

MUSKEG[®] BRUSH CUTTER



All business from Bombardier.

Meet the sure-footed track star that goes where wheeled vehicles fear to tread.

Through muck and mud, slop and slime — you can't stop the Brush Cutter.

Built to make it farther. Faster. Up 40° slopes. Around towers in a 12-foot circle.

Diesel powered. With rubber-belted tracks reinforced by steel cables for strength. And a toboggan-type watertight chassis.

Up front, two rugged rotary mowers clear an 8-foot swath through the underbrush. All clearly visible from the centre-mounted cab.

Before your next job gets bogged down, give Brush Cutter the business. Contact your local Bombardier distributor.



**Muskeg[®]
Brush
Cutter**

BOMBARDIER LIMITED
Industrial Division, Valcourt, P.Q. Canada

Everything you need for complete arborist service.

American Arborist offers a full line of famous quality tools, supplies and equipment for tree care. Names you know— Bashlin, Asplundh, Corona, Buckingham and hundreds more. Most items in stock for immediate shipment. Depend on the first name in arborist supplies—American.

WRITE FOR CATALOG AND PRICE LIST TODAY



American Arborist Supplies

DEPT. A, CONCORD INDUSTRIAL PARK
CONCORDVILLE, PA. 19331
PHONE: 215-459-1447

For More Details Circle (140) on Reply Card

PROFESSIONAL APPLICATORS

You are invited to attend the annual conference of the International Pesticide Applicators Association. The program will include reports on research, training techniques, sales promotion and better office management. A tour of leading spray businesses is included. See new equipment.

Marriott Inn/Berkeley Marina, Calif.
August 15-18, 1973

Delegate Registration: \$30.00 Single; \$37.50 Couple

International Pesticide Applicators Assoc. Inc.
221 First Ave. West
Seattle, Washington 98119

Pre-Registration Form

Name

Address

City State

Company Name

Check Single \$30.00

Couple \$37.50

IPAA ANNUAL CONVENTION, Aug. 15-18

Send To:

Chuck Bradshaw
2710 Monument Ct.
Concord, Calif. 94522

employees. It's a good idea to have a pseudo-background check made before employees are hired. At least, check references, if any.

Bear in mind throughout your security plan that fire protection and security must go hand in hand. Plan fire exit routes that are workable. Some patented security systems have built-in fire alarms. (Incidentally, a fire alarm bell can be used to scare away burglars.) Develop your security system so that fire fighters will not be deterred by inaccessible locks or security gates that must be destroyed before entry is gained.

Security in your business is not the final objective in doing business. Rather, it must be implemented as a means of protecting your investment. The professional thief usually can outfox even the best devices if he desires. Your approach to security must be developed as a deterrent.

Park Irrigation Problems Toro Brochure Solves

For a park or recreation area to be an attractive, healthy, green environment for people, it must be watered adequately and consistently. And that can be accomplished with a minimum of manual attention, while actually conserving water, with the use of modern automatic underground irrigation systems, according to a new brochure from the Irrigation Division of The Toro Company.

The Toro brochure, titled "The Innovators Solve Turf Irrigation Problems in Park and Recreation Areas," points out that turf areas serving different purposes, such as picnic grounds and open play fields, require varying amounts of water at varying intervals.

Those variables can be accommodated with precision and efficiency, regardless of topography, soil or climatic conditions, geographic location or seasonal changes, with modern automatic irrigation systems, the brochure states.

According to Toro, irrigation equipment—including master controllers, satellite controllers, valves and sprinkler heads—can be matched to the specific watering needs of "any park or recreation area, under any given set of circumstances, present or future, anywhere, anytime."

Copies of the brochure may be obtained by writing to: Dept. PRA, Irrigation Division, The Toro Company, P.O. Box 489, Riverside, Calif. 92502.

FERTILIZE TREES IN ONE THIRD THE TIME AND ABOUT HALF THE COST USING JOBE'S TREE FOOD SPIKES.

Here's proof when fertilizing a 5" tree:

Old Method¹

Bulk 16-8-8 fertilizer—\$70/ton
(Average price throughout U.S.)

2 lbs./inch of trunk diameter = 10 lbs. × 3.5c/lb.	\$.35
½ hr. labor @ \$4/hr.	2.00
Labor and materials	<u>\$2.35</u>

\$2.35 ÷ 5" tree = 47c/inch of diameter
No allowance made for depreciation, amortization, breakage of auger, mistakes, etc.

¹Using electric auger.

Jobe's Tree Food Spikes Method²

5 spikes 16-8-8 fertilizer—22c/spike

1 spike/inch of trunk diameter	\$1.10
5 min. labor @ \$4/hr.	<u>.33</u>
Labor and materials	\$1.43

\$1.43 ÷ 5" tree = 29c/inch of diameter,
based on 20 case order.

²Based on results of university field tests and recommendations.

Professional tree and turf men who use Jobe's Tree Food Spikes can save 50% and more in labor and materials.

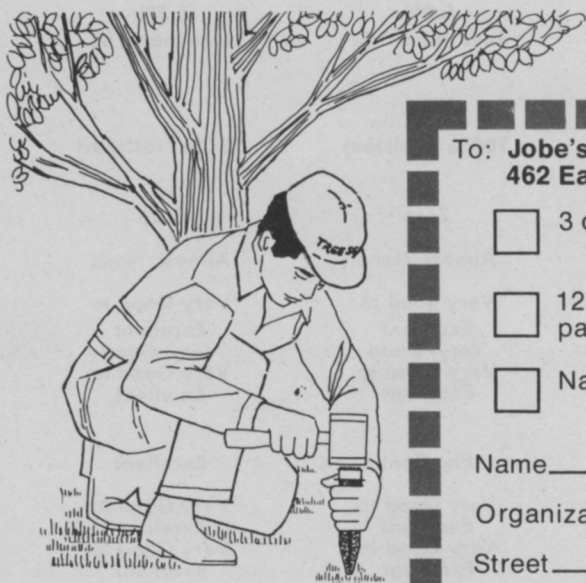
Recommend the fall fertilization of trees now to your customers. Save time and

money by using Jobe's Tree Food Spikes. Order from your local supplier—or write for his name.

Jobe's® The instant meal for hungry trees.

TREE FOOD SPIKES

International Spike, Inc., 462 East High Street
Lexington, Ky. 40508



To: **Jobe's Tree Food Spikes**
462 East High St., Lexington, Ky. 40508

- 3 cases Tree Food Spikes @ \$30 per case, f.o.b. Paris, Ky.
(105 spikes—40 lbs. per case)
- 12 cases Tree Food Spikes @ \$25 per case, freight pre-paid.
- Name of local supplier

Name _____
(Please print)

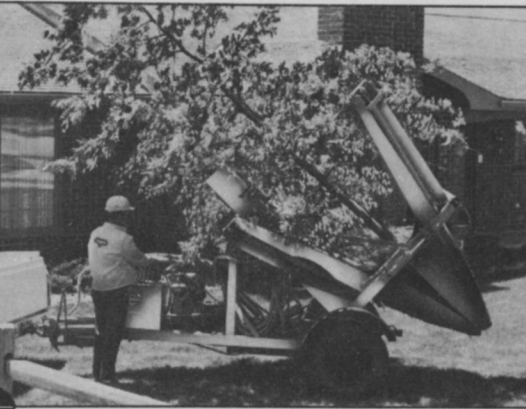
Organization _____

Street _____

City _____ State _____ Zip Code _____

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Transplants Large Trees In Minutes ...Works All Day For Pennies An Hour



"Instant Shade!" Popular Vermeer Model TS-44A transplants up to 4" diameter trees in minutes! Four hydraulically-operated, high-tensile steel spades form maximum size tree ball 44" in diameter, 40" deep. Tows easily behind small truck or tractor.

If you own one of The Diggin' Dutchman's TS-44A Tree Spades, you might already have discovered that it transplants large trees all day long for just pennies an hour. Requires no coffee breaks, no lunch hours, no overtime wages . . . just an occasional tank of gas to keep it hydraulically-operated spades digging, balling and transplanting without even a pause. Saves you thousands of dollars annually because one man can handle the entire job in minutes, much faster than a whole crew of laborers (at more than \$? ? ? per hr.). Interested? Write The Diggin' Dutchman today or, better yet, call him (515/628-3141) NOW for a FREE demonstration of any Vermeer Tree Spade. Vermeer Mfg. Co., 7207 New Sharon Road, Pella, Iowa 50219.

THE DIGGIN' DUTCHMAN

VERMEER TREE EQUIPMENT DIVISION

For More Details Circle (122) on Reply Card

ROPE SAFETY (from page 12)

is by actually loading it. But if a rope is getting weak and you put weight on it, you'll weaken it further. So that system wouldn't be very fair. As far as a rule of thumb on use

life of a rope, I would not consider using a rope as a safety line that was over a year old. A brand new manila rope, of course, if it's stored properly has almost an indefinite life. But proper storage is a pretty

hard thing to come by, particularly in a smaller business.

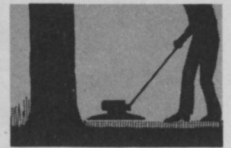
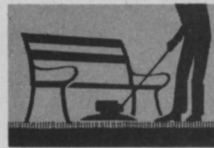
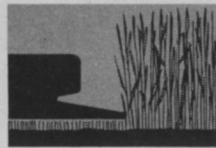
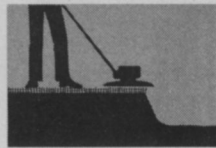
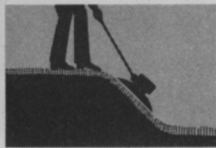
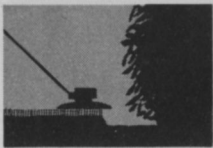
WTT: Is manila rope treated?

Liebenauer: Since manila rope is an organic material, it's self-
(continued on page 36)

Table of characteristics in the comparison of one inch rope made from manila, nylon Dacron polyester and Esterlon polyester.*

Description	Manila	Nylon	Dacron	Polyester	Esterlon
Strength Characteristics					
Tensile Strength Dry	9,000 lbs.	25,000 lbs.	22,000 lbs.		20,000 lbs.
Working Strength	1,800 lbs.	2,890 lbs.	2,450 lbs.		2,220 lbs.
Repeat Loading	Poor	Good	Excellent		Good
Elasticity-Stretch					
Permanent Elongation					
At Working Loads	4.8%	8.0%	6.2%		6.0%
Temporary Stretch					
Under Load	5.0%	16.0%	5.9%		6.5%
Water Absorbed Into Fiber	Up to 100% of weight of rope	Up to 9%	Less than 1%		Less than 1%
Resistance to Rot, Mildew & Marine Organisms	Poor	100% resistant	100% resistant		100% resistant
Deterioration					
Due to Aging	About 1% per year	Zero	Zero		Zero
Due to Sunlight Exposure	Some Slight	Some Slight	Almost None		Almost None
Resistance to Chemicals					
To Acids	Very Poor	Fair	Very good to Excellent		Very Good to Excellent
To Alkalis	Very Poor	Excellent	Very Good		Very Good
To Solvents	Good	Good	Very Good to Excellent		Very Good to Excellent
Wear					
Resistance to Surface Abrasion	Good	Very Good	Excellent		Excellent
Resistance to Internal Flexing Wear	Good	Excellent	Very Good to Excellent		Very Good to Excellent
Resistance to Cutting	Good	Excellent	Very Good to Excellent		Very Good to Excellent

* This table was compiled from "Table of Natural and Synthetic Fiber Characteristics" developed by Wall Rope Works, Beverly, New Jersey.



Overhanging edges, steep slopes, traps, and bunkers

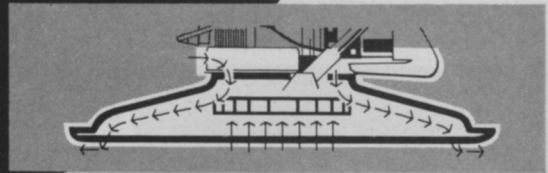
High, wet grass

Under benches, close to trees, buildings

Problem spots
trimmed quick and
clean with...

Flymo[®]

the world's only airborne mower



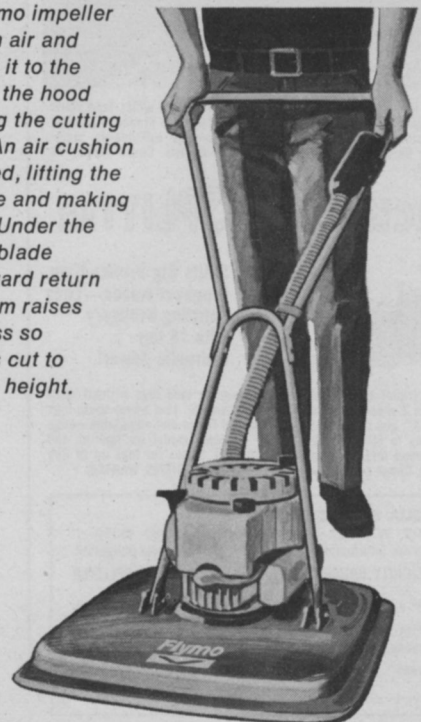
Riding on a controlled cushion of air, the Flymo mower cuts smoothly through the toughest jobs. In wet grass or dry, long or short, and on flat surfaces or steep inclines, Flymo maneuvers easily, trims clean and close.

In use on golf courses and institutional grounds throughout the world, and meeting with enthusiastic acceptance in the U.S., the job-proven Flymo cuts expensive hand trimming by gliding under bushes and benches, and by floating right up to trees and posts. Cutting height is adjustable from 1/2" to more than 2 1/2".

Designed for safety and ease of operation, the Flymo is ruggedly constructed throughout. And a nation-wide network of distributors and dealers stands behind Flymo with prompt, dependable service.

Flymo — a cut above.

The Flymo impeller sucks in air and presses it to the edge of the hood covering the cutting blade. An air cushion is formed, lifting the machine and making it float. Under the cutting blade the upward return airstream raises the grass so that it is cut to uniform height.



Flymo Division, Keltec Inc.
P.O. Box 939, Elkhart, Indiana 46514
Telephone 219/293-8661



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For fastest-starting turf



**PARK Variety
Kentucky Bluegrass**

More Park is seeded each year in the U.S. than any other certified variety of bluegrass.

The 1972 seed crop is the best ever. We recommend that you order your supplies early.

Available exclusively from

TWIN CITY SEED CO.

500 30th Ave. N.E., Minneapolis, Minn. 55418
Phone (612) 789-8821

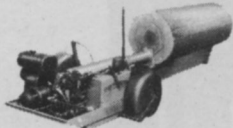
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LICKITY BRUSH CHIPPER



Chips limbs up to 4" diameter. Now has longer, wider feed chute, improved feed roll, blower and chute assembly. Standard hammer-mill rotor. Optional hopper permits processing soil, leaves, stalks, hay or bark. PTO and gas engine drive models. Check coupon for details.

LICKITY LOG SPLITTER



Splits Big Profits from toughest woods—Ends Splitting Drudgery with 18 ton hydraulic power!

7 H.P. trailer unit squats under power to load logs without dead lift. Has 2 speeds, auto-shift, auto-stroke. 26" ram travel splits logs up to 34", any diameter—with extended frame and adjustable wedge splits up to 60". NEW LOW COST Economy model for farmers and small wood lots. Also ask about the 60L Series for logs up to 8½ ft. long. Check coupon for details. DEALER INQUIRIES WANTED.

PIQUA ENGINEERING, INC.
DEPT. WT, P.O. BOX 605, PIQUA, OHIO 45356

Send me information on items checked below. No obligation.

LICKITY BRUSH CHIPPER LICKITY LOG SPLITTER

Name _____
Title _____
Company _____
Address _____
City _____ State _____ Zip _____

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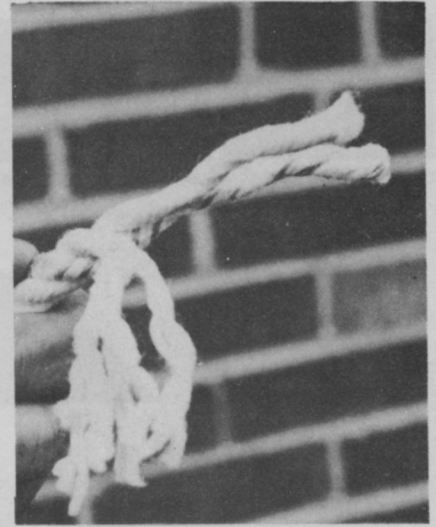


Manila rope is composed of fibrous strands that can break or become worn. Safety lines should be inspected daily and stored properly at night.

recycling. That's a problem. Rope is usually treated to reduce rot and internal friction. This treatment lengthens its life but constant flexing of the rope tends to break the fibers and reduce their size. In addition, by flexing, a rope has the tendency to wear the edge of the fiber making each fiber smaller. Smaller fibers won't cling together quite so tightly and thus the rope loses its strength. A rope manufacturer treats manila rope to reduce the moisture absorption of the rope and also lubricate the fibers. (If a rope absorbs water and swells, it is difficult to tie and untie knots.)

WTT: Up to now, manila rope has been somewhat the standard of ropes for arborists. Has the advent of synthetics made inroads into this field?

Liebenauer: Rope manufacturers looked around to find a better rope to the inherent weaknesses of manila. They initially tried nylon rope. At first it looked like it was going to be an ideal rope. Very quickly it became obvious that nylon had many shortcomings. Nylon is elastic; it'll stretch. When a climber tied himself into a spot he found out that he was sagging. Or if he was out on a limb with the idea of making a cut, he couldn't hold himself in a particular position. The elasticity did offer the safety advantage of a cushion effect in case of a fall. But nylon rope didn't handle as well as manila rope. It also had a tendency to glaze through a



This is Esterlon polyester rope. Note the frayed strands. They tend to stay together to form a tight bundle of fibers. Color is lighter than manila.

crotch in a tree. Eventually nylon rope almost dropped out of the picture completely.

But the rope companies didn't give up. They developed polyester fibers that more nearly suited the job. The two most commonly used polyester fibers are Dacron and Esterlon. These seem to be the answer to the rope problem for the arborist. The various characteristics of polyester rope fibers are very similar to manila rope.

WTT: Are combinations of polyester filament fibers used in rope manufacture?

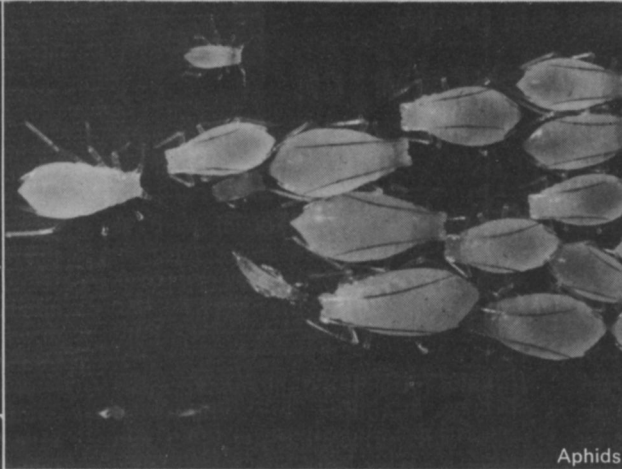
Liebenauer: Sometimes other synthetic fibers are blended in the rope to alter the handling and feel characteristics. These ropes have all proved to be satisfactory in tree care work. The big problem, however, is user resistance to synthetics.

WTT: Can you explain that more fully?

Liebenauer: A man becomes used to using manila rope. He doesn't want to change. There's always some resistance to change, regardless of what the change may be. Early nylon rope was not satisfactory as far as the tree care business was concerned. Many arborists still recall the deficiencies of nylon. Modern synthetic ropes are actually far superior to manila rope. But because they don't look or feel like manila users have a resistance to them.

(continued on page 44)

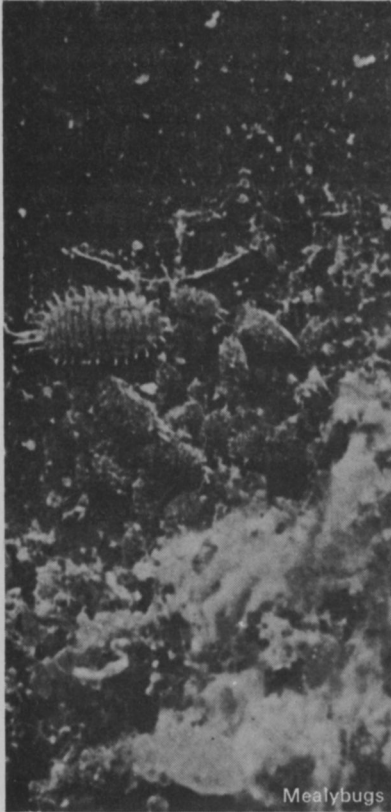
Leafhopper



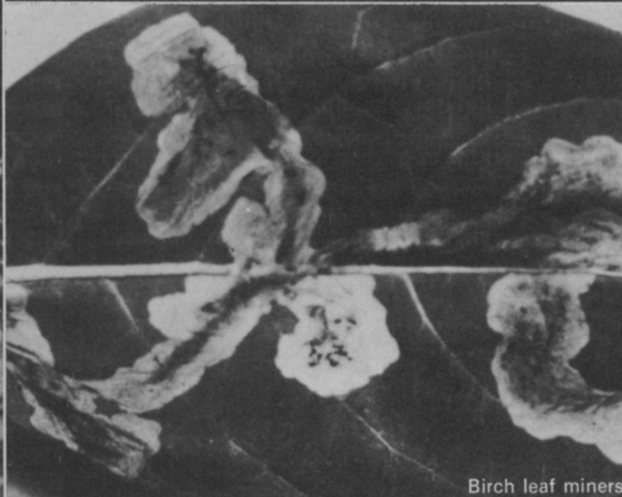
Aphids



Cutworm



Mealybugs



Birch leaf miners



Whiteflies



Looper

Ag-Organics Department, Midland, Michigan 48640

Bet you can't name another insecticide that kills as many bugs as Zectran. That's because there's nothing quite like ZECTRAN* insecticide. It's the powerful, general use product that may replace other insecticides you're now using. ZECTRAN insecticide works on almost all major foliage-feeding insects—including hard-to-kill kinds, foliage-feeding worms and caterpillars, even many major turf pests. And more. ZECTRAN insecticide is also effective against slugs and snails. Use ZECTRAN on over 600 different flowers, ground covers, trees, shrubs, house plants and turf. It's biodegradable, easy to apply—in either liquid or powder form. Just remember to read and follow all the directions for use and precautions for safe handling on the product label.

*Trademark of The Dow Chemical Company



DOW CHEMICAL U.S.A.

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Only 116" long and skid-turns on its own axis through 360°. Mighty handy when you're cleaning out a basement. Or when shuttling back to the pile.

← 46" →
width

It's only 46" wide with a 9 cubic foot bucket. Skinny enough to get you into some pretty tight squeezes. And out again.

Only one compact loader can run this obstacle course.

Our 3200A.

We built her for *your* obstacle course.

You need a machine that's small enough to get into those tough corners, and big enough to do the work once it gets there.

So we gave her a full 30 hp engine, and an automatic power amplifier that provides increased power to the loader for maximum breakout.

True hydrostatic transmission. Delivers any speed, from, barely moving to 8 mph — with full power

to your hydraulics.

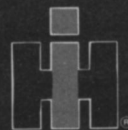
Plus a long list of quick-attach accessories — including an 8½ foot backhoe that mounts on the back and doesn't have to be removed for loader work. Exclusive!

Got an obstacle course on your job site?

We have a winner for you.

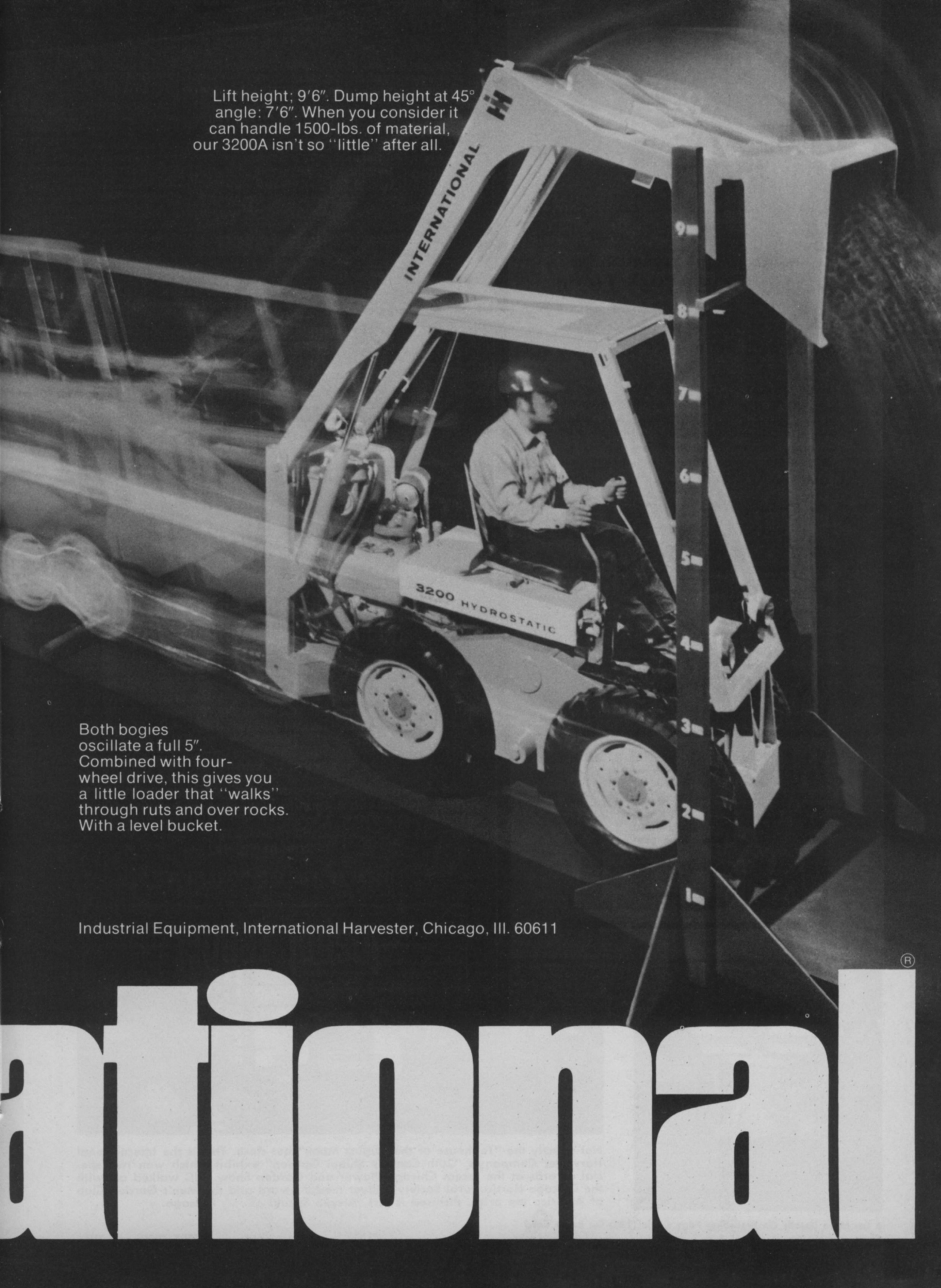
We keep getting better at our business to get more of your business.

And keep it.



International

Lift height: 9'6". Dump height at 45° angle: 7'6". When you consider it can handle 1500-lbs. of material, our 3200A isn't so "little" after all.



Both bogies oscillate a full 5". Combined with four-wheel drive, this gives you a little loader that "walks" through ruts and over rocks. With a level bucket.

Industrial Equipment, International Harvester, Chicago, Ill. 60611

International®



CLEAN AIR MACHINES is the new logo of the Florida Nurserymen & Growers Association. Here, Raymond Brush, administrator, American Association of Nurserymen speaks to FNGA members at the dedication in the Palm Beach, Florida.



It's called "Operation Eyesore," a project in environmental improvement in Manchester, England. Here, parks department operators pause with new Trojan II heavy-duty riding mowers by Toro. Object of "Eyesore" is to make new playgrounds and parks, plant trees, and landscape neglected public land. Toro says that Manchester now has 32 Toro units.

Green Industry Newsmakers

PEOPLE PLACES EVENTS



This is not the craters of the moon. It's a bluegrass sod field weakened by spring flooding and low temperatures. Results? A severe case of Fusarium blight. This disease has been reported frequently this year.

A ROSE FOR A ROSE. A new rose, developed especially for the 150th anniversary of the San Francisco-Solano Mission in Sonoma, Calif. is being presented to Mrs. Richard M. Nixon by Cong. Don H. Clausen. It will be planted in the White House rose garden.



Not exactly the "Teahouse of the August Moon" but close. This is the International Harvester Company's "20th Century Shibui Garden" exhibit which won two special awards at the recent Chicago Flower and Garden Show. IHC walked off with the Chicago Horticultural Society's Silver medal award and the Men's Garden Club of America top prize. Pictured is Mrs. Atsuko Suzuki of . . . Chicago.

For More Details On Preceding Page Circle (126) On Reply Card