping went to Holland Gardens Nursery and Landscape, Inc., Beltsville, Mary-

land, for its installation for LaFayette Park, known as the Presidents' Park.

Chapel Valley Nursery Company, Woodbine, Maryland, received the grand award for commercial or industrial landscaping for its installation of the Christ Church Harbor Plaza Complex. The project was designed by Hisaka and Associates/Behnke Associates.

The grand award for residential landscaping went to Ten Oaks Nursery, Clarksville, Maryland, for the installing of Land Design/Research, Inc.'s design of the Dr. Brenner home in Clarksville.

Merits awards winners were: Gustin Gardens, Inc., Gaithersburg, Maryland, for the Raymond Ruf residence; Garden Gate Landscaping, Silver Spring, Maryland, for the Calomiris residence; Stadler Nursery, Laytonsville, Maryland, for the Alandre residence; and Holland Gardens Nursery and Landscape, Inc., Beltsville, Maryland, for the library of the Zoology Complex at the University of Maryland.

Program judges were: Tevy Shalafman, President, Potomac Chapter of the American Society of Landscape Architects; Richard Brillantine, landscape architect, District of Columbia Office of Beautification; Carl Hahn, horticulturalist, Maryland National Park and Planning Commission; and Ted Human, landscape architect.

U.S. Grant Promotes Study Of Ohio Mining, Hydrology

The U.S. Bureau of Mines has approved a \$2.35 million grant to the Research Center, the USDA's Agricultural Research Service, and the U.S. Geological Survey to conduct five years' studies on the effects of coal strip mining on hydrology and quality of surface and ground water in Ohio.

The research is expected to expand the Ohio Agricultural Research and Development Center's strip mine reclamation research work.

The U.S. Soil Conservation Service, Muskingum Watershed Conservancy District and three privately owned mining companies are also involved.

Now! A nylon cord weed trimmer that converts to six different tools!

Meet the amazing Green Machine. Nylon filaments spinning at over 5000 rpm zip through grass and weeds in seconds, even into nooks and crannies. Weight is only 14 lbs. The Green Machine's rugged 22.5 cc engine operates in any position and can be used with five optional attachments:

BRUSH CUTTER

Tackle the tough stuff with this brush-blade attachment. Cut vines up to 1/2" in diameter.

TREE PRUNER

Trim, thin or prune with ease! Cut saplings up to 2".

HEDGE TRIMMER

The Green Machine converts in minutes to a husky 30" hedge trimmer. High performance blades cut stems up to 1" diameter.

TWO SPEED DRILL/AUGER

Drill holes 1" to 6". Converts quickly to a wood, steel or concrete drill!

SEE THE GREEN MACHINE NOW!

The Green Machine can be bought in any combination of engine and accessories. See them at your dealer or write for our fact-filled brochure.

The Green Machine™

HMC, Inc., 22133 S. Vermont, Torrance, CA 90502

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200 years at the same location.



Maybe folks were a little skeptical about taking stock in America 200 years ago.

We were young. At war. With no experience.

And who knew if we'd ever pay back the money?

Well, 200 years have passed. And the U.S. government has always paid in full. To the penny.

Now that's not a bad record.

In fact, you might say we're now a pretty well-established outfit to do business with.

So join the Payroll Savings Plan and save with today's Bicentennial issue of Series E Savings Bonds. It's easy. It's automatic.

And it's safe. After 200 years, you know we're here to stay.

Now E Bonds pay 6% interest when held to maturity of 5 years (4 1/2% the first year). Lost, stolen or destroyed Bonds can be replaced if records are provided. When needed, Bonds can be cashed at your bank. Interest is not subject to state or local income taxes, and federal tax may be deferred until redemption.



Take stock in America.

200 years at the same location.

Hold your ground against fungi diseases.

Wet, humid weather can bring out the worst in your soil. Like fungi diseases. You've seen the results—damping off, blight and rot. Terraclor® and Terrazole® soil fungicides can hold your ground against these fungi diseases. To protect the value and beauty of your turf and ornamentals.

Terraclor and Terrazole are both available from your local chemical supplier. Or, for more information, fill out and send the coupon below.

Terraclor for Rhizoctonia Control	
Lawn grasses	Brown Patch
Southern Pine Seedlings	Rhizoctonia Needle Blight
Camellias	Flower Blight
Azaleas	Petal Blight
Bedding Plants	Stem Rot
Bulbs	Crown Rot Black Rot
Easter Lilies	Root Rot
Roses	Botrytis Storage Rot
Terrazole for Pythium Control	
Lawns	Cottony Blight Grease Spot Damping-off
Bedding Plants	Pythium-caused Stem Rot Damping-off
Tropical Foliage Plants	Pythium-caused Stem Rot Damping-off
Herbaceous and Woody Plants	Pythium-caused Rot Damping-off



Terraclor, Agricultural Division OLIN
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The rare bird in the business 

Caution: Read the label completely; follow directions carefully.

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Industry News

Natural Enemies Studied As Alternative Pest Control

Instead of resorting solely to pesticides to control insect pests, science is now developing means of control through the predatory and parasite relationship of natural pest enemies.

Dr. Frank Gilstrap, a scientist with the Department of Entomology at Texas A & M University, now controls populations of spider mites, tiny red insects which destroy houseplants, by introducing *Phytoseiulus persimilis*, a beneficial mite species, the spider mite's natural enemy. The predator mites eat all the spider mites and starve after their task is through. They may be brought back again if spider mites return.

Such processes are also used in controlling pests which form galls on ornamental plants and trees. Gordon W. Frankie, also with the Department of Entomology, uses beneficial wasps to feast upon the small wasps, flies, caterpillars or beetles that lay their eggs or feed on plant tissue, forming galls. The galls are not harmful to plant tissue but are considered unsightly. Scientists theorize that secretions of chemicals from the insect's body create abnormal growth when they react to the plants' chemicals.

EPA Gives Daconil Approval; Rate Reduction Underway

EPA has given approval for a rate reduction for Diamond Shamrock's Daconil 2787 Flowable Fungicide.

The company has changed rates from six to eight ounces per 1,000 sq. ft. to four to eight ounces per 1,000 sq. ft. Other curative rates will stay the same.

Daconil is used on golf course and ornamental turf grass. It is used to treat dollar spot, helminthosporium leaf spot and melting out.

USDA Develops Polymer Used Against Weeds, Insects

The USDA has developed a new film-forming polymer for creating barriers against weeds or insects.

Made of sewage sludge, methyl
(Continued on page 68)

And you can quote me

“... Exhalt 800 is one of the finest products to come on the market in a long time. Not only are we getting much more control out of our spray programs, but we are saving a great deal of money by cutting our rates...”

Louis E. Miller, Louisville (Ky.) Country Club

“... I get much more prolonged control from the pesticides. This, obviously, is very beneficial during the hot, humid summer months...”

Michael Jacques, Millbrook Golf Club, Greenwich, Ct.

“... I added Exhalt 800 and got the best control for snow mold ever...”

Bill Adams, Treasure Lake, DuBois, Penna.

“... Exhalt 800 mixed with any of my chemicals makes them last at least three times longer...”

H. T. Shaver, Great Southwest Golf Club, Grand Prairie, Tex.

“... 4½ inches of rain in a 30-hour period. I sprayed before the rain; the weather was hot and muggy. Afterwards I was unable to mow fairways for two days. Later, I went out and inspected the fairways. I found your material still clinging to growth, and my fairways were disease-free—thanks to Exhalt 800.”

Andy Drevyanko, Rolling Green Golf Club, Springfield, Penna.

And what do we say about Exhalt 800? That it'll give you better protection at lower label recommendations. Longer protection at higher label recommendations. Others say so, too; university tests prove it. Ask to see the proof.



Exhalt 800
Sticker-Extender

Kay-Fries Chemicals, Inc., Crop Protection Division, Stony Point, N.Y. 10980

Industry News

(Continued from page 66)

alcohol and a starch compound, the pesticide-polymer dries to an invisible film after being applied as a spray on soil or plants. A polymer is a compound created by combining small molecules or units to form large molecules.

According to William B. Roth, Agricultural Research Service (ARS) scientist, the polymer film won't dissolve in water. It keeps the pesticide in a barrier that will destroy emerging weeds or attacking insects and minimizes environmental pollution by reducing pesticide runoff and evaporation. After the pesticide is exhausted, the film decomposes into natural soil components.

The new polymer also increases the effectiveness of a commercial herbicide and needs a low rate of herbicide application to stop grass weed growth. It was as successful as

greater applications and amounts of herbicide without the polymer. With the polymer, the herbicide didn't require mixing with soil to prevent evaporation. Instead, the herbicide-polymer was sprayed on the soil surface and dried as a weed-emergence barrier.

Roth developed the polymer from a viscous product which was found by Edwin N. Davis, a microbiologist, and Lowell L. Wallen, a chemist, at the Northern Center. Their studies revealed the bacteria in activated sludge form a thick, black product when methyl alcohol is mixed and aerated with the sludge.

In other actions, Roth adds the pesticide to the sludge-alcohol and combines it with dialdehyde starch as a cross-linking agent. The starch compound was another Northern Center discovery and is marketed as a paper strengthening agent.

The pesticide-containing polymer may be added to water for spraying on soils or plants so it dries to the film barrier. These could be dried as films or sheets in the manufacturing plant and used in solid forms.

This is the second pesticide control development from the USDA ARS Northern Regional Research Center since encapsulating chemicals with starch xanthate were announced in May.

Roth is now preparing studies to form delayed reaction and on-target pellets for the polymer.

350,000 Acres of Timber Affected by Pitch Canker

Forest experts are still baffled by the outbreak of pitch canker disease in Volusia and Flagler counties in Florida and the southeast.

The disease affects shade and ornamental pine in addition to forest pine.

According to the latest estimate (Continued on page 70)

For Premier Quality In a Winterseeding Blend Insist On

Winterlawn

For the Southwest

Dixie Green

For the Southeast

Either will produce an impressively dense, dark green turf that will hold its color beautifully whether close-cut or mowed at normal heights.

Check the ingredients and you'll know why.

Dixie Green and Winterlawn are both a 60-40% blend of Derby turf-type ryegrass and Highlight Chewings-type red fescue. This blend gives you rapid germination, smooth spring transition and a turf of unsurpassed quality. Dixie Green and Winterlawn have been tested, tried and proven. Their strongest supporters are Superintendents who have tried the blend.

Derby is the ryegrass that joined Pennfine and Manhattan on the "preferred list" and Highlight was judged World Champion at the 45th Annual Royal Agricultural Winter Fair in Toronto.

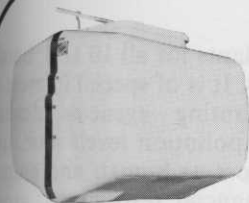
For More Information Write:



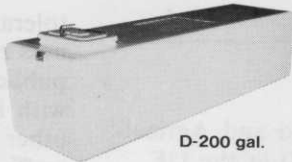
International Seeds, Inc.

Dept. D • P.O. Box 168 • Halsey, Oregon 97348
Telephone: A/C 503 369-2251

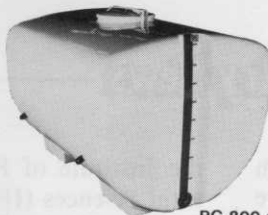
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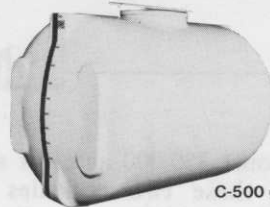
R-100 gal.



D-200 gal.



PC-800 gal.



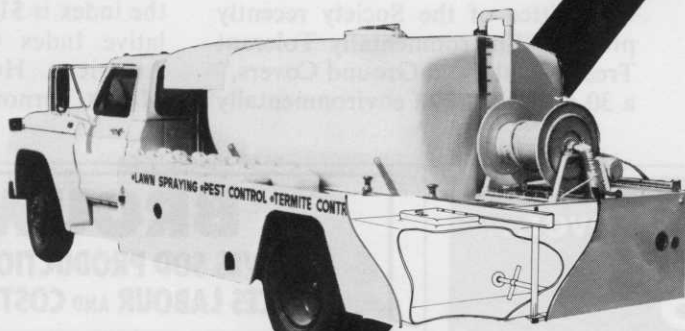
C-500 gal.

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THE PESTS WITH FIBERGLASS SPRAY TANKS

(FOR MOUNTING ON YOUR TRUCK)

ECONOMICALLY



Cutaway view showing D. 200 gal. mixing tank.

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FIBERGLASS SPRAY TANKS

... known for serviceability and dependability in the pest control industry featuring ...

• Lightweight fiberglass, solid single-piece construction, eliminating maintenance.

• Smooth, non-porous surface easily rinsed to reduce chemical carry over contamination that causes clogging damage to spray equipment.

• Baffling system to reduce liquid surge.

• All tanks constructed of special chemical resistant resin.

THE Tuflex Manufacturing process allows a five year warranty on all tanks.

Tuflex Manufacturing Co. . . . specialists in pest control fiberglass spray tanks. Economical prices with high quality handcrafted workmanship. Many other tank sizes available from stock.



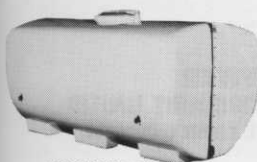
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P.O. Box 13143, Port Everglades, Florida 33316

or
Call Collect:
305-525-8815

Plant Location:
800 Eller Drive, Port Everglades, Fort Lauderdale, Florida



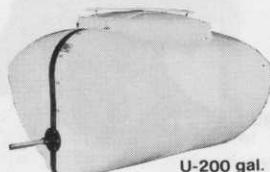
THE LARGEST FIBERGLASS "PEST CONTROL" SPRAY TANK MANUFACTURER IN THE SOUTHEAST



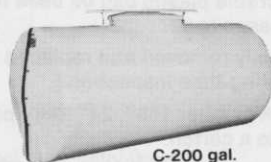
PC-1200 gal.



U-600 gal.



U-200 gal.



C-200 gal.

mates, some 350,000 acres of slash pine in these two counties are affected by the destructive disease, representing a potential timber growth loss of nearly \$2 million. Less severe pitch canker infections are showing up in other areas of Florida and the southeast.

A *fusarium* fungus is the prime suspect in causing the disease, but no one is certain how it is spread and there are no known controls available at present, according to a University of Florida forest pathologist.

First observed in 1945, the disease has occurred periodically over the years, seemingly at random. During the last serious outbreak in 1969, many trees were infected, but few died. Many trees actually recovered. The present rate of spread, however, has been particularly alarming, says Dr. Robert A. Schmidt, associate professor with

the Institute of Food and Agricultural Sciences (IFAS) at the UF.

"We are presently experiencing a high incidence of pitch canker in slash pine plantations and seed orchards. Entire crops are involved and tree mortality is very high in some areas. Heretofore, only a few terminal branches were attacked and tree mortality was not severe," he explains.

Environmental Plant List, Index, Offered by Society

The American Horticulture Society has published a series of valuable publications relating to plants and its own history in horticulture studies.

The educational Horticultural Committee of the Society recently printed "Environmentally Tolerant Trees, Shrubs and Ground Covers," a 30-page listing of environmentally

tolerant plants for all 10 U.S. hardiness zones. It is of special interest to public planting agencies dealing with high pollution levels and such other factors as human and animal traffic, financial restrictions, growing conditions and maintenance.

An index of 50 years of the *National Horticulture Magazine*, Vols. 1-38, 1922-1959, and *American Horticultural Magazine*, Vols. 39-50, 1960-1971, is now available.

The reference tool is 109 pages long and is a complete grouping of all issues. It was produced by Dr. Richard A. Howard, Director, Arnold Arboretum, and the American Horticultural Society Cumulative Index Committee.

"Environmentally Tolerant Trees, Shrubs and Ground Covers" costs \$2.95 post paid from the American Horticultural Society, Mount Vernon, Virginia, 22121 and the index is \$10 a copy from Cumulative Index Committee, c/o The American Horticultural Society, Mount Vernon, Virginia 22121.

A Great New Labor Saver...

ROSS TreeGARD™

The Ross TreeGARD is a simple easy-to-handle plastic snap-on tube that expands to fit any young tree.

- Protects against sun scald, yet allows proper ventilation.
- Protects tender bark from rabbits and other rodents that feed on new growth.
- Protects against mower bruises and gashes that expose trees to disease and insect damage.
- No taping, tying or gluing is necessary.
- Snaps on—snaps off in seconds.
- Durable plastic can be used from season to season.
- Easily removed and replaced for spring-time inspection.

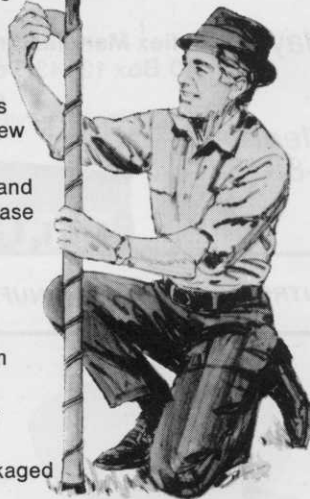
Stock number 1687, 24" long, packaged 400 to a carton.

Contact your local distributor or

Ross Daniels, Inc. 1720 Fuller Rd., West Des Moines, Iowa 50265

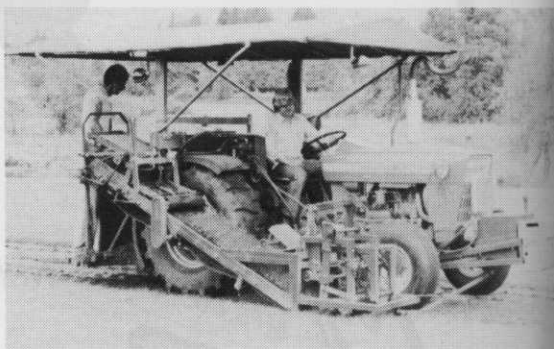
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70 WEEDS TREES & TURF/SEPTEMBER 1976



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